

# Compendium of Excipients for Parenteral Formulations

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## Overview

The selection of excipients in parenteral formulation design is often both rational and empirical. It is rational in the sense that certain types of excipients are added to alter the formulation properties: i) buffers of appropriate pKa are added to control hydrogen ion concentration at a desired pH, ii) tonificifiers are added for biocompatibility, iii) surfactants are added when necessary to prevent aggregation, adsorption to surfaces, or increase solubility, iv) antioxidants are included to prevent unwanted oxidation of the drug, and so on. The inclusion of various classes of formulation components, and the concentration used is often quite rational, in that their behavior and properties are known, and they are added to prevent specific problems that would arise in their absence. On the other hand, however, the selection of the *exact* excipient used is far from rational; it is empirical in the first order, satisfying only one question, "Has it been used previously in a similar parenteral formulation?"

Many prototype formulations have been terminated because one or more of the selected excipients was not found in a previously approved parenteral product. In fact, there have been a handful of excipients with striking favorable properties, such as trehalose with its ability to confer solid state stabilization of several types of proteins, or EDTA and its antioxidants by metal ion chelation. These excipient compounds, and many others, have not been used widely, largely because of concerns with unknown toxicity, continued production supply, or cost.

Thus, the formulation scientist is often faced with a dilemma—which excipients are truly available for use (based on what has been used previously), and which are not? For example, PEG 400 has been added to several parenteral formulations, but what about PEG 1200, or PEG 4000? And at what concentrations, and by what route? Sodium citrate is an excellent buffer for many formulations at 5 mM, but is too painful in most instances for subcutaneous use at 50 mM. High concentrations of propylene glycol may be used in a slow intravenous infusion, but would produce unwanted hemolysis and pain if given by subcutaneous or intramuscular injection. It is often the case that the "safe level" of an excipient may depend on the route of administration. These are only a few examples of factors which must be considered when designing a formulation; there are dozens more based on empirical information required for efficient formulation design, but thus far a

compendium has not been published. This review was written to fill this void.

Herein are listed the excipients found in most of the approved and marketed parenteral formulations, given systematically by excipient name. In this format it is easy to determine what concentrations were used, the route of administration, the main rationale for addition of that excipient, the drug that was formulated, the manufacturer, brand name, etc. The information found in this table comes from several sources, including package inserts, the Physician's Desk Reference (PDR '97), as well as personal correspondence from the companies supplying the products. The published excipient concentration was often given in different units, including: mg/mL, mOs, Molar, sodium equivalents, biological Units, Molal, weight percent, etc., and provided one of the greatest challenges in putting this compendium together. We sought to list all the excipients (where possible) in common units (i.e., mg/mL), so that a rapid comparison of the different formulations could be made at a glance. (This is not easy to do, for example, when comparing Tween 20 concentrations at 0.0001 M, 0.01% and 1 mg/mL; fortunately, the average molecular weight is known for most excipients, permitting a standardization of excipient concentrations). This standardization of excipient concentrations is perhaps the greatest value of this compendium, but also represents one of the greatest sources of potential error. The recalculation of excipient concentrations, often from scant or nondescriptive data, is not trivial and there may be an occasional discrepancy despite cross-checking with the original sources.<sup>1</sup> Nevertheless, this compendium represents a comprehensive survey of parenteral excipients used today, and is a resource for the parenteral formulation scientist.

## Notes

In putting together this excipient compendium, there were a number of points that should be noted, so that the reader understands the limitations and assumptions in some of the calculations.

1) Concentrations are listed in weight/volume% unless otherwise noted. In some cases values are listed in volume/volume% or the manufacturer did not specify what kind of percentage they were using (and in this case it was assumed weight/volume %).

2) Sterile water for injection is included in the excipient list when used in solution formulations; however, in most

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<sup>1</sup> If discrepancies are found, e-mail them to [nguyen.tue@gene.com](mailto:nguyen.tue@gene.com) for correction to subsequent compendiums of this nature.

cases the quantity or percentage of water in the formulation was not indicated by the manufacturer or identified only as q.s. We have kept the same conventions here.

3) Excipients listed are present in the drug formulation itself, and do not include excipients present in diluent (for example, when a lyophilized formulation is diluted with bacteriostatic water containing benzyl alcohol). In some cases, a diluent is supplied that contains several additional excipients and, in the case or provided diluent, these excipients are listed in the excipient category and designated with a "D" in addition to their usual excipient type (the D stand for present in diluent).

4) If no excipients are listed, it means that no excipients were revealed by the manufacturer. In some cases, this is because there are no excipients in the formulation, but this should not be assumed. In some cases, there may be excipients present but the manufacturer has not disclosed them to us, largely for proprietary reasons. Specific follow-up about these drugs should be referred to the manufacturer.

5) The given drug concentration is usually the concentration of the compound listed in the drug name category, unless identified as otherwise. For example, many drugs are formulated as salts such that the salt name is listed in the drug name category (for example, mitoxantrone hydrochloride). However, in the drug concentration category, the concentration of the active component is usually listed (for example, equivalent to 2 mg/mL mitoxantrone free base), so as to have a correct concentration of the active drug form.

6) When concentrations of excipients and drugs are listed as a range it implies that these values could only be approximated. Frequently, a range is given because the product is available in a variety of storage containers, or having several dilution schemes. The ranges given are approximations only, based on the available information. In no way should these ranges be assumed to encompass all possible dilution schemes or configurations.

7) Preservatives (such as benzyl alcohol) that are present only in one configuration of a drug (for example in the multiple-dose product, but not in the single-use product) may be listed as a range (0-x%). This was to avoid making two or more records for essentially the same product configuration.

8) For drugs that are given as a salt form, the counter ion may not be listed as an excipient. To search for counter ions (like sodium or potassium) one may look in the drug name fields (where the entire salt is often listed) or in the

comments section (where the quantity of the counter ion per gram of drug is often provided) as well as in the excipient section.

9) If a pH value is listed for a lyophilized product, in most cases, it is the pH of the drug after its initial reconstitution with diluent, not the pH at lyophilization.

10) The concentration values given for excipients and active drug product in lyophilized products are usually those present at the initial reconstitution step, and are not necessarily the concentrations present at delivery (often further dilution occurs). This applies to solution formulations as well. Further, excipient concentrations may not take into account additive effects from the diluent (for example, a drug containing sodium chloride and reconstituted with 0.9% Sodium Chloride usually lists the concentration of sodium chloride present in the undiluted state).

11) When the excipient concentration is calculated for a lyophilized product, it is usually done by dividing the weight of the material by the volume of liquid added. Note that this does not take into account the additive volume of mixing that occurs, so such values are to be considered only approximations. In cases where the manufacturer provided the total volume after mixing, this final volume was used for calculations.

12) For drugs requiring reconstitution/dilution, in most cases a diluent recommended by the manufacturer is identified. In cases where multiple compatible diluents are possible, or when dilution schemes are complicated, one will see the note "Consult PDR for appropriate dilution." In some cases, often when the recommended diluent is provided, the manufacturer would not reveal the identity of the diluent for proprietary reasons.

13) Finally, most of the entries herein have been sent to the manufacturer for their correction and final notes. Many manufacturers participated in checking the data; others did not. We want to make this compendium as correct as possible, and so if errors are found, please e-mail them to [nguyen.tue@gene.com](mailto:nguyen.tue@gene.com) for correction.

## Acknowledgments

This compendium would not have been possible without the diligent work of Milianne Chin. She compiled much of the data, engineered the database, and contacted dozens of different companies to ensure that the listings are up to date.

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient             | Conc. %W/V | pH where applicable | Administration Route | Drug Name   | Brand Name                                       | Manufacturer                 | Dosage Form   | Storage Container |
|-----------------------|------------|---------------------|----------------------|---|--|------------------------------|---------------|-------------------|
|                       |            |                     | paravertebral        | sarracenia purpurea, pitcher plant distillate         | Sarapin  | High Chemical Company        | Solution      | multidose vial    |
|                       |            | 6.0 - 7.0           | IV - intravenous     | Provides Rose's recommended daily intake of essential | 5.4% NephAmine "                                 | R&D Laboratories Inc.        | Solution      | glass containers  |
| acacia                | 7.0        |                     | ID - intradermal     | Old Tuberculin  | Tuberculin, Old, Tine Test                       | Lederle Laboratories         | Solution      | disposable        |
| acacia (gum arabic)   | 7.0        |                     | ID - intradermal     | tuberculin, purified protein derivative               | (PPD) Tine Test                                  | Lederle Laboratories         | Solution      | multiple-puncture |
| acetate               | 0.059      | 4.0                 | IV - intravenous     | filgrastim (recombinant methionyl human               | Neupogen ®                                       | Amgen, Inc.                  | Solution      | single dose vial  |
| acetate               |            | neutral             | SC - subcutaneous    | Lente (R) human insulin zinc suspension               | Novolin ® L                                      | Novo Nordisk Pharmaceuticals | Suspension    | vials             |
| acetate               |            | neutral             | SC - subcutaneous    | Lente (L) Purified Pork Insulin Zinc Suspension, USP  | Lente (L) Purified Pork Insulin Zinc Suspension. | Novo Nordisk Pharmaceuticals | Suspension    | vials             |
| acetic acid           | 0.435      |                     | IV - intravenous     | ritodrine hydrochloride                               | Yutopar  | Astra USA, Inc.              | Solution      | vial              |
| acetic acid           |            |                     | SC - subcutaneous    | leuprolide acetate                                    | Lupron Injection                                 | TAP Pharmaceuticals          | Solution      | multidose vial    |
| acetic acid           |            |                     | IM - intramuscular   | calcitonin-salmon                                     | Calcimar ® Injection; Synthetic                  | Rhone-Poulenc Rorer          | Solution      | vials             |
| acetic acid           |            |                     | IV - intravenous     | albumin (human), 25%                                  | Albuminar ®-25                                   | Armour Pharmaceutical        | Solution      | vials             |
| acetic acid           |            | 6.9 ± 0.5           | IV - intravenous     | albumin (human) 5%                                    | Albuminar ®-5                                    | Armour Pharmaceutical        | Solution      | bottles           |
| acetic acid           |            | 3.5 - 5.5           | IV - intravenous     | vincristine sulfate, USP                              | Oncovin ®  | Eli Lilly & Company          | Solution      | vials             |
| acetic acid           | 0.01       | ~4.0                | IV - intravenous     | flumazenil  | Romazicon™                                       | Roche Laboratories           | Solution      | vials             |
| acetic acid           | <2.5 (w/w) |                     | SC - subcutaneous    | goserelin acetate implant                             | Zoladex ®  | Zeneca Pharmaceuticals       | Solid Implant | disposable        |
| acetic acid           | 0.46       | 3.0 - 4.5           | IV - intravenous     | mitoxantrone hydrochloride                            | Novantrone                                       | Immunex Corporation          | Solution      | multidose vials   |
| acetic acid           |            | 2.5 - 4.5           | IM - intramuscular   | oxytocin  | Oxytocin Injection                               | Wyeth-Ayerst                 | Solution      | sterile cartridge |
| acetic acid           |            |                     | IM - intramuscular   | promethazine hydrochloride                            | Phenergan Injection (ampuls)                     | Wyeth-Ayerst                 | Solution      | ampuls            |
| acetic acid           |            |                     | IM - intramuscular   | promethazine hydrochloride                            | Phenergan Injection                              | Wyeth-Ayerst                 | Solution      | sterile cartridge |
| acetic acid           |            | ~5.9                | IM - intramuscular   | neostigmine methylsulfate                             | Prostigmin Injectable                            | ICN Pharmaceuticals          | Solution      | multidose vial    |
| acetic acid           | 0.225      |                     | IM - intramuscular   | calcitonin-salmon                                     | Miacalcin ®                                      | Sandoz Pharmaceuticals       | Solution      | vial              |
| acetic acid           |            | 6.4 - 7.2           | IM - intramuscular   | tetanus immune globulin (human) primarily IgG         | Hyper-Tet ®                                      | Bayer Corporation-Biologi    | Solution      | prefilled         |
| acetic acid           |            | 4.0                 | IV - intravenous     | rocuronium bromide                                    | Zemuron™ Injection                               | Organon                      | Solution      | multidose vial    |
| acetic acid (ampul)   |            |                     | IM - intramuscular   | leuprolide acetate                                    | Lupron Depot 7.5                                 | TAP Pharmaceuticals,         | Lyophilized   | single dose vials |
| acetic acid (glacial) | 0.2        | 4.2 ± 0.3           | IV - intravenous     | octreotide acetate injection                          | Sandostatin ®                                    | Sandoz Pharmaceuticals       | Solution      | ampuls            |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V    | pH where applicable | Administration Route | Drug Name  | Brand Name                               | Manufacturer                  | Dosage Form    | Storage Container  |
|-----------------|---------------|---------------------|----------------------|--|--|-------------------------------|----------------|--------------------|
| acetic acid NF  |               |                     | IM - intramuscular   | leuprolide acetate                                       | Lupron Depot-Ped                         | TAP Pharmaceuticals           | Lyophilized    | single dose vial   |
| acetic acid NF  |               | 4.0 ± 0.3           | IM - intramuscular   | oxytocin   | Syntocinon ®                             | Sandoz                        | Solution       | ampul              |
| acetone sodium  | 0.1           | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                      | Talwin Injection (cartridge needle)      | Sanofi Winthrop               | Solution       | cartridge needle   |
| acetone sodium  | 0.2           | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                      | Talwin injection (multidose vial)        | Sanofi Winthrop               | Solution       | multidose vials    |
| acetone sodium  | 0.4           |                     | spinal anesthesia    | procaine hydrochloride                                   | Novocain                                 | Sanofi Winthrop               | Solution       | ampuls             |
| acetone sodium  | ≤ 0.2         | 3.2 - 6.0           | spinal anesthesia    | tetracaine hydrochloride                                 | Pontocaine Hydrochloride 1% Solution     | Sanofi Winthrop               | Solution       | ampuls             |
| alanine         | 0.668 - 1.11  | 6.0 - 7.5           | IV - intravenous     | antithrombin III (human)                                 | Thrombate III ®                          | Bayer Corporation-Biologi     | Lyophilized    | single dose vials  |
| albumin         | 0.25          | 5.8 - 7.2           | IV - intravenous     | epoetin alfa   | Procrit                                  | Ortho Biotech, Inc.           | Solution       | single dose vial   |
| albumin         | <10.0         |                     | IM - intramuscular   | rabies virus prepared from strain                        | Imovax ® Rabies Vaccine                  | Connaught Laboratories Inc.   | Freeze-dried   | single dose vial   |
| albumin (human) | ≤1.25         |                     | IV-intravenous       | Antihemophilic Factor (recombinant)                      | Bioclata™                                | Amour Pharmaceutical          | Lyophilized    | single-dose        |
| albumin (human) | ≤0.3          | 6.8 ± 0.4           | IV-intravenous       | Immune Globulin Intravenous (human) (IGIV)               | Gammagard ® S/D                          | Baxter Healthcare Corporation | Lyophilized    | single use bottles |
| albumin (human) | 0.04-1.0      |                     | IV - intravenous     | antihemophilic factor (recombinant)                      | Kogenate ®                               | Bayer Corporation-Biologi     | Lyophilized    | single dose vial   |
| albumin (human) | ≤1.0          |                     | IV - intravenous     | antihemophilic factor (Human)                            | Koste ®-HP                               | Bayer Corporation-Biologi     | Lyophilized    | single dose bottle |
| albumin (human) | 0.4-1.0       |                     | IV - intravenous     | antihemophilic factor (recombinant)                      | Helixate™                                | Amour Pharmaceutical          | Lyophilized    | single dose        |
| albumin (human) | 0.0063 - 0.05 |                     | IM - intramuscular   | botulinum toxin type A                                   | Botox ®                                  | Allergan Inc.                 | Lyophilized    | ampuls             |
| albumin (human) | 5.0           |                     | IV - intravenous     | urokinase for injection                                  | Abbokinase                               | Abbott Laboratories           | Lyophilized    | vial               |
| albumin (human) | 0.25          | 6.9 ± 0.3           | IV - intravenous     | epoetin alfa (recombinant human)                         | Epogen ®                                 | Amgen, Inc.                   | Solution       | single dose vial   |
| albumin (human) | 0.25          | 6.1 ± 0.3           | IV - intravenous     | epoetin alfa (recombinant human)                         | Epogen ® - multidose                     | Amgen, Inc.                   | Solution       | multidose vial     |
| albumin (human) | 3.0           | 6.8 ± 0.4           | IV - intravenous     | immune globulin IV (human) primarily IgG                 | Gammar®-IV                               | Amour Pharmaceutical          | Lyophilized    | single dose vials  |
| albumin (human) | 1.0 - 2.0     |                     | IV - intravenous     | monoclonal antibody purified human                       | Monoclata-P ® Factor VIII: C Pasteurized | Amour Pharmaceutical          | Lyophilized    | single dose vial   |
| albumin (human) | 1.25          |                     | SC - subcutaneous    | interferon beta-1b                                       | Betaseron ®                              | Berlex Laboratories           | Lyophilized    | single use vial    |
| albumin (human) | 1.0           |                     | IV - intravenous     | cytomegalovirus immune globulin intravenous              | CytoGam ®                                | Medimmune, Inc.               | Sterile Liquid | single dose vial   |
| albumin (human) | 0.5           |                     | SC - subcutaneous    | poliovirus vaccine inactivated; type 1 (Mahoney), type 2 | Poliovax ®                               | Connaught Laboratories, Inc.  | Suspension     | ampoules           |
| albumin (human) | 0.5           |                     | IM - intramuscular   | interferon alfa-2a, recombinant                          | Roferon ®-A                              | Roche Laboratories            | Solution       | vial               |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient          | Conc. %W/V  | pH where applicable | Administration Route | Drug Name   | Brand Name                                    | Manufacturer                       | Dosage Form      | Storage Container  |
|--------------------|-------------|---------------------|----------------------|---|---|------------------------------------|------------------|--------------------|
| albumin (human)    | 0.167       |                     | IM - intramuscular   | interferon alfa-2a, recombinant                     | Roferon ®-A (powder)                          | Roche Laboratories                 | Powder (sterile) | vial               |
| albumin (human)    | 0.1         |                     | IL - intralesional   | interferon alfa-2b, recombinant                     | Intron A                                      | Schering Corporation               | Powder           | vial               |
| albumin (human)    | 0.1         |                     | IM - intramuscular   | interferon alfa-2b, recombinant                     | Intron A (solution)                           | Schering Corporation               | Solution         | vials              |
| albumin (human)    | 0.6         |                     | IV - intravenous     | anistreplase  | Eminase ®                                     | Roberts Pharmaceutical             | Lyophilized      | vial               |
| albumin (human)    | 0.4 - 0.8   |                     | IV - intravenous     | antihemophilic factor (human) (Factor VIII, AHF)    | Humate-P™                                     | Amour Pharmaceutical               | Lyophilized      | single dose vial   |
| albumin human USP  | 1.0         |                     | IV - intravenous     | alglucerase injection                               | Ceredase ®                                    | Genzyme Corporation                | Solution         | glass bottle       |
| alcohol            | 30.5 (v/v%) | 3.0 - 4.0           | IV - intravenous     | Etoposide   | VePesid                                       | Bristol-Myers Squibb-Oncology      | Solution         | multiple dose      |
| alcohol            | 6.8 (v/v)   |                     | IV - intravenous     | liothyronine sodium injection (T3)                  | Triostat                                      | SmithKline Beecham Pharmaceuticals | Solution         | amber-glass vials  |
| alcohol            | 10.0        | 6.8 - 7.2           | IM - intramuscular   | digoxin   | Lanoxin                                       | Glaxo-Wellcome                     | Solution         | ampul              |
| alcohol            | 6.1 (v/v)   | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate                          | D.H.E. 45 ®                                   | Sandoz                             | Solution         | ampuls             |
| alcohol            | 10.0        | ~9.5                | IM - intramuscular   | pentobarbital sodium injection                      | Nembutal Sodium Solution                      | Abbott Laboratories                | Solution         | ampul              |
| alcohol            | 10.0        | 6.8 - 7.2           | IM - intramuscular   | digoxin   | Lanoxin (Digoxin) Injection                   | Glaxo Wellcome                     | Solution         | ampuls             |
| alcohol            | 10.0        | 12.0                | IV - intravenous     | phenytoin sodium injection, USP                     | Dilantin                                      | Parke-Davis                        | Solution         | steri-vials        |
| alcohol            | 10.0        |                     | IM - intramuscular   | ketorolac tromethamine                              | Toradol                                       | Syntex Laboratories                | Solution         | Tubex cartridge    |
| alcohol (Ph. Helv) | 32.9 (v/v)  |                     | IV - intravenous     | cyclosporine concentrate for injection USP          | Sandimmune ®                                  | Sandoz Pharmaceuticals             | Solution         | Ampul              |
| alcohol (USP)      | 0.61 (v/v)  | 4.0 ± 0.3           | IM - intramuscular   | oxytocin  | Syntocinon ®                                  | Sandoz                             | Solution         | ampul              |
| alcohol (USP)      | 6.1 (v/v%)  | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate injection, USP           | D.H.E. 45 ® or Dyhdergot ®                    | Sandoz                             | Solution         | ampuls             |
| alpha              | 1.0         |                     | IM - intramuscular   | oxytetracycline                                     | Terramycin                                    | Roerig                             | Solution         | multidose vial     |
| aluminum           | ≤0.17       |                     | IM - intramuscular   | Diphtheria and Tetanus Toxoids and Acellular        | Acel-Imune                                    | Lederle Laboratories               | Suspension(aft)  | multidose vial     |
| aluminum           | ≤0.0001     |                     | IV - intravenous     | antihemophilic factor (Human)                       | Koate ®-HP                                    | Bayer Corporation-Biologi          | Lyophilized      | single dose bottle |
| aluminum           | ≤0.034      | ~ 7.4               | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Acellular          | Tripedia™                                     | Connaught Laboratories, Inc.       | Solution/Suspe   | vial               |
| aluminum           | ≤0.16       |                     | IM - intramuscular   | combination of refined tetanus & diphtheria toxoids | Tetanus & Diphtheria Toxoids Adsorbed (Adult) | Lederle Laboratories               | Suspension       | vial               |
| aluminum           | ≤0.16       |                     | IM - intramuscular   | refined tetanus toxoid                              | Tetanus Toxoid Adsorbed, aluminum             | Lederle Laboratories               | Suspension       | vial               |
| aluminum           | ≤0.16       |                     | IM - intramuscular   | diphtheria & tetanus toxoids & Pertussis Vaccine    | Tri-Immunol                                   | Lederle Laboratories               | Suspension(aft)  | multidose vials    |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient             | Conc. %W/V   | pH where applicable | Administration Route | Drug Name   | Brand Name                                | Manufacturer                       | Dosage Form    | Storage Container |
|-----------------------|--------------|---------------------|----------------------|---|---|------------------------------------|----------------|-------------------|
| aluminum              | 0.05         |                     | IM - intramuscular   | hepatitis A vaccine                                 | Havrix (Hepatitis A Vaccine, Inactivated) | SmithKline Beecham Biologicals     | Suspension     | single dose vial  |
| aluminum              | 0.04 - 0.12  |                     | IM - intramuscular   | combination of purified tetanus & diphtheria        | Diphtheria & Tetanus Toxoids & Pertussis  | SmithKline Beecham Pharmaceuticals | Suspension     | vials             |
| aluminum              | ≤0.034       |                     | IM - intramuscular   | combines diphtheria & tetanus toxoids               | Diphtheria & Tetanus Toxoids & Pertussis  | Connaught Laboratories, Inc.       | Turbid Liquid  | vial              |
| aluminum              | ≤0.16        |                     | IM - intramuscular   | combination of refined diphtheria & tetanus toxoids | Diphtheria & Tetanus Toxoids Adsorbed,    | Lederle Laboratories               | Suspension(aft | vial              |
| aluminum              | ≤0.17        |                     | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Pertussis          | Tetramune, (DTP-HbOC)                     | Lederle Laboratories               | Suspension(aft | vial              |
| aluminum              | 0.045        |                     | IM - intramuscular   | haemophilus b conjugate vaccine (meningococcal      | PedvaxHIB                                 | Merck & Company                    | Lyophilized    | single dose vials |
| aluminum              | ~0.05        |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)                   | Recombivax HB                             | Merck & Company                    | Suspension     | single dose vial  |
| aluminum              | 0.05         |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)                   | Engerix-B                                 | SmithKline Beecham Pharmaceuticals | Suspension     | single dose vial  |
| aluminum              | 2.0          |                     | IM - intramuscular   | aurothioglucose                                     | Solganal                                  | Schering Corporation               | Suspension     | multidose vial    |
| aluminum phosphate    | ≤0.2         |                     | IM - intramuscular   | inactivated CVS Kissling/MDPH rabies virus          | Rabies Vaccine Adsorbed                   | SmithKline Beecham Pharmaceuticals | Suspension     | vial              |
| amino acid            | 0.3          |                     | IM - intramuscular   | hepatitis A vaccine                                 | Havrix (Hepatitis A Vaccine, Inactivated) | SmithKline Beecham Biologicals     | Suspension     | single dose vial  |
| ammonia               | 0.219        |                     | IV - intravenous     | liothyronine sodium injection (T3)                  | Triostat                                  | SmithKline Beecham Pharmaceuticals | Solution       | amber-glass vials |
| ammonium acetate      | 0.4          | ~7.0                | IM - intramuscular   | bumetanide  | Bumex ®                                   | Roche Laboratories                 | Solution       | ampuls            |
| ammonium hydroxide    |              |                     | SC - subcutaneous    | pentagastrin  | Peptavlon                                 | Wyeth-Ayerst                       | Solution       | ampules           |
| anhydrous citric acid | 0.0175       |                     | IV - intravenous     | liothyronine sodium injection (T3)                  | Triostat                                  | SmithKline Beecham Pharmaceuticals | Solution       | amber-glass vials |
| anhydrous citric acid | 0.08         | 6.8 - 7.2           | IM - intramuscular   | digoxin   | Lanoxin                                   | Glaxo-Wellcome                     | Solution       | ampul             |
| anhydrous citric acid |              | 3.0 - 4.0           | IV - intravenous     | dscarbazine   | DTIC-Dome Sterile                         | Bayer Corporation-Pharma           | Solid          | vials             |
| anhydrous citric acid | 0.08         | 6.8 - 7.2           | IM - intramuscular   | digoxin   | Lanoxin (Digoxin) Injection               | Glaxo Wellcome                     | Solution       | ampuls            |
| anhydrous dextrose    | 4.5          | 3.0 - 4.0           | IV - intravenous     | labetalol hydrochloride                             | Trandate Injection ®                      | Glaxo Wellcome                     | Solution       | vials             |
| anhydrous dextrose    | 4.5          | 3.0 - 4.0           | IV - intravenous     | labetalol HCl                                       | Normodyne                                 | Schering Corporation               | Solution       | multidose vial    |
| anhydrous dextrose    | 5.0          |                     | IM - intramuscular   | buprenorphine hydrochloride                         | Buprenex                                  | Reckitt & Colman Pharmaceuticals   | Solution       | glass snap-ampuls |
| anhydrous sodium      | 6.0          | 9.5 - 11.0          | IV - intravenous     | Methohexital Sodium for injection                   | Brevital Sodium                           | Eli Lilly & Company                | Freeze-dried   | vials             |
| arginine              | 1.56 - 26.0  | 4.5 - 7.5           | IM - intramuscular   | aztreonam for injection                             | Azactam for Injection                     | Bristol-Myers Squibb-Oncology      | Lyophilized    | vials             |
| ascorbic acid         | 0.048 - 0.48 |                     | IV - intravenous     | doxycycline hyclate for injection                   | Vibramycin Intravenous                    | Roerig                             | Powder         | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V  | pH where applicable | Administration Route    | Drug Name   | Brand Name                              | Manufacturer                   | Dosage Form  | Storage Container |
|----------------------|-------------|---------------------|-------------------------|---|---|--------------------------------|--------------|-------------------|
| ascorbic acid        | 0.1         |                     | IM - intramuscular      | imipramine hydrochloride USP                          | Tofranil                                | CibaGeneva Corporation         | Solution     | ampuls            |
| ascorbic acid        | 0.2         |                     | IM - intramuscular (see | chlorpromazine hydrochloride                          | Thorazine-ampule                        | SmithKline Beecham             | Solution     | ampule            |
| ascorbic acid        | 0.2         |                     | IM - intramuscular (see | chlorpromazine hydrochloride                          | Thorazine                               | SmithKline Beecham             | Solution     | multidose vials   |
| ascorbic acid        | 0.2         | 3.4 - 4.5           | various                 | bupivacaine hydrochloride and epinephrine             | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop                | Solution     | single dose vials |
| ascorbic acid        | 1.0         |                     | SC - subcutaneous       | Epinephrine   | Sus-phrine ®                            | Forest Pharmaceuticals Inc.    | Suspension   | ampul             |
| ascorbic acid USP    | 0.1         |                     | IM - intramuscular      | thiethylperazine malate USP                           | Torecan ®                               | Roxane Laboratories, Inc.      | Solution     | ampul             |
| asparagine           |             |                     | IVS - intravesical      | an attenuated live culture preparation of BCG vaccine | TICE ® BCG                              | Organon                        | Freeze-dried | ampules           |
| benzalkonium         | 0.02        | 6.8 - 7.2           | ID - intradermal        | betamethasone sodium phosphate & betamethasone        | Celestone Soluspan Suspension           | Schering Corporation           | Suspension   | multidose vial    |
| benzenesulfonic acid |             | 3.25 - 3.65         | IV - intravenous        | atracurium besylate                                   | Tracrium                                | Glaxo Wellcome                 | Solution     | single use vial   |
| benzethonium         | 0.0 - 0.01* | 5.0 - 6.0           | IM - intramuscular      | diphenhydramine hydrochloride                         | Benadryl                                | Parke Davis                    | Solution     | ampules           |
| benzethonium         | 0.0 - 0.01  |                     | IM - intramuscular      | butorphanol tartrate                                  | Stadol ® Injection                      | Apothecan/Bristol-Myers Squibb | Solution     | vial              |
| benzyl alcohol       | 3.0         | 3.0 - 4.0           | IV-intravenous          | Etoposide   | VePesid                                 | Bristol-Myers Squibb-Oncology  | Solution     | multiple dose     |
| benzyl alcohol       | 0.9         | 5.0 - 7.5           | IM-intramuscular        | Dexamethasone Acetate Suspension                      | Dalalone D.P. ®                         | Forest Pharmaceuticals         | Suspension   | vials             |
| benzyl alcohol       | 0.9         | 5.0 - 7.0           | IM-intramuscular        | Cortisone Acetate                                     | Cortone Acetate                         | Merck & Company                | Suspension   | vials             |
| benzyl alcohol       | 0.9         | 5.0 - 7.5           | IM-intramuscular        | dexamethasone acetate                                 | Decadron-LA                             | Merck & Company                | Suspension   | vials             |
| benzyl alcohol       | 0.9         | 6.0 - 8.0           | IAR - intraarticular    | Prednisolone Tebutate                                 | Hydeltra T. B. A.                       | Merck & Company                | Suspension   | vials             |
| benzyl alcohol       | 0.9         | 5.0 - 7.0           | IAR - intraarticular    | Hydrocortisone acetate                                | Hydrocortone Acetate                    | Merck & Company                | Suspension   | vials             |
| benzyl alcohol       | 0.89-0.93   | 3.5 - 7.0           | IM - intramuscular      | Methylprednisolone acetate                            | Depo-Medrol                             | The Upjohn Company             | Suspension   | single dose vial  |
| benzyl alcohol       | 0.90        | ~6.0                | IM - intramuscular      | triamcinolone diacetate                               | Aristocort Forte (P)                    | Fujisawa                       | Micronized   | vial              |
| benzyl alcohol       | 0.90        | ~6.0                | IL - intralesional      | triamcinolone diacetate                               | Aristocort                              | Fujisawa USA, Inc.             | Micronized   | vial              |
| benzyl alcohol       | 0.90        | 4.5 - 6.5           | IL - intralesional      | triamcinolone hexacetone suspension                   | Aristospan Suspension 5 mg/ml           | Fujisawa USA, Inc.             | Suspension   | vial              |
| benzyl alcohol       | 2.02        |                     | IV - intravenous        | amidarone Hcl   | Cordarone Intravenous (Cordarone IV)    | Wyeth-Ayerst                   | Solution     | ampuls            |
| benzyl alcohol       | 0.9         |                     | IV - intravenous        | Enalaprilat   | Vasotec I.V.                            | Merck & Company                | Solution     | vial              |
| benzyl alcohol       | 1.0         | ~3.0                | IV - intravenous        | midazolam hydrochloride                               | Versed                                  | Hoffman - LaRoche Inc.         | Solution     | vials             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient      | Conc. %W/V | pH where applicable | Administration Route    | Drug Name                                   | Brand Name                          | Manufacturer                       | Dosage Form  | Storage Container |
|----------------|------------|---------------------|-------------------------|---|-------------------------------------|------------------------------------|--------------|-------------------|
| benzyl alcohol | 0.9        |                     | IM - intramuscular      | hydroxyzine hydrochloride                   | Vistaril                            | Roerig                             | Solution     | multidose vials   |
| benzyl alcohol | 0.5        | 5.8 - 6.5           | IM - intramuscular      | gold sodium thiomalate                      | Myochrysine                         | Merck & Company                    | Solution     | ampuls            |
| benzyl alcohol | 1.0        | 3.5 - 6.0           | IM - intramuscular      | netilmicin sulfate, USP                     | Netromycin Injection                | Schering Biochem. Corporation      | Solution     | vials             |
| benzyl alcohol | 0.9        | 3.9 - 5.0           | IV - intravenous        | doxacurium chloride                         | Nuromax                             | Glaxo Wellcome                     | Solution     | multidose vial    |
| benzyl alcohol | 1.2        |                     | IM - intramuscular      | haloperidol decanoate                       | Haldol Decanoate 50 and 100         | McNeil Pharmaceutical              | Solution (in | ampuls            |
| benzyl alcohol | 3.0        | ~5.0                | IV - intravenous        | teniposide                                  | Vumon Injection Concentrate (VM-26) | Bristol-Myers Squibb-Oncology      | Solution     | ampules           |
| benzyl alcohol | 1.0        | ~10.0               | IV - intravenous        | trimethoprim and sulfamethoxazole           | Septra I.V. Infusion                | Glaxo Wellcome                     | Solution     | multidose vials   |
| benzyl alcohol | 2.0        |                     | IM - intramuscular      | lorazepam                                   | Ativan                              | Wyeth-Ayerst                       | Solution     | sterile cartridge |
| benzyl alcohol | 0.9        | ~4.5                | IM - intramuscular      | methotrimeprazine as the hydrochloride salt | Levoprome                           | Immunex Corporation                | Solution     | vials             |
| benzyl alcohol | 1.5        | ~3.0                | IM - intramuscular      | chlordiazepoxide hydrochloride              | Librium injectable (IM)             | Roche Products, Inc.               | Crystalline  | amber ampuls      |
| benzyl alcohol | 0.945      |                     | IM - intramuscular      | lincomycin hydrochloride                    | Lincocin sterile solution           | The Upjohn Company                 | Solution     | vials             |
| benzyl alcohol | 0.9        |                     | SC - subcutaneous       | leuprolide acetate                          | Lupron Injection                    | TAP Pharmaceuticals,               | Solution     | multidose vial    |
| benzyl alcohol | 0.84       |                     | ICN - intracavernosal   | alprostadil                                 | Caverject Sterile Powder            | The Upjohn Company                 | Freeze-dried | vial              |
| benzyl alcohol | 0.9        | ~6.8                | IV - intravenous        | aminocaproic acid                           | Amicar Injection, USP               | Immunex Corporation                | Solution     | vial              |
| benzyl alcohol | 2.0        |                     | IM - intramuscular      | physostigmine salicylate                    | Antilirium                          | Forest                             | Solution     | ampuls            |
| benzyl alcohol | 1.0        | ~7.0                | IM - intramuscular      | bumetanide                                  | Bumex ®                             | Roche Laboratories                 | Solution     | ampuls            |
| benzyl alcohol | 0.945      |                     | IM - intramuscular      | clindamycin phosphate                       | Cleocin Phosphate Sterile Solution  | The Upjohn Company                 | Solution     | vials             |
| benzyl alcohol | 1.5        |                     | IM - intramuscular      | diazepam                                    | Valium Injectable                   | Roche Products                     | Solution     | ampuls            |
| benzyl alcohol | 2.0        |                     | IM - intramuscular (see | chlorpromazine hydrochloride                | Thorazine                           | SmithKline Beecham                 | Solution     | multidose vials   |
| benzyl alcohol | 0.75       |                     | IM - intramuscular      | prochlorperazine as the edisylate           | Compazine                           | SmithKline Beecham Pharmaceuticals | Solution     | vials             |
| benzyl alcohol | 1.0        | 6.1 ± 0.3           | IV - intravenous        | epoetin alfa (recombinant human             | Epogen ® - multidose                | Amgen, Inc.                        | Solution     | multidose vial    |
| benzyl alcohol | 1.2        |                     | IM - intramuscular      | fluphenazine decanoate injection            | Prolixin Decanoate                  | Apothecon/Bristol-Myers Squibb     | Solution     | single dose       |
| benzyl alcohol | 1.5        |                     | IM - intramuscular      | fluphenazine Enanthate Injection            | Prolixin Enanthate                  | Apothecon/Bristol-Myers Squibb     | Solution     | vials             |
| benzyl alcohol | 0.9        | 5.0 - 7.0           | IM - intramuscular      | phytonadione (vitamin K1)                   | AquaMephyton                        | Merck & Company                    | Aqueous      | ampuls            |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V  | pH where applicable | Administration Route | Drug Name  | Brand Name                         | Manufacturer                       | Dosage Form | Storage Container  |
|----------------------|-------------|---------------------|----------------------|--|------------------------------------|------------------------------------|-------------|--------------------|
| benzyl alcohol       | 0.9         |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP                | Pregnyl ®                          | Organon                            | Powder      | multidose vials    |
| benzyl alcohol       | 0.9         | ~8.5                | IA - intraarterial   | methotrexate sodium                                      | Methotrexate Sodium Injection      | Immunex Corporation                | Solution    | vial               |
| benzyl alcohol       | 1.0         | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole                        | Septra IV Infusion                 | Glaxo Wellcome                     | Solution    | vial               |
| benzyl alcohol       | 1.0         | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole                        | Septra IV Infusion ADD             | Glaxo Wellcome                     | Solution    | vial               |
| benzyl alcohol       | 0.0 - 0.91  | 7.0 - 8.0           | IM - intramuscular   | hydrocortisone sodium succinate                          | Solu-Cortef Sterile Powder         | The Upjohn Company                 | Powder      | Act-O-vial         |
| benzyl alcohol       | 0.02 (v/v)  | 7.9                 | IV - intravenous     | sodium tetradecyl sulfate injection                      | Sotradecol ®                       | Elkins-Sinn Inc.                   | Solution    | ampul              |
| benzyl alcohol       | 0.75        |                     | IM - intramuscular   | trifluoperazine hydrochloride                            | Stelazine                          | SmithKline Beecham Pharmaceuticals | Solution    | multidose vial     |
| benzyl alcohol       | 2.0 (v/v)   | 8.0 - 9.0           | IV - intravenous     | ethanolamine oleate                                      | Ethamolín ® Injection              | Schwarz Pharmaceutical             | Solution    | ampules            |
| benzyl alcohol       | 2.0         |                     | IV - intravenous     | gonadorelin hydrochloride                                | Factrel                            | Wyeth-Ayerst                       | Lyophilized | single dose Secule |
| benzyl alcohol       | ≤1.0        |                     | IV - intravenous     | heparin sodium   | Heparin Lock Flush Solution, USP   | Wyeth-Ayerst                       | Solution    | Tubex Blunt        |
| benzyl alcohol       | ≤1.0        | 5.0 - 7.5           | IV - intravenous     | heparin sodium   | Heparin Sodium Injection USP       | Wyeth-Ayerst                       | Solution    | Tubex sterile      |
| benzyl alcohol       | 0.945       | 5.0 - 7.5           | IV - intravenous     | heparin sodium   | Heparin Sodium Injection           | The Upjohn Company                 | Solution    | vial               |
| benzyl alcohol       | 1.0         |                     | IV - intravenous     | heparin sodium   | Heparin Sodium Injeccio -Eli Lilly | Eli Lilly & Company                | Solution    | multidose vial     |
| benzyl alcohol NF    | 0.9         | 3.5 - 5.0           | IV - intravenous     | doxapram hydrochloride injection USP                     | Dopram Injectable                  | A. H. Robins Company               | Solution    | multidose vials    |
| benzyl alcohol NF    | 0.9         | 2.0 - 3.0           | IM - intramuscular   | glycopyrrolate, USP                                      | Robinul Injectable                 | A. H. Robins Company               | Liquid      | multidose vial     |
| benzyl alcohol       | 0.90        | 4.5 - 6.5           | IAR - intraarticular | triamcinolone hexacetonide                               | Aristospan Suspension 20 mg/ml     | Fujisawa                           | Micronized  | vials              |
| benzyl alcohol (see  | 0 - 0.9     | 3.25 - 3.65         | IV - intravenous     | atracurium besylate                                      | Tracrium                           | Glaxo Wellcome                     | Solution    | single use vial    |
| benzyl alcohol (see  | 0.0 - 0.9   | 3.5 - 5.0           | IV - intravenous     | mivacurium chloride                                      | Mivacron Injection                 | Glaxo Wellcome                     | Solution    | single dose vials  |
| benzyl alcohol ( see | 0.0 - 0.9   |                     | IM - intramuscular   | furosemide   | Lasix ®                            | Hoechst-Roussel Pharmaceuticals    | Solution    | ampuls             |
| benzyl alcohol (see  | 0.0 - 0.104 | 6.5 - 8.5           | IV - intravenous     | mesna  | Mesnax Injection                   | Bristol-Myers Squibb-Oncology      | Solution    | multidose vial     |
| benzyl alcohol (see  | 0.0 - 0.9   |                     | IV - intravenous     | famotidine   | Pepcid Injection                   | Merck & Company                    | Solution    | multidose vial     |
| benzyl alcohol (see  | 0.0 - 1.0   | 5.8 - 7.2           | IV - intravenous     | epoetin alfa   | Procrit                            | Ortho Biotech, Inc.                | Solution    | single dose vial   |
| benzyl alcohol (see  | 0.0 - 8.92  | 7.0 - 8.0           | IM - intramuscular   | methylprednisolone sodium succinate, USP                 | Solu-Medrol Sterile Powder         | The Upjohn Company                 | Powder      | Act-O-vial         |
| bovine serum         | <0.0001     |                     | SC - subcutaneous    | poliovirus vaccine inactivated; type 1 (Mahoney), type 2 | Poliovax ®                         | Connaught Laboratories, Inc.       | Suspension  | ampoules           |
| buffered sodium      |             |                     | SC - subcutaneous    | typhoid vaccine  | Typhoid Vaccine USP                | Wyeth-Ayerst                       | Suspension  | vials              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V    | pH where applicable | Administration Route | Drug Name  | Brand Name                              | Manufacturer              | Dosage Form | Storage Container  |
|---------------------|---------------|---------------------|----------------------|--|---|---------------------------|-------------|--------------------|
| buffered sodium     |               |                     | ID - intradermal     | equal parts of Ogawa and Inaba serotypes of killed | Cholera Vaccine USP                     | Wyeth-Ayerst              | Suspension  | vials              |
| butylated           | 0.03          |                     | IM-intramuscular     | Vitamin A Palmitate as retinol                     | Aquasol A Parenteral                    | Astra USA, Inc.           | Solution    | single-dose vial   |
| butylated           | 0.03          |                     | IM-intramuscular     | Vitamin A Palmitate as retinol                     | Aquasol A Parenteral                    | Astra USA, Inc.           | Solution    | single-dose vial   |
| calcium             | ≤0.02         |                     | IV-intravenous       | Antihemophilic Factor (recombinant)                | Bioclote™                               | Armour Pharmaceutical     | Lyophilized | single-dose        |
| calcium chloride    | 0.022-0.056   |                     | IV - intravenous     | antihemophilic factor (recombinant)                | Kogenate®                               | Bayer Corporation-Biologi | Lyophilized | single dose vial   |
| calcium chloride    | ≤0.03327      |                     | IV - intravenous     | antihemophilic factor (Human)                      | Koate®-HP                               | Bayer Corporation-Biologi | Lyophilized | single dose bottle |
| calcium chloride    | 0.022-0.05    |                     | IV - intravenous     | antihemophilic factor (recombinant)                | Helixate™                               | Armour Pharmaceutical     | Lyophilized | single dose        |
| calcium chloride    | 0.033         | 4.5 - 6.8           | various              | mepivacaine hydrochloride                          | Carbocaine Hydrochloride-single         | Sanofi Winthrop           | Solution    | single dose vials  |
| calcium chloride    | 0.048         | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                                 | Amo® Vitrax®                            | Allergan Inc.             | Solution    | disposable glass   |
| calcium chloride    | 0.022 - 0.056 |                     | IV - intravenous     | monoclonal antibody purified human                 | Monoclote-P® Factor VIII: C Pasteurized | Armour Pharmaceutical     | Lyophilized | single dose vial   |
| calcium chloride    | 0.048         | 7.2 ± 0.4           | ITO - intraocular    | purified hydroxypropylmet hylcellulose             | Ocucoat                                 | Storz Ophthalmics         | Solution    | syringes           |
| calcium chloride    | 0.004         |                     | IM - intramuscular   | promethazine hydrochloride                         | Phenergan Injection (ampuls)            | Wyeth-Ayerst              | Solution    | ampuls             |
| calcium chloride    | 0.004         |                     | IM - intramuscular   | promethazine hydrochloride                         | Phenergan Injection                     | Wyeth-Ayerst              | Solution    | sterile cartridge  |
| calcium chloride    | 0.004         |                     | IM - intramuscular   | meperidine hydrochloride & promethazine            | Mepergan                                | Wyeth-Ayerst              | Solution    | sterile cartridge  |
| carbon dioxide      |               | 8.0 - 9.0           | IV - intravenous     | cyclophosphamide for injection, USP                | Lyophilized Neosar®                     | Pharmacia                 | Lyophilized | vials              |
| carbon dioxide gas  |               |                     | IM - intramuscular   | thiethylperazine malate USP                        | Torecan®                                | Roxane Laboratories, Inc. | Solution    | ampul              |
| carbon dioxide gas  |               |                     | IM - intramuscular   | mesoridazine besylate USP                          | Serentil®                               | Boehringer Ingelheim      | Solution    | ampuls             |
| carboxymethylcellul | 0.55          |                     | IM - intramuscular   | penicillin G benzathine and penicillin G           | Bicillin C-R 900/300                    | Wyeth-Ayerst              | Suspension  | sterile cartridge  |
| carboxymethylcellul | 0.6           |                     | IM - intramuscular   | penicillin G benzathine suspension                 | Bicillin L-A                            | Wyeth-Ayerst              | Suspension  | disposable         |
| carboxymethylcellul | 0.55          |                     | IM - intramuscular   | penicillin G benzathine and penicillin G           | Bicillin C-R                            | Wyeth-Ayerst              | Suspension  | disposable         |
| carboxymethylcellul | 0.05          | 5.0 - 7.5           | IM-intramuscular     | Dexamethasone Acetate Suspension                   | Dalalone D.P.®                          | Forest Pharmaceuticals    | Suspension  | vials              |
| carboxymethylcellul | 0.5           |                     | IM - intramuscular   | leuprolide acetate                                 | Lupron Depot 3.75                       | TAP Pharmaceuticals       | Lyophilized | single dose vial   |
| carboxymethylcellul | 0.5           |                     | IM - intramuscular   | leuprolide acetate                                 | Lupron Depot-Ped                        | TAP Pharmaceuticals       | Lyophilized | single dose vial   |
| carboxymethylcellul | 0.5           |                     | IM - intramuscular   | leuprolide acetate                                 | Lupron Depot-3 month, 22.5              | TAP Pharmaceuticals       | Lyophilized | vial               |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V      | pH where applicable | Administration Route | Drug Name   | Brand Name                             | Manufacturer                    | Dosage Form  | Storage Container  |
|---------------------|-----------------|---------------------|----------------------|---|--|---------------------------------|--------------|--------------------|
| carboxymethylcellul | 0.5             |                     | IM - intramuscular   | leuprolide acetate                                    | Lupron Depot 7.5                       | TAP Pharmaceuticals             | Lyophilized  | single dose vials  |
| chloride            | 0.355-0.46<br>1 |                     | IV - intravenous     | antihemophilic factor (recombinant)                   | Kogenate ®                             | Bayer Corporation-Biologi       | Lyophilized  | single dose vial   |
| chloride            | 0.355-0.46      |                     | IV - intravenous     | antihemophilic factor (recombinant)                   | Helixate™                              | Amour Pharmaceutical            | Lyophilized  | single dose        |
| chloride            | 0.213 - 0.638   | 6.6 - 7.4           | IV - intravenous     | alpha I-proteinase inhibitor (human)                  | Prolastin ®                            | Bayer Corporation-Biologi       | Lyophilized  | single dose vials  |
| chloride            | 0.390-0.744     | 6.0 - 7.5           | IV - intravenous     | antithrombin III (human)                              | Thrombate III ®                        | Bayer Corporation-Biologi       | Lyophilized  | single dose vials  |
| chlorobutanol       | 0.5             |                     | IM-intramuscular     | Vitamin A Palmitate as retinol                        | Aquasol A Parenteral                   | Astra USA, Inc.                 | Solution     | single-dose vial   |
| chlorobutanol       | 0.25            | 6.0 - 7.0           | IM - intramuscular   |   | Nydrasid Injection                     | Apothecan/Bristol-Myers Squibb  | Solution     | vial               |
| chlorobutanol       | ≤0.5            |                     | IM - intramuscular   | L-epinephrine hydrochloride (injection).              | Ana-Kit                                | Bayer Corporation-Pharma        | Solution     | syringe            |
| chlorobutanol       | 0.5             | 2.5 - 4.5           | IM - intramuscular   | oxytocin  | Oxytocin Injection                     | Wyeth-Ayerst                    | Solution     | sterile cartridge  |
| chlorobutanol       | 0.5             |                     | IM - intramuscular   | testosterone enanthate 200mg/mL                       | Delatestryl                            | BioTechnology General Corp.-BTG | Solution     | single dose        |
| chlorobutanol       | 0.5             |                     | IM - intramuscular   | dicyclomine hydrochloride                             | Bentyl Injection                       | Merrell Dow Pharmaceuticals     | Solution     | multidose vial     |
| chlorobutanol, NF   | 0.5             | 4.0 ± 0.3           | IM - intramuscular   | oxytocin  | Syntocinon ®                           | Sandoz                          | Solution     | ampul              |
| chlorobutanol (see  | 0.0-0.5         | 4.0                 | IV - intravenous     | desmopressin acetate                                  | DDAVP ® Injection                      | Rhone-Poulenc Rorer             | Solution     | ampuls             |
| chlorobutanol (see  | 0.0 - 0.5       |                     | IM - intramuscular   | papverine hydrochloride                               | Papverine Hydrochloride Injection, USP | Eli Lilly & Company             | Solution     | multidose vials    |
| citrate             | ~1.0            |                     | IV - intravenous     | alglucerase injection                                 | Ceredase ®                             | Genzyme Corporation             | Solution     | glass bottle       |
| citric acid         | 0.1             |                     | IM-intramuscular     | Vitamin A Palmitate as retinol                        | Aquasol A Parenteral                   | Astra USA, Inc.                 | Solution     | single-dose vial   |
| citric acid         | 0.2             | 3.0 - 4.0           | IV-intravenous       | Etoposide   | VePesid                                | Bristol-Myers Squibb-Oncology   | Solution     | multiple dose      |
| citric acid         |                 | ~6.1                | IV - intravenous     | imiglucerase  | Cerezyme™                              | Genzyme Corporation             | Lyophilized  | vial               |
| citric acid         | 0.02            | ~5.0                | IM - intramuscular   | trimethobenzamid e HCl                                | Tigan ®-ampuls                         | Roberts Pharmaceuticals         | Solution     | ampuls             |
| citric acid         | 0.02            | ~5.0                | IM - intramuscular   | trimethobenzamid e HCl                                | Tigan ®-vials                          | Roberts Pharmaceuticals         | Solution     | multiple dose vial |
| citric acid         | 0.02            | ~5.0                | IM - intramuscular   | trimethobenzamid e HCl                                | Tigan ®-syringe                        | Roberts Pharmaceuticals         | Solution     | disposable         |
| citric acid         |                 | 5.5 - 6.5           | IV - intravenous     | atenolol  | Tenormin I. V. Injection               | Zeneca Pharmaceuticals          | Solution     | ampules            |
| citric acid         |                 | ~ 5.4               | IV - intravenous     | edrophonium chloride                                  | Tensilon                               | ICN Pharmaceuticals             | Solution     | multidose vials    |
| citric acid         |                 |                     | IVS - intravesical   | an attenuated live culture preparation of BCG vaccine | TICE ® BCG                             | Organon                         | Freeze-dried | ampules            |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient                | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                                    | Brand Name                                  | Manufacturer                   | Dosage Form  | Storage Container |
|--------------------------|---------------|---------------------|----------------------|--|---|--------------------------------|--------------|-------------------|
| citric acid              | 0.02          | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at   | Xylocaine with Epinephrine                  | Astra USA, Inc.                | Solution     | multidose vials   |
| citric acid              | 0.02          | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at   | Xylocaine MPF with epinephrine              | Astra USA, Inc.                | Solution     | ampules           |
| citric acid              | 0.2           |                     | IM - intramuscular   | hydromorphone hydrochloride                  | Dilaudid                                    | Knoll Laboratories             | Solution     | ampules           |
| citric acid              | 0.2           |                     | IM - intramuscular   | hydromorphone hydrochloride                  | Dilaudid-HP Injection                       | Knoll Laboratories             | Solution     | amber ampules     |
| citric acid              |               |                     | IV - intravenous     | propranolol hydrochloride                    | Inderal                                     | Wyeth-Ayerst                   | Solution     | ampuls            |
| citric acid              | 1.0           |                     | IM - intramuscular   | oxytetracycline                              | Terramycin                                  | Roerig                         | Solution     | multidose vial    |
| citric acid              | 0.075         | 3.7 - 4.1           | IV - intravenous     | diltiazem hydrochloride                      | Cardizem                                    | Marion Merrell Dow Inc.        | Solution     | vial              |
| citric acid              |               |                     | IV - intravenous     | perphenazine                                 | Trilafon Injection                          | Schering Corporation           | Solution     | ampul             |
| citric acid              | 0.006         | 6.9 ± 0.3           | IV - intravenous     | epoetin alfa (recombinant human)             | Epogen ®                                    | Amgen, Inc.                    | Solution     | single dose vial  |
| citric acid              | 0.011         | 6.1 ± 0.3           | IV - intravenous     | epoetin alfa (recombinant human)             | Epogen ® - multidose                        | Amgen, Inc.                    | Solution     | multidose vial    |
| citric acid              |               | 6.8 ± 0.4           | IV - intravenous     | immune globulin IV (human) primarily IgG     | Gammar ®-IV                                 | Armour Pharmaceutical          | Lyophilized  | single dose vials |
| citric acid              | 0.02          | 3.0 - 4.5           | various              | etidocaine HCl and epinephrine as bitartrate | Duranest Injections                         | Astra USA, Inc.                | Solution     | single dose vial  |
| citric acid              |               | 6.0 - 8.5           | IM - intramuscular   | penicillin G potassium                       | Buffered Pfizerpen for Injection            | Roerig                         | Powder       | vials             |
| citric acid              | 0.006 - 0.011 | 5.8 - 7.2           | IV - intravenous     | epoetin alfa                                 | Procrit                                     | Ortho Biotech, Inc.            | Solution     | single dose vial  |
| citric acid              |               | ~5.0                | IM - intramuscular   | pyridostigmine bromide                       | Mestinon Injectable                         | ICN Pharmaceuticals            | Solution     | ampuls            |
| citric acid              | 0.33          |                     | IM - intramuscular   | butorphanol tartrate                         | Stadol ® Injection                          | Apothecon/Bristol-Myers Squibb | Solution     | vial              |
| citric acid              | 0.03          | 6.7 - 7.3           | IV - intravenous     | ranitidine hydrochloride                     | Zantac Injection Premixed                   | Glaxo Wellcome                 | Solution     | flexible plastic  |
| citric acid              | 0.052         | 3.0 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate          | Zofran ® Injection Premixed                 | Glaxo Wellcome                 | Solution     | single dose       |
| citric acid              | 0.023         | 5.0 - 7.0           | IV - intravenous     | metronidazole                                | Flagyl IV RTU                               | SCS                            | Solution     | single dose       |
| citric acid (additional) |               | 3.5                 | IV - intravenous     | nicardipine HCl                              | Cardene                                     | Wyeth-Ayerst                   | Solution     | ampuls            |
| citric acid anhydrous    | 1.0           | 6.5 - 6.9           | LI - local injection | dexamethasone sodium phosphate-lidocai       | Decadron Phosphate with Xylocaine Injection | Merck & Company                | Solution     | vials             |
| citric acid anhydrous    | 0.21          | 4.0                 | IV - intravenous     | vecuronium bromide                           | Norcuron ®                                  | Organon                        | Freeze-dried | vials             |
| citric acid              | 0.02          | 3.3 - 5.5           | various              | bupivacaine hydrochloride and epinephrine as | Sensorcaine ®-MPF with epinephrine          | Astra USA, Inc.                | Solution     | single dose vials |
| citric acid anhydrous    | 0.5           |                     | IV - intravenous     | methylolpate HCl                             | Aldomet Ester Hydrochloride                 | Merck & Company                | Solution     | vials             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient                   | Conc. %W/V  | pH where applicable | Administration Route | Drug Name                                  | Brand Name                                  | Manufacturer                  | Dosage Form   | Storage Container |
|-----------------------------|-------------|---------------------|----------------------|--|---|-------------------------------|---------------|-------------------|
| citric acid anhydrous       | 0.3         |                     | IM - intramuscular   | methoxamine hydrochloride                  | Vasoxyl                                     | Glaxo Wellcome                | Solution      | ampuls            |
| citric acid anhydrous       | 1.26        |                     | IM - intramuscular   | nalbuphine hydrochloride                   | Nubain                                      | DuPont Pharma                 | Solution      | ampuls            |
| citric acid anhydrous       | 1.26        |                     | IM - intramuscular   | nalbuphine hydrochloride                   | Nubain (ampules)                            | DuPont Pharma                 | Solution      | ampules           |
| citric acid anhydrous       | 2.2         | 3.5 - 3.5           | IV - intravenous     | streptozocin                               | Zanosar Sterile Powder                      | The Upjohn Company            | Freeze-dried  | vial              |
| citric acid                 | 0.1         |                     | SC - subcutaneous    | phenylephrine hydrochloride injection      | Neo-Synephrine hydrochloride                | Sanofi Winthrop               | Solution      | ampuls            |
| citric acid                 |             | 3.0 - 4.0           | IV - intravenous     | labetalol HCl                              | Normodyne                                   | Schering Corporation          | Solution      | multidose vial    |
| citric acid                 | 0.053       | 3.5                 | IV - intravenous     | nicardipine HCl                            | Cardene                                     | Wyeth-Ayerst                  | Solution      | ampuls            |
| citric acid                 | 0.05        | 3.3 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate        | Zofran ® Injection                          | Glaxo Wellcome                | Solution      | single dose vial  |
| citric acid                 |             | 3.0 - 4.0           | IV - intravenous     | labetalol hydrochloride                    | Trandate Injection ®                        | Glaxo Wellcome                | Solution      | vials             |
| citric acid US,             |             | ~4.5                | IM - intramuscular   | methotrimprazine as the hydrochloride salt | Levoprome                                   | Immunex Corporation           | Solution      | vials             |
| colloidal silicon           | 9.6         |                     | ICV - intracervical  | dinoprostone                               | Prepidil Gel                                | The Upjohn Company            | Viscous Gel   | syringe           |
| creatinine                  | 0.5         | 5.0 - 7.5           | IM-intramuscular     | Dexamethasone Acetate Suspension           | Dalalone D.P. ®                             | Forest Pharmaceuticals        | Suspension    | vials             |
| creatinine                  | 0.5         | 5.0 - 7.5           | IM-intramuscular     | dexamethasone acetate                      | Decadron-LA                                 | Merck & Company               | Suspension    | vials             |
| creatinine                  | 0.8         | 7.5 - 8.0           | IV - intravenous     | Dexamethasone sodium phosphate . USP       | Decadron Phosphate Injection                | Merck & Company               | Solution      | vials             |
| creatinine                  | 0.8         | 6.5 - 6.9           | LI - local injection | dexamethasone sodium phosphate-lidocai     | Decadron Phosphate with Xylocaine Injection | Merck & Company               | Solution      | vials             |
| creatinine                  | 0.8         | 7.5 - 8.5           | IM - intramuscular   | hydrocortisone sodium phosphate            | Hydrocortone Phosphate                      | Merck & Company               | Solution      | multidose vial    |
| Cremophor® EL               | 52.7        |                     | IV - intravenous     | paclitaxel                                 | Taxol                                       | Bristol-Myers Squibb-Oncology | Nonaqueous    | single dose vials |
| Cremophor(R) EL             | 50.0        | ~5.0                | IV - intravenous     | teniposide                                 | Vumon Injection Concentrate (VM-26)         | Bristol-Myers Squibb-Oncology | Solution      | ampules           |
| Cremophor(R) EL             | 65.0        |                     | IV - intravenous     | cyclosporine concentrate for injection USP | Sandimmune ®                                | Sandoz Pharmaceuticals        | Solution      | Ampul             |
| crosslinked gelatin         | 0.5 - 1.25  |                     | IV - intravenous     | streptokinase                              | Streptase                                   | Astra USA, Inc.               | Lyophilized   | vial              |
| D,L-lactic + glycolic (w/w) | 74.3 - 84.6 |                     | SC - subcutaneous    | goserelin acetate implant                  | Zoladex ®                                   | Zeneca Pharmaceuticals        | Solid Implant | disposable        |
| D-mannitol                  | 0.66        |                     | IM - intramuscular   | leuprolide acetate                         | Lupron Depot 3.75                           | TAP Pharmaceuticals           | Lyophilized   | single dose vial  |
| D-mannitol                  | 5.0         |                     | IM - intramuscular   | leuprolide acetate                         | Lupron Depot 3.75                           | TAP Pharmaceuticals           | Lyophilized   | single dose vial  |
| D-mannitol                  | 1.32        |                     | IM - intramuscular   | leuprolide acetate                         | Lupron Depot 7.5                            | TAP Pharmaceuticals           | Lyophilized   | single dose vials |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V | pH where applicable | Administration Route | Drug Name                               | Brand Name                            | Manufacturer                  | Dosage Form  | Storage Container   |
|----------------------|------------|---------------------|----------------------|---|---------------------------------------|-------------------------------|--------------|---------------------|
| D-mannitol           | 1.32-2.64  |                     | IM - intramuscular   | leuprolide acetate                      | Lupron Depot-Ped                      | TAP Pharmaceuticals           | Lyophilized  | single dose vial    |
| D-mannitol           | 5.0        |                     | IM - intramuscular   | leuprolide acetate                      | Lupron Depot-Ped                      | TAP Pharmaceuticals           | Lyophilized  | single dose vial    |
| d-mannitol           | 5.0        |                     | IM - intramuscular   | leuprolide acetate                      | Lupron Depot-3 month, 22.5            | TAP Pharmaceuticals           | Lyophilized  | vial                |
| d-mannitol           | 2.59       |                     | IM - intramuscular   | leuprolide acetate                      | Lupron Depot-3 month, 22.5            | TAP Pharmaceuticals           | Lyophilized  | vial                |
| D-mannitol (ampul)   | 5.0        |                     | IM - intramuscular   | leuprolide acetate                      | Lupron Depot 7.5                      | TAP Pharmaceuticals           | Lyophilized  | single dose vials   |
| d-sorbitol           | 45.0       | 6.0 - 8.0           | IAR - intraarticular | Prednisolone Tebutate                   | Ilydelta T. B. A.                     | Merck & Company               | Suspension   | vials               |
| dehydrated alcohol   | 42.7 (v/v) | ~5.0                | IV - intravenous     | teniposide                              | Vumon Injection Concentrate (VM-26)   | Bristol-Myers Squibb-Oncology | Solution     | ampules             |
| dehydrated alcohol   | 49.7 (v/v) |                     | IV - intravenous     | paclitaxel                              | Taxol                                 | Bristol-Myers Squibb-Oncology | Nonaqueous   | single dose vials   |
| dehydrated alcohol   |            |                     | IV - intravenous     | alprostadil, (prostaglandin E1)         | Prostin VR Pediatric Sterile Solution | The Upjohn Company            | Solution     | ampoules            |
| dehydrated alcohol,  | 80.0 (v/v) |                     | IV - intravenous     | tacrolimus injection                    | Prograf                               | Fujisawa USA, Inc.            | Solution     | ampules             |
| dextrose             | 8.25       | 3.3 - 5.5           | spinal anesthesia    | bupivacaine hydrochloride               | Sensorcaine ®-MPF Spinal              | Astra USA, Inc.               | Solution     | ampules             |
| dextrose             | 4.4        |                     | IM - intramuscular   | amitriptyline HCl                       | Elavil                                | Zeneca Pharmaceuticals        | Solution     | vials               |
| dextrose             | 5.0        |                     | IV - intravenous     | clindamycin phosphate                   | Cleocin Phosphate IV Solution         | The Upjohn Company            | Premixed     | Galaxy (R) plastic  |
| dextrose             | 1.25       |                     | SC - subcutaneous    | interferon beta-1b                      | Betaseron ®                           | Berlex Laboratories           | Lyophilized  | single use vial     |
| dextrose             | 5.0        | 3.5 - 4.6           | IV - intravenous     | ciprofloxacin                           | Cipro ® IV                            | Bayer Corporation-Pharma      | Ready-to-Use | flexible            |
| dextrose             | 8.25       | 4.0 - 6.5           | SA - subarachnoid    | bupivacaine hydrochloride               | Marcaine Spinal                       | Sanofi Winthrop               | Solution     | single dose ampul   |
| dextrose             | 3.75       | 5.0 - 7.0           | IM - intramuscular   | phytonadione (vitamin K1)               | AquaMephyton                          | Merck & Company               | Aqueous      | ampuls              |
| dextrose             | 30.0       |                     | ID - intradermal     | tuberculin, purified protein derivative | (PPD) Tine Test                       | Lederle Laboratories          | Solution     | multiple-puncture   |
| dextrose             | 10.0       |                     | IU - intrauterine    | dextran 70                              | Hyskon ® Hysteroscopy Fluid           | Medisan Pharmaceuticals       | Solution     | bottles             |
| dextrose             | 5.0        | 3.0 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate     | Zofran ® Injection Premixed           | Glaxo Wellcome                | Solution     | single dose         |
| dextrose             | 5.0        | 3.8 - 5.8           | IV - intravenous     | ofloxacin injection                     | Floxin ® IV - premixed                | Ortho Pharmaceutical          | Premixed     | single use flexible |
| dextrose             | 3.2 - 4.4  | 5.0 - 7.5           | IV - intravenous     | ceftazidime sodium injection            | Fortaz ® Injection                    | Glaxo Wellcome                | Frozen       | Galaxy plastic      |
| dextrose anhydrous   | 4.7 - 4.94 | 3.2 - 4.0           | IV - intravenous     | milrinone lactate injection             | Primacor                              | Sanofi Winthrop               | Solution     | single dose vials   |
| dextrose (D-glucose) | 7.5        | 5.5 - 7.0           | spinal anesthesia    | lidocaine hydrochloride                 | Xylocaine MPF 1.5%/5% with 7.5%       | Astra USA, Inc.               | Solution     | ampules             |
| dextrose hydrous     | 5.6        | 3.5 - 6.5           | IV - intravenous     | fluconazole                             | Diffucan Injection                    | Roerig                        | Solution     | Viaflex Plus        |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                                      | Brand Name                            | Manufacturer                       | Dosage Form | Storage Container  |
|----------------------|---------------|---------------------|----------------------|--|---------------------------------------|------------------------------------|-------------|--------------------|
| dextrose hydrous     | 1.4 - 3.4     | 5.0 - 7.5           | IV - intravenous     | cefotaxime sodium injection                    | Premixed Claforan ® Injection         | Hoechst-Roussel Pharmaceuticals    | Frozen      | Galaxy single      |
| dextrose hydrous     | 2.4 - 3.8     |                     | IV - intravenous     | ceftriaxone sodium injection                   | Rocephin Injection                    | Roche Laboratories                 | Premixed    | Galaxy single      |
| dextrose hydrous     | 2.2 - 4.0     | ~6.5                | IV - intravenous     | cefoxitin sodium injection                     | Premixed Intravenous Solution Mefoxin | Merck & Company                    | Solution    | single dose        |
| dextrose hydrous     | 2.2 - 3.8     | 4.2 - 6.2           | IV - intravenous     | cefmetazole sodium injection                   | Zefazone ® IV solution                | The Upjohn Company                 | premixed    | plastic Galaxy     |
| dextrose hydrous     | 0.0 - 2.8     | 5.0 - 7.5           | IV - intravenous     | cefuroxime sodium injection                    | Zinacef ®                             | Glaxo Wellcome                     | Frozed      | Galaxy plastic     |
| dextrose hydrous USP | 1.9 - 3.8     | 5.5 - 8.0           | IV - intravenous     | ceftizoxime sodium injection                   | Ceftizox                              | Fujisawa USA, Inc.                 | frozen      | single dose        |
| dextrose hydrous USP | 4.0 - 4.8     |                     | IV - intravenous     | cefazolin sodium injection                     | Ancef (solution)                      | SmithKline Beecham Pharmaceuticals | Solution    | single dose        |
| dextrose hydrous USP | 3.6 - 4.6     |                     | IV - intravenous     | cefoperazone sodium injection                  | Cefobid                               | Roerig Division of Pfizer          | Premixed    | plastic containers |
| dextrose injection   | 5.0           | 3.5 - 5.0           | IV - intravenous     | mivacurium chloride                            | Mivacron Premixed Infusion            | Glaxo Wellcome                     | Solution    | flexible plastic   |
| dextrose USP         | 2.2 - 3.8     | 4.0 - 6.5           | IV - intravenous     | cefotetan disodium injection                   | Cefotan ®                             | Zeneca Pharmaceuticals             | Premixed    | Galaxy (R) plastic |
| diabasic sodium      | 0.44 - 1.1    | 7.0 - 8.0           | IM - intramuscular   | hydrocortisone sodium succinate                | Solu-Cortef Sterile Powder            | The Upjohn Company                 | Powder      | Act-O-vial         |
| diacetylated         | 5.0           | ~8.0                | IV - intravenous     | diazepam emulsified injection                  | Dizac                                 | Ohmeda PPD, Inc.                   | Emulsion    | single dose vial   |
| dibasic potassium    | 0.24          | 6.7 - 7.3           | IM - intramuscular   | ranitidine hydrochloride                       | Zantac Injection                      | Glaxo Wellcome                     | Solution    | single dose vial   |
| dibasic sodium       | 0.18          | 7.0 ± 0.5           | IV - intravenous     | muromonab-CD3 biochemically purified IgG2a     | Orthoclone OKT3                       | Ortho Biotech Inc.                 | Solution    | ampule             |
| dibasic sodium       | 0.0226        | ~7.5                | IM - intramuscular   | somatropin rDNA origin for injection           | Humatrope ®                           | Eli Lilly & Company                | Lyophilized | vials              |
| dibasic sodium       |               | 6.3 ± 0.6           | IV - intravenous     | cladribine                                     | Leustatin Injection                   | Ortho Biotech, Inc.                | Solution    | single use vials   |
| dibasic sodium       | 0.71          | 6.8 - 7.2           | ID - intradermal     | betamethasone sodium phosphate & betamethasone | Celestone Soluspan Suspension         | Schering Corporation               | Suspension  | multidose vial     |
| dibasic sodium       | 0.558         | 7.2 - 7.4           | IM - intramuscular   | pegademase bovine                              | Adagen ®                              | Enzon                              | Solution    | single dose vials  |
| dibasic sodium       | 0.530 - 0.585 | 7.3                 | IM - intramuscular   | pegaspargase                                   | Oncaspar ®                            | Rhone-Poulenc Rorer                | Solution    | single dose vials  |
| dibasic sodium       | 0.044 - 0.44  |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP      | Pregnyl ®                             | Organon                            | Powder      | multidose vials    |
| dibasic sodium       | 0.16 - 0.8    |                     | IM - intramuscular   | human chorionic gonadotropin (HCG) for         | Profasi                               | Serono Laboratories, Inc.          | Lyophilized | multidose vial     |
| dibasic sodium       | 0.089         | 7.2 - 7.8           | IV - intravenous     | aldesleukin (recombinant human                 | Proleukin ®                           | Chiron Therapeutics                | Lyophilized | single use vial    |
| dibasic sodium       | 0.18          | 6.7 - 7.3           | IV - intravenous     | ranitidine hydrochloride                       | Zantac Injection Premixed             | Glaxo Wellcome                     | Solution    | flexible plastic   |
| dibasic sodium       | 0.008         |                     | IV - intravenous     | sermorelin acetate for injection               | Geret ®                               | Serono Laboratories, Inc.          | Lyophilized | ampule             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V  | pH where applicable | Administration Route | Drug Name                                   | Brand Name                                  | Manufacturer                     | Dosage Form  | Storage Container  |
|----------------------|-------------|---------------------|----------------------|---|---|----------------------------------|--------------|--------------------|
| dibasic sodium       | 0.072       | 7.9                 | IV - intravenous     | sodium tetradecyl sulfate injection         | Sotradecol ®                                | Elkins-Sinn Inc.                 | Solution     | ampul              |
| dibasic sodium       | 0.87 - 1.75 | 7.0 - 8.0           | IM - intramuscular   | methylprednisolone sodium succinate, USP    | Solu-Medrol Sterile Powder                  | The Upjohn Company               | Powder       | Act-O-vial         |
| dibasic sodium       | 0.137-0.144 | 3.5 - 7.0           | IM - intramuscular   | Methylprednisolone acetate                  | Depo-Medrol                                 | The Upjohn Company               | Suspension   | single dose vial   |
| diethanolamine       | 0.3         | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole           | Septra I.V. Infusion                        | Glaxo Wellcome                   | Solution     | multidose vials    |
| diethanolamine       | 0.3         | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole           | Septra IV Infusion                          | Glaxo Wellcome                   | Solution     | vial               |
| diethanolamine       | 0.3         | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole           | Septra IV Infusion ADD                      | Glaxo Wellcome                   | Solution     | vial               |
| dimethylsulfoxide    | <0.06       |                     | IV - intravenous     | anistreplase                                | Eminase ®                                   | Roberts Pharmaceutical           | Lyophilized  | vial               |
| disodium edetate     | 0.05        | 5.0 - 7.5           | IM-intramuscular     | dexamethasone acetate                       | Decadron-LA                                 | Merck & Company                  | Suspension   | vials              |
| disodium edetate     | 0.05        | 6.5 - 6.9           | LI - local injection | dexamethasone sodium phosphate-lidocaine    | Decadron Phosphate with Xylocaine Injection | Merck & Company                  | Solution     | vials              |
| disodium edetate     | 0.01        | ~5.0                | IM - intramuscular   | trimethobenzamide HCl                       | Tigan ®-syringe                             | Roberts Pharmaceuticals          | Solution     | disposable         |
| disodium edetate     | 0.01        | ~3.0                | IV - intravenous     | midazolam hydrochloride                     | Versed                                      | Hoffman - LaRoche Inc.           | Solution     | vials              |
| disodium edetate     | 0.05        |                     | IV - intravenous     | methylodopate HCl                           | Aldomet Ester Hydrochloride                 | Merck & Company                  | Solution     | vials              |
| disodium edetate     | 0.05        |                     | IM - intramuscular   | clindamycin phosphate                       | Cleocin Phosphate Sterile Solution          | The Upjohn Company               | Solution     | vials              |
| disodium edetate     | 0.004       |                     | IV - intravenous     | clindamycin phosphate                       | Cleocin Phosphate IV Solution               | The Upjohn Company               | Premixed     | Galaxy (R) plastic |
| disodium edetate     | 0.05        | 7.0 - 8.0           | IM - intramuscular   | prednisolone sodium phosphate               | Hydeltrasol                                 | Merck & Company                  | Solution     | vial               |
| disodium edetate USP | 0.065       | ~4.5                | IM - intramuscular   | methotrimeprazine as the hydrochloride salt | Levoprome                                   | Immunex Corporation              | Solution     | vials              |
| disodium EDTA        | 0.011       | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride                | Nesacaine Injection                         | Astra USA, Inc.                  | Solution     | multidose vials    |
| disodium EDTA        | 0.011       | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride                | Nesacaine-MPF Injection                     | Astra USA, Inc.                  | Solution     | single dose vials  |
| disodium hydrogen    | 0.34        | ~6.1                | IV - intravenous     | imiglucerase                                | Cerezyme™                                   | Genzyme Corporation              | Lyophilized  | vial               |
| disodium hydrogen    | 0.25        |                     | IVS - intravesical   | BCG Live (intravesical)                     | TheraCys ®                                  | Connaught Laboratories           | Freeze-dried | vial               |
| disodium hydrogen    | 0.028       | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                          | Healon ®                                    | Pharmacia, Inc. Ophthalmics Inc. | Viscoelastic | Disposable glass   |
| disodium hydrogen    | 0.028       | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate 7000                     | Healon GV                                   | Pharmacia Inc. Ophthalmics       | Viscoelastic | disposable glass   |
| disodium phosphate   |             | 7.0                 | IV - intravenous     | plicamycin                                  | Mithracin                                   | Bayer Corporation-Pharma         | Freeze-dried | vials              |
| disodium phosphate   | 0.013       | 7.0 ± 0.3           | IM - intramuscular   | typhoid Vi polysaccharide vaccine           | Typhim Vi™                                  | Connaught Laboratories           | Solution     | syringe            |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V     | pH where applicable | Administration Route | Drug Name                                      | Brand Name                              | Manufacturer                       | Dosage Form | Storage Container |
|---------------------|----------------|---------------------|----------------------|--|---|------------------------------------|-------------|-------------------|
| disodium phosphate  | 0.0265         | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection         | Genotropin™                             | Pharmacia Inc.                     | Lyophilized | Intra-Mix two     |
| disodium phosphate  | 0.027          | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection         | Genotropin™ Injection                   | Pharmacia, Inc.                    | Lyophilized | Intra-Mix two     |
| disodium phosphate  | 0.0125 - 0.025 |                     | IM - intramuscular   | menotropins for injection                      | Humegon™                                | Organon Inc.                       | Lyophilized | vial              |
| disodium phosphate  | 0.098          |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)              | Engerix-B                               | SmithKline Beecham Pharmaceuticals | Suspension  | single dose vial  |
| DL-lactic acid &    | 3.31           |                     | IM - intramuscular   | leuprolide acetate                             | Lupron Depot 3.75                       | TAP Pharmaceuticals                | Lyophilized | single dose vial  |
| DL-lactic acids &   | 6.62           |                     | IM - intramuscular   | leuprolide acetate                             | Lupron Depot 7.5                        | TAP Pharmaceuticals                | Lyophilized | single dose vials |
| DL-lactic acids &   | 6.62-13.24     |                     | IM - intramuscular   | leuprolide acetate                             | Lupron Depot-Ped                        | TAP Pharmaceuticals                | Lyophilized | single dose vial  |
| E-aminocaproic acid | 0.026          |                     | IV - intravenous     | anistreplase                                   | Eminase®                                | Roberts Pharmaceutical             | Lyophilized | vial              |
| edetate calcium     | 0.01           | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine      | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop                    | Solution    | single dose vials |
| edetate disodium    | 0.05           | 5.0 - 7.5           | IM-intramuscular     | Dexamethasone Acetate Suspension               | Dalalone D.P.®                          | Forest Pharmaceuticals             | Suspension  | vials             |
| edetate disodium    | 0.01           | 3.0 - 6.5           | IM - intramuscular   | tobramycin sulfate                             | Tobramycin Sulfate Injection, USP       | Elkins-Sinn                        | Solution    | multidose vials   |
| edetate disodium    | 0.01           | 3.0 - 4.0           | IV - intravenous     | labetalol hydrochloride                        | Trandate Injection®                     | Glaxo Wellcome                     | Solution    | vials             |
| edetate disodium    | 0.01           | 3.5 - 6.0           | IM - intramuscular   | netilmicin sulfate, USP                        | Netromycin Injection                    | Schering Biochem. Corporation      | Solution    | vials             |
| edetate disodium    | 0.01           | 3.0 - 4.0           | IV - intravenous     | labetalol HCl                                  | Normodyne                               | Schering Corporation               | Solution    | multidose vial    |
| edetate disodium    | 0.05           |                     | IM - intramuscular   | hydromorphone hydrochloride                    | Dilaudid-vials                          | Knoll Laboratories                 | Solution    | multidose vials   |
| edetate disodium    | 0.01           | ~7.0                | IM - intramuscular   | bumetanide                                     | Bumex®                                  | Roche Laboratories                 | Solution    | ampuls            |
| edetate disodium    | 0.01           | 6.8 - 7.2           | ID - intradermal     | betamethasone sodium phosphate & betamethasone | Celestone Soluspan Suspension           | Schering Corporation               | Suspension  | multidose vial    |
| edetate disodium    | 0.05           |                     | IM - intramuscular   | mesoridazine besylate USP                      | Serentil®                               | Boehringer Ingelheim               | Solution    | ampuls            |
| edetate disodium    | 0.025          | 6.5 - 8.5           | IV - intravenous     | mesna  | Mesnex Injection                        | Bristol-Myers Squibb-Oncology      | Solution    | multidose vial    |
| edetate disodium    | 0.01           | ~4.0                | IV - intravenous     | flumazenil                                     | Romazicon™                              | Roche Laboratories                 | Solution    | vials             |
| edetate disodium    | 0.01           |                     | IM - intramuscular   | tobramycin sulfate injection                   | Nebcin®                                 | Eli Lilly & Company                | Solution    | multidose vials   |
| edetate disodium    | 0.005          |                     | IM - intramuscular   | papverine hydrochloride                        | Papverine Hydrochloride Injection, USP  | Eli Lilly & Company                | Solution    | multidose vials   |
| edetate disodium    | 0.01           |                     | IM - intramuscular   | promethazine hydrochloride                     | Phenergan Injection (ampuls)            | Wyeth-Ayerst                       | Solution    | ampuls            |
| edetate disodium    | 0.01           |                     | IM - intramuscular   | promethazine hydrochloride                     | Phenergan Injection                     | Wyeth-Ayerst                       | Solution    | sterile cartridge |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient             | Conc. %W/V | pH where applicable | Administration Route | Drug Name  | Brand Name                               | Manufacturer                       | Dosage Form    | Storage Container |
|-----------------------|------------|---------------------|----------------------|--|--|------------------------------------|----------------|-------------------|
| edetate disodium      | 0.01       |                     | IM - intramuscular   | meperidine hydrochloride & promethazine                  | Mepergan                                 | Wyeth-Ayerst                       | Solution       | sterile cartridge |
| edetate disodium      | 0.01       |                     | IM - intramuscular   | gentamicin sulfate USP                                   | Garamycin Injectable                     | Schering Corporation               | Solution       | vial              |
| EDTA                  | trace      |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)                 | Varivax                                  | Merck & Company                    | Lyophilized    | single-dose vial  |
| egg lecithin          | 1.2        | 7.0 - 8.5           | IV - intravenous     | propofol   | Diprivan ® Injection 1%                  | Zeneca Pharmaceuticals             | Emulsion       | ampules           |
| ethanol               | 10.0 (v/v) | 5.6 - 6.0           | IV - intravenous     | sterile carmustine (BCNU)                                | BiCNU                                    | Bristol-Myers Squibb-Oncology      | Lyophilized    | single dose vials |
| ethanol               | 70.0 (v/v) |                     | IV - intravenous     | nitroglycerin injection, USP                             | Nitro-Bid ®                              | Marion Merrell Dow Inc.            | Solution       | vials             |
| ethanol (96%)         | 5.2 (v/v)  |                     | IV - intravenous     | melphalan hydrochloride                                  | Alkeran for Injection                    | Glaxo Wellcome                     | Freeze-dried   | single use vial   |
| ethyl alcohol         | 10.0       | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole                        | Septra I.V. Infusion                     | Glaxo Wellcome                     | Solution       | multidose vials   |
| ethyl alcohol         | 10.0       |                     | IM - intramuscular   | diazepam   | Valium Injectable                        | Roche Products                     | Solution       | ampuls            |
| ethyl alcohol         | 10.0       | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole                        | Septra IV Infusion                       | Glaxo Wellcome                     | Solution       | vial              |
| ethyl alcohol         | 10.0       | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole                        | Septra IV Infusion ADD                   | Glaxo Wellcome                     | Solution       | vial              |
| fetal bovine serum    | trace      |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)                 | Varivax                                  | Merck & Company                    | Lyophilized    | single-dose vial  |
| formaldehyde          | ≤0.02      |                     | IM-intramuscular     | Diphtheria and Tetanus Toxoids and Acellular             | Acel-Imune                               | Lederle Laboratories               | Suspension(aft | multidose vial    |
| formaldehyde          | ≤0.02      | ~ 7.4               | IM-intramuscular     | Diphtheria & Tetanus Toxoids and Acellular               | Tripedia™                                | Connaught Laboratories, Inc.       | Solution/Suspe | vial              |
| formaldehyde          | <0.0125    |                     | ID - intradermal     | Mumps Skin Test Antigen (suspension killed)              | MSTA™                                    | Connaught Laboratories, Inc.       | Suspension     | vial              |
| formaldehyde          | <0.001     |                     | IM - intramuscular   | combination of purified tetanus & diphtheria             | Diphtheria & Tetanus Toxoids & Pertussis | SmithKline Beecham Pharmaceuticals | Suspension     | vials             |
| formaldehyde          | ≤0.02      |                     | IM - intramuscular   | combines diphtheria & tetanus toxoids                    | Diphtheria & Tetanus Toxoids & Pertussis | Connaught Laboratories, Inc.       | Turbid Liquid  | vial              |
| formaldehyde          | ≤0.02      |                     | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Pertussis               | Tetramune, (DTP-HbOC)                    | Lederle Laboratories               | Suspension(aft | vial              |
| formaldehyde          | 0.0027     |                     | SC - subcutaneous    | poliovirus vaccine inactivated; type 1 (Mahoney), type 2 | Poliovax ®                               | Connaught Laboratories, Inc.       | Suspension     | ampoules          |
| formaldehyde          |            |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)                        | Recombivax HB                            | Merck & Company                    | Suspension     | single dose vial  |
| formaldehyde          | ≤0.04      |                     | SC - subcutaneous    | combination of type 1 (Mahoney), type2 (MEF-1),          | Ipol™                                    | Connaught Laboratories             | Suspension     | syringe           |
| formaldehyde          | <0.01      |                     | SC - subcutaneous    | Japanese encephalitis virus vaccine                      | Je-Vax™                                  | Connaught Laboratories, Inc.       | Lyophilized    | vial              |
| fractionated egg yolk | 1.2        | ~8.0                | IV - intravenous     | diazepam emulsified injection                            | Dizac                                    | Ohmeda PPD, Inc.                   | Emulsion       | single dose vial  |
| fractionated soybean  | 15.0       | ~8.0                | IV - intravenous     | diazepam emulsified injection                            | Dizac                                    | Ohmeda PPD, Inc.                   | Emulsion       | single dose vial  |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. % W/V | pH where applicable | Administration Route | Drug Name   | Brand Name                               | Manufacturer                  | Dosage Form      | Storage Container  |
|---------------------|-------------|---------------------|----------------------|---|--|-------------------------------|------------------|--------------------|
| gelatin             |             |                     | IM-intramuscular     | Diphtheria and Tetanus Toxoids and Acellular          | Acel-Imune                               | Lederle Laboratories          | Suspension(aft   | multidose vial     |
| gelatin             |             | ~ 7.4               | IM-intramuscular     | Diphtheria & Tetanus Toxoids and Acellular            | Tripedia™                                | Connaught Laboratories, Inc.  | Solution/Suspe   | vial               |
| gelatin             | 0.5         |                     | IV - intravenous     | urokinase   | Abbokinase Open-Cath                     | Abbott Laboratories           | Lyophilized      | single dose        |
| gelatin             | 0.05        |                     | SC - subcutaneous    | Japanese encephalitis virus vaccine                   | Je-Vax™                                  | Connaught Laboratories, Inc.  | Lyophilized      | vial               |
| glacial acetic acid |             |                     | IM - intramuscular   | leuprolide acetate                                    | Lupron Depot 3.75                        | TAP Pharmaceuticals           | Lyophilized      | single dose vial   |
| glacial acetic acid |             |                     | IM - intramuscular   | leuprolide acetate                                    | Lupron Depot-3 month, 22.5               | TAP Pharmaceuticals           | Lyophilized      | vial               |
| glucose             | ≤2.0        | 6.8 ± 0.4           | IV-intravenous       | Immune Globulin Intravenous (human) (IGIV)            | Gammagard® S/D                           | Baxter Healthcare Corporation | Lyophilized      | single use bottles |
| glycerin            | 2.25        | ~8.0                | IV - intravenous     | diazepam emulsified injection                         | Dizac                                    | Ohmeda PPD, Inc.              | Emulsion         | single dose vial   |
| glycerin            | 1.6         |                     | IM - intramuscular   | glucaagon hydrochloride                               | Glucagon                                 | Eli Lilly & Company           | Lyophilized      | single dose vials  |
| glycerin            | 1.7         | ~7.5                | IM - intramuscular   | somatropin rDNA origin for injection                  | Humatrope®                               | Eli Lilly & Company           | Lyophilized      | vials              |
| glycerin            | 15.0        | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate                            | D.H.E. 45®                               | Sandoz                        | Solution         | ampuls             |
| glycerin            |             |                     | IVS - intravesical   | an attenuated live culture preparation of BCG vaccine | TICE® BCG                                | Organon                       | Freeze-dried     | ampules            |
| glycerin            | 1.6         | neutral             |                      | insulin injection purified pork                       | Regular Concentrated Iletin® II U-500    | Eli Lilly & Company           | Solution (clear) | vials              |
| glycerin            | 15.0        | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate injection, USP             | D.H.E. 45® or Dyhdergot®                 | Sandoz                        | Solution         | ampuls             |
| glycerin            | 32.5        |                     | SC - subcutaneous    | Epinephrine   | Sus-phrine®                              | Forest Pharmaceuticals Inc.   | Suspension       | ampul              |
| glycerol            | 2.5         | 7.0 - 8.5           | IV - intravenous     | propofol  | Diprivan® Injection 1%                   | Zeneca Pharmaceuticals        | Emulsion         | ampules            |
| glycerol            | 5.0         |                     | ID - intradermal     | tuberculin, purified protein derivative               | (PPD) Tine Test                          | Lederle Laboratories          | Solution         | multiple-puncture  |
| glycerol            | <0.04       |                     | IV - intravenous     | anistreplase  | Eminase®                                 | Roberts Pharmaceutical        | Lyophilized      | vial               |
| glycine             | ≤2.25       | 6.8 ± 0.4           | IV-intravenous       | Immune Globulin Intravenous (human) (IGIV)            | Gammagard® S/D                           | Baxter Healthcare Corporation | Lyophilized      | single use bottles |
| glycine             | 0.1-0.3     |                     | IV - intravenous     | antihemophilic factor (recombinant)                   | Kogenate®                                | Bayer Corporation-Biologi     | Lyophilized      | single dose vial   |
| glycine             | ≤0.3754     |                     | IV - intravenous     | antihemophilic factor (Human)                         | Koate®-HP                                | Bayer Corporation-Biologi     | Lyophilized      | single dose bottle |
| glycine             | 1.5         |                     | IM - intramuscular   | IgG anti-Rho(D)                                       | MICRhoGAM Rho(D) Immune Globulin (human) | Ortho Diagnostic              | Solution         | pre-filled single  |
| glycine             | 1.5         |                     | IM - intramuscular   | IgG anti-Rho(D)                                       | RhoGAM Rho(D) Immune Globulin (human)    | Ortho Diagnostic Systems Inc. | Solution         | prefilled single   |
| glycine             | 1.0-3.0     |                     | IV - intravenous     | antihemophilic factor (recombinant)                   | Helixate™                                | Armour Pharmaceutical         | Lyophilized      | single dose        |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient | Conc. %W/V   | pH where applicable | Administration Route | Drug Name   | Brand Name                                    | Manufacturer                 | Dosage Form     | Storage Container |
|-----------|--------------|---------------------|----------------------|---|---|------------------------------|-----------------|-------------------|
| glycine   |              |                     | IM - intramuscular   | combination of refined tetanus & diphtheria toxoids | Tetanus & Diphtheria Toxoids Adsorbed (Adult) | Lederle Laboratories         | Suspension      | vial              |
| glycine   |              |                     | IM - intramuscular   | refined tetanus toxoid                              | Tetanus Toxoid Adsorbed, aluminum             | Lederle Laboratories         | Suspension      | vial              |
| glycine   |              |                     | IM - intramuscular   | diphtheria & tetanus toxoids & Pertussis Vaccine    | Tri-Immunol                                   | Lederle Laboratories         | Suspension(aft) | multidose vials   |
| glycine   | ~0.09        |                     | ID - intradermal     | Mumps Skin Test Antigen (suspension killed)         | MSTA™   | Connaught Laboratories, Inc. | Suspension      | vial              |
| glycine   | 0.034 - 0.34 | ~7.4                | SC - subcutaneous    | somatropin (rDNA origin) for injection              | Nutropin®                                     | Genentech, Inc.              | Lyophilized     | vials             |
| glycine   | 0.5          | ~7.5                | IM - intramuscular   | somatropin rDNA origin for injection                | Humatrope®                                    | Eli Lilly & Company          | Lyophilized     | vials             |
| glycine   |              |                     | IM - intramuscular   | combination of refined diphtheria & tetanus toxoids | Diphtheria & Tetanus Toxoids Adsorbed,        | Lederle Laboratories         | Suspension(aft) | vial              |
| glycine   |              |                     | IM - intramuscular   | Diphtheria and Tetanus Toxoids and Acellular        | Acel-Imune                                    | Lederle Laboratories         | Suspension(aft) | multidose vial    |
| glycine   | 2.25         | ~6.8                | IV - intravenous     | horse gamma globulin                                | Atgam Sterile Solution                        | The Upjohn Company           | Solution        | ampoules          |
| glycine   | 2.25         | 6.8 ± 0.4           | IV - intravenous     | immune globulin (human) primarily IgG               | Gammar®                                       | Armour Pharmaceutical        | Solution        | vials             |
| glycine   | 2.25         |                     | IM - intramuscular   | Rho (D) immune globulin human                       | Gamulin® Rh                                   | Armour Pharmaceutical        | Solution        | vial              |
| glycine   | 2.25         |                     | IM - intramuscular   | Rho(D) immune globulin (human)                      | Mini-gamulin™ Rh                              | Armour Pharmaceutical        | Solution        | single dose vial  |
| glycine   | 2.25         | 6.8 ± 0.4           | IM - intramuscular   | hepatitis B immune globulin (human), MSD            | Hep-B-Gammagee                                | Merck & Company              | Solution        | vials             |
| glycine   | 1.2 - 1.8    | 4.0 - 4.5           | IV - intravenous     | immune globulin intravenous human 10%               | Gamimune® N 10%                               | Bayer Corporation-Biologi    | Solution        | vials             |
| glycine   | 1.58 - 2.4   | 6.4 - 7.2           | IM - intramuscular   | tetanus immune globulin (human) primarily IgG       | Hyper-Tet®                                    | Bayer Corporation-Biologi    | Solution        | prefilled         |
| glycine   | 1.58 - 2.4   | 6.4 - 7.2           | IM - intramuscular   | rabies immune globulin (human)                      | Hyperab®                                      | Bayer Corporation-Biologi    | Solution        | vial              |
| glycine   | 1.58 - 2.4   | 6.4 - 7.2           | IM - intramuscular   | hepatitis B immune globulin (human)                 | HyperHep®                                     | Bayer Corporation-Biologi    | Solution        | single dose       |
| glycine   | 1.58 - 2.4   |                     | IM - intramuscular   | Rho(D) immune globulin (human)                      | HypRho®-D                                     | Bayer Corporation-Biologi    | Solution        | single dose vial  |
| glycine   | 1.58 - 2.4   |                     | IM - intramuscular   | Rho(D) immune globulin (human)                      | HypRho®-D Mini-Dose                           | Bayer Corporation-Biologi    | Solution        | single dose       |
| glycine   | 2.25         | 6.8-6.4             | IM - intramuscular   | rabies immune globulin (human)                      | Imogam® Rabies                                | Connaught Laboratories       | Solution        | vial              |
| glycine   | 2.0          |                     | IL - intralesional   | interferon alfa-2b, recombinant                     | Intron A                                      | Schering Corporation         | Powder          | vial              |
| glycine   | 2.0          |                     | IM - intramuscular   | interferon alfa-2b, recombinant                     | Intron A (solution)                           | Schering Corporation         | Solution        | vials             |
| glycine   |              | 6.5 - 7.6           | IM - intramuscular   | Rho(D) immune globulin intravenous                  | WinRho SD (TN)                                | Univax Biologicals           | Lyophilized     | single use vial   |
| glycine   | 2.44         | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection              | Genotropin™                                   | Pharmacia Inc.               | Lyophilized     | Intra-Mix two     |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient         | Conc. %W/V    | pH where applicable | Administration Route | Drug Name  | Brand Name                              | Manufacturer               | Dosage Form    | Storage Container  |
|-------------------|---------------|---------------------|----------------------|--|---|----------------------------|----------------|--------------------|
| glycine           | 0.193         | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection           | Genotropin™ Injection                   | Pharmacia, Inc.            | Lyophilized    | Intra-Mix two      |
| glycine           | 1.5 - 3.3     |                     | IV - intravenous     | antihemophilic factor (human) (Factor VIII, AHF) | Humate-P™                               | Armour Pharmaceutical      | Lyophilized    | single dose vial   |
| glycine           |               |                     | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Pertussis       | Tetramune, (DTP-HbOC)                   | Lederle Laboratories       | Suspension(aft | vial               |
| heparin           | ≤ 5 units/ml  |                     | IV - intravenous     | antihemophilic factor (Human)                    | Koate®-HP                               | Bayer Corporation-Biologi  | Lyophilized    | single dose bottle |
| heparin           | 0.004 unit/IU | 6.0 - 7.5           | IV - intravenous     | antithrombin III (human)                         | Thrombate III®                          | Bayer Corporation-Biologi  | Lyophilized    | single dose vials  |
| histidine         | ≤0.853325     |                     | IV - intravenous     | Antihemophilic Factor (recombinant)              | Bioclote™                               | Armour Pharmaceutical      | Lyophilized    | single-dose        |
| histidine         | ≤0.931        |                     | IV - intravenous     | antihemophilic factor (Human)                    | Koate®-HP                               | Bayer Corporation-Biologi  | Lyophilized    | single dose bottle |
| histidine         | 0.0186        |                     | IV - intravenous     | monoclonal antibody purified human               | Monoclate-P® Factor VIII: C Pasteurized | Armour Pharmaceutical      | Lyophilized    | single dose vial   |
| histidine         | ~0.155        | neutral             | IV - intravenous     | monoclonal antibody purified human Factor IX     | Mononine®-Coagulation Factor IX (human) | Armour Pharmaceutical      | Lyophilized    | single dose vial   |
| human albumin     | <15.0         |                     | ID - intradermal     | inactivated rabies vaccine prepared from strain  | Rabies Vaccine, Imovax Rabies ID        | Connaught Laboratories     | Freeze-dried   | disposable         |
| human albumin     | 2.0 - 5.0     |                     | IV - intravenous     | streptokinase                                    | Streptase                               | Astra USA, Inc.            | Lyophilized    | vial               |
| hydrochloric acid |               | 5.5                 | IM - intramuscular   | Loxapine Hydrochloride                           | Loxitane®                               | Lederle Parenterals Inc.   | Solution       | multidose vial     |
| hydrochloric acid |               | 3.5 - 7.0           | IM - intramuscular   | Methylprednisolone acetate                       | Depo-Medrol                             | The Upjohn Company         | Suspension     | single dose vial   |
| hydrochloric acid |               |                     | IM - intramuscular   | medroxyprogesterone acetate                      | Depo-Provera Contraceptive injection    | The Upjohn Company         | Aqueous        | vials              |
| hydrochloric acid |               | ~6.0                | IM - intramuscular   | triamcinolone diacetate                          | Aristocort Forte (P)                    | Fujisawa                   | Micronized     | vial               |
| hydrochloric acid |               | 4.5 - 6.5           | IAR - intraarticular | triamcinolone hexacetone                         | Aristospan Suspension 20 mg/ml          | Fujisawa                   | Micronized     | vials              |
| hydrochloric acid |               | ~6.0                | IL - intralesional   | triamcinolone diacetate                          | Aristocort                              | Fujisawa USA, Inc.         | Micronized     | vial               |
| hydrochloric acid |               | 4.5 - 6.5           | IL - intralesional   | triamcinolone hexacetone suspension              | Aristospan Suspension 5 mg/ml           | Fujisawa USA, Inc.         | Suspension     | vial               |
| hydrochloric acid |               | ~3.0                | IV - intravenous     | midazolam hydrochloride                          | Versed                                  | Hoffman - LaRoche Inc.     | Solution       | vials              |
| hydrochloric acid |               | ~6.5                | IV - intravenous     | protirelin                                       | Thyrel® TRH                             | Ferring Laboratories, Inc. | Solution       | ampuls             |
| hydrochloric acid |               | 3.5 - 5.0           | IV - intravenous     | mivacurium chloride                              | Mivacron Injection                      | Glaxo Wellcome             | Solution       | single dose vials  |
| hydrochloric acid |               | 3.5 - 5.0           | IV - intravenous     | mivacurium chloride                              | Mivacron Premixed Infusion              | Glaxo Wellcome             | Solution       | flexible plastic   |
| hydrochloric acid |               | 3.5 ± 0.5           | IV - intravenous     | Naloxone hydrochloride injection                 | Narcan (ampuls)                         | DuPont Pharma              | Solution       | ampuls             |
| hydrochloric acid |               | 3.5 ± 0.5           | IV - intravenous     | Naloxone hydrochloride injection                 | Narcan (vials)                          | DuPont Pharma              | Solution       | multidose vials    |
| hydrochloric acid |               | 3.9 - 5.0           | IV - intravenous     | doxacurium chloride                              | Nuromax                                 | Glaxo Wellcome             | Solution       | multidose vial     |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient         | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                       | Brand Name                               | Manufacturer               | Dosage Form      | Storage Container |
|-------------------|------------|---------------------|----------------------|---|--|----------------------------|------------------|-------------------|
| hydrochloric acid |            |                     | IV - intravenous     | ritodrine hydrochloride                         | Yutopar                                  | Astra USA, Inc.            | Solution         | vial              |
| hydrochloric acid |            |                     | IM - intramuscular   | glucagon hydrochloride                          | Glucagon                                 | Eli Lilly & Company        | Lyophilized      | single dose vials |
| hydrochloric acid |            | neutral             |                      | insulin injection purified pork                 | Regular Concentrated Iletin ® II U-500   | Eli Lilly & Company        | Solution (clear) | vials             |
| hydrochloric acid |            | 4.0 - 6.5           | various              | bupivacaine hydrochloride                       | Sensorcaine ®                            | Astra USA, Inc.            | Solution         | multidose vials   |
| hydrochloric acid |            | 3.3 - 5.5           | various              | bupivacaine hydrochloride, and epinephrine as   | Sensorcaine ® with Epinephrine           | Astra USA, Inc.            | Solution         | multidose vials   |
| hydrochloric acid |            | 4.0 - 6.5           | various              | bupivacaine hydrochloride                       | Sensorcaine ®-MPF                        | Astra USA, Inc.            | Solution         | single dose vials |
| hydrochloric acid |            | 3.3 - 5.5           | various              | bupivacaine hydrochloride and epinephrine as    | Sensorcaine ®-MPF with epinephrine       | Astra USA, Inc.            | Solution         | single dose vials |
| hydrochloric acid |            | 5.0 - 7.0           | various              | lidocaine hydrochloride                         | Xylocaine                                | Astra USA, Inc.            | Solution         | multidose vials   |
| hydrochloric acid |            | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at      | Xylocaine with Epinephrine               | Astra USA, Inc.            | Solution         | multidose vials   |
| hydrochloric acid |            | 5.0 - 7.0           | various              | lidocaine hydrochloride                         | Xylocaine MPF                            | Astra USA, Inc.            | Solution         | single dose vials |
| hydrochloric acid |            | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at      | Xylocaine MPF with epinephrine           | Astra USA, Inc.            | Solution         | ampules           |
| hydrochloric acid |            | 5.0 - 7.0           | IV - intravenous     | lidocaine hydrochloride injection               | Xylocaine for ventricular arrhythmias    | Astra USA, Inc.            | Solution         | single dose vials |
| hydrochloric acid |            | 5.0 - 7.0           | transtracheal        | lidocaine hydrochloride injection               | 4% Xylocaine MPF                         | Astra USA, Inc.            | Solution         | ampules           |
| hydrochloric acid |            | 5.5 - 7.0           | spinal anesthesia    | lidocaine hydrochloride                         | Xylocaine MPF 1.5%/5% with 7.5%          | Astra USA, Inc.            | Solution         | ampules           |
| hydrochloric acid |            | neutral             | IV - intravenous     | insulin injection, USP, beef-porcine            | Regular Iletin I                         | Eli Lilly & Company        | Clear Solution   | vials             |
| hydrochloric acid |            | neutral             | IV - intravenous     | insulin injection, USP, purified pork           | Regular Iletin II                        | Eli Lilly & Company        | Solution (clear) | vials             |
| hydrochloric acid |            | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, beef-pork         | Lente Iletin I                           | Eli Lilly & Company        | Suspension       | vials             |
| hydrochloric acid |            | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, purified pork     | Lente Iletin II                          | Eli Lilly & Company        | Suspension       | vials             |
| hydrochloric acid |            | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, beef-pork     | NPH Iletin I                             | Eli Lilly & Company        | Suspension       | vials             |
| hydrochloric acid |            | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, purified pork | NPH Iletin II                            | Eli Lilly & Company        | Suspension       | vials             |
| hydrochloric acid |            | ~8.1 (prior         | IM - intramuscular   | leucovorin calcium                              | Leucovorin Calcium for Injection         | Immunex Corporation        | Cryodesiccated   | vial              |
| hydrochloric acid |            | ~8.1                | IM - intramuscular   | leucovorin calcium                              | Wellcovorin brand Leucovorin Calcium for | Glaxo Wellcome             | Powder           | vial              |
| hydrochloric acid |            | ~4.5                | IM - intramuscular   | methotrimeprazine as the hydrochloride salt     | Levoprome                                | Immunex Corporation        | Solution         | vials             |
| hydrochloric acid |            |                     | IV - intravenous     | gonadorelin diacetate                           | Lutrepulse for Injection                 | Ferring Laboratories, Inc. | Lyophilized      | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient         | Conc. %W/V | pH where applicable | Administration Route  | Drug Name                               | Brand Name                          | Manufacturer                      | Dosage Form    | Storage Container  |
|-------------------|------------|---------------------|-----------------------|---|-------------------------------------|-----------------------------------|----------------|--------------------|
| hydrochloric acid |            |                     | IM - intramuscular    | hydromorphone hydrochloride             | Dilaudid-vials                      | Knoll Laboratories                | Solution       | multidose vials    |
| hydrochloric acid |            | 3.0                 | IV - intravenous      | doxorubicin hydrochloride               | Doxorubicin Hydrochloride Injection | Astra USA, Inc.                   | Solution       | single dose vials  |
| hydrochloric acid |            | 5.0 - 6.0           | IM - intramuscular    | diphenhydramine hydrochloride           | Benadryl                            | Parke Davis                       | Solution       | ampules            |
| hydrochloric acid |            | 4.0                 | SC - subcutaneous     | terbutaline sulfate injection USP       | Brethine                            | CibaGeneva Corporation            | Solution       | ampuls             |
| hydrochloric acid |            | 3.0 - 5.0           | SC - subcutaneous     | terbutaline sulfate USP                 | Bricanyl                            | Marion Merrell Dow Inc.           | Solution       | ampul              |
| hydrochloric acid |            |                     | IM - intramuscular    | buprenorphine hydrochloride             | Buprenex                            | Reckitt & Colman Pharmaceuticals, | Solution       | glass snap-ampuls  |
| hydrochloric acid |            | 4.5 - 6.8           | various               | mepivacaine hydrochloride               | Carbocaine Hydrochloride-single     | Sanofi Winthrop                   | Solution       | single dose vials  |
| hydrochloric acid |            | 4.5 - 6.8           | various               | mepivacaine hydrochloride               | Carbocaine Hydrochloride-multidose  | Sanofi Winthrop                   | Solution       | multiple dose      |
| hydrochloric acid |            | 6.0 - 6.5           | IV - intravenous      | levocarnitine                           | Carnitor Injection ®                | Sigma-Tau Pharmaceuticals         | Solution       | single dose        |
| hydrochloric acid |            |                     | ICN - intracavernosal | alprostadil                             | Caverject Sterile Powder            | The Upjohn Company                | Freeze-dried   | vial               |
| hydrochloric acid |            |                     | IV - intravenous      | urokinase for injection                 | Abbokinase                          | Abbott Laboratories               | Lyophilized    | vial               |
| hydrochloric acid |            |                     | IV - intravenous      | urokinase                               | Abbokinase Open-Cath                | Abbott Laboratories               | Lyophilized    | single dose        |
| hydrochloric acid |            | 3.0                 | IV - intravenous      | doxorubicin hydrochloride injection USP | Adriamycin PFS ®                    | Pharmacia Inc.                    | Solution       | single dose vials  |
| hydrochloric acid |            | 8.0 - 9.8           | IV - intravenous      | fluorescein injection                   | Ak-Fluor ®                          | Akom Inc.                         | Solution       | single dose vials  |
| hydrochloric acid |            | ~6.8                | IV - intravenous      | aminocaproic acid                       | Amicar Injection, USP               | Immunex Corporation               | Solution       | vial               |
| hydrochloric acid | as needed  |                     | ITO - intraocular     | sodium hyaluronate                      | Amvisc ® Plus                       | Chiron Vision                     | Solution       | disposable glass   |
| hydrochloric acid |            | 3.5                 | IM - intramuscular    | succinylcholine chloride                | Anectine Injection                  | Glaxo Wellcome                    | Solution       | multidose vials    |
| hydrochloric acid |            | ~5.2                | IV - intravenous      | trimethaphan camsylate                  | Arfonad Injection                   | Roche Laboratories                | Solution       | ampul              |
| hydrochloric acid |            | 4.0                 | IV - intravenous      | desmopressin acetate                    | DDAVP ® Injection                   | Rhone-Poulenc Rorer               | Solution       | ampuls             |
| hydrochloric acid |            | 3.5 - 6.0           | IM - intramuscular    | meperidine hydrochloride                | Demerol Hydrochloride               | Sanofi Winthrop                   | Solution       | sterile cartridge  |
| hydrochloric acid |            | 9.2                 | IV - intravenous      | acetazolamide sodium                    | Diamox                              | Storz Ophthalmics                 | Sterile Powder | vials              |
| hydrochloric acid |            |                     | IV - intravenous      | cefoperazone sodium injection           | Cefobid                             | Roerig Division of Pfizer         | Premixed       | plastic containers |
| hydrochloric acid |            | 4.0 - 6.5           | IV - intravenous      | cefotetan disodium injection            | Cefotan ®                           | Zeneca Pharmaceuticals            | Premixed       | Galaxy (R) plastic |
| hydrochloric acid |            |                     | IM - intramuscular    | clindamycin phosphate                   | Cleocin Phosphate Sterile Solution  | The Upjohn Company                | Solution       | vials              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient         | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                    | Brand Name                               | Manufacturer                    | Dosage Form  | Storage Container  |
|-------------------|------------|---------------------|----------------------|--|--|---------------------------------|--------------|--------------------|
| hydrochloric acid |            |                     | IV - intravenous     | clindamycin phosphate                        | Cleocin Phosphate IV Solution            | The Upjohn Company              | Premixed     | Galaxy (R) plastic |
| hydrochloric acid |            | ~5.0                | IV - intravenous     | cytarabine                                   | Cytosar-U Sterile Powder                 | The Upjohn Company              | Lyophilized  | multidose vials    |
| hydrochloric acid |            |                     | SC - subcutaneous    | pentagastrin                                 | Peptavlon                                | Wyeth-Ayerst                    | Solution     | ampules            |
| hydrochloric acid |            | -9.5                | IM - intramuscular   | pentobarbital sodium injection               | Nembutal Sodium Solution                 | Abbott Laboratories             | Solution     | ampul              |
| hydrochloric acid |            |                     | IV - intravenous     | hemin for injection                          | Panhematin                               | Abbott Laboratories             | Lyophilized  | single dose vial   |
| hydrochloric acid |            | 3.7 - 4.1           | IV - intravenous     | diltiazem hydrochloride                      | Cardizem                                 | Marion Merrell Dow Inc.         | Solution     | vial               |
| hydrochloric acid |            |                     | IM - intramuscular   | hyoscyamine sulfate USP                      | Levsin ® Injection                       | Schwarz                         | Solution     | ampuls             |
| hydrochloric acid |            |                     | IV - intravenous     | methocarbamol                                | Robaxin Injectable                       | A. H. Robins Company            | Solution     | single dose vial   |
| hydrochloric acid |            |                     | IM - intramuscular   | ketorolac tromethamine                       | Toradol                                  | Syntex Laboratories             | Solution     | Tubex cartridge    |
| hydrochloric acid |            | 3.5 - 7.0           | IM - intramuscular   | methylprednisolone acetate                   | Depo-Medrol Sterile Aqueous Suspension   | The Upjohn Company              | Aqueous      | single dose vials  |
| hydrochloric acid |            |                     | IM - intramuscular   | medroxyprogesterone acetate                  | Depo-provera Sterile Aqueous Suspension  | The Upjohn Company              | Suspension   | vials              |
| hydrochloric acid |            | 6.0 - 7.0           | IM - intramuscular   |  | Nydrazsid Injection                      | Apothecon/Bristol-Myers Squibb  | Solution     | vial               |
| hydrochloric acid |            | 4.8 - 5.2           | IM - intramuscular   | fluphenazine hydrochloride injection         | Prolixin Injection                       | Apothecon/Bristol-Myers Squibb  | Solution     | multidose vials    |
| hydrochloric acid |            |                     | IV - intravenous     | monoclonal antibody purified human           | Monoclate-P ® Factor VIII: C Pasteurized | Armour Pharmaceutical           | Lyophilized  | single dose vial   |
| hydrochloric acid |            | neutral             | IV - intravenous     | monoclonal antibody purified human Factor IX | Mononine ®-Coagulation Factor IX (human) | Armour Pharmaceutical           | Lyophilized  | single dose vial   |
| hydrochloric acid |            | 2.5 - 6.5           | IV - intravenous     | morphine sulfate injection USP               | Astramorph/PF                            | Astra USA, Inc.                 | Solution     | ampule             |
| hydrochloric acid |            | 4.0 - 5.0           | various              | etidocaine HCl                               | Duranest                                 | Astra USA, Inc.                 | Solution     | single dose vial   |
| hydrochloric acid |            | 3.0 - 4.5           | various              | etidocaine HCl and epinephrine as bitartrate | Duranest Injections                      | Astra USA, Inc.                 | Solution     | single dose vial   |
| hydrochloric acid |            | 5.0 - 7.5           | IV - intravenous     | cefotaxime sodium injection                  | Premixed Claforan ® Injection            | Hoechst-Roussel Pharmaceuticals | Frozen       | Galaxy single      |
| hydrochloric acid |            |                     | IV - intravenous     | dobutamine hydrochloride injection           | Dobutrex ®                               | Eli Lilly & Company             | Solution     | vials              |
| hydrochloric acid |            | 6.8 ± 0.4           | IM - intramuscular   | hepatitis B immune globulin (human), MSD     | Hep-B-Gammagee                           | Merck & Company                 | Solution     | vials              |
| hydrochloric acid |            | 3.3 - 3.9           | IV - intravenous     | ciprofloxacin                                | Cipro ® IV-concentrated                  | Bayer Corporation-Pharma        | Concentrated | vials              |
| hydrochloric acid |            | 3.5 - 4.6           | IV - intravenous     | ciprofloxacin                                | Cipro ® IV                               | Bayer Corporation-Pharma        | Ready-to-Use | flexible           |
| hydrochloric acid |            | 4.5 - 6.5           | IM - intramuscular   | metoclopramide injection, USP                | Reglan Injectable                        | A. H. Robins Company            | Solution     | single dose vials  |
| hydrochloric acid |            | ~4.0                | IV - intravenous     | flumazenil                                   | Romazicon™                               | Roche Laboratories              | Solution     | vials              |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient         | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                  | Brand Name                              | Manufacturer                       | Dosage Form  | Storage Container   |
|-------------------|------------|---------------------|----------------------|--|---|------------------------------------|--------------|---------------------|
| hydrochloric acid |            | 4.0 - 6.5           | various              | bupivacaine hydrochloride                  | Marcaine Hydrochloride                  | Sanofi Winthrop                    | Solution     | single dose vials   |
| hydrochloric acid |            | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine  | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop                    | Solution     | single dose vials   |
| hydrochloric acid |            | 4.0 - 6.5           | SA - subarachnoid    | bupivacaine hydrochloride                  | Marcaine Spinal                         | Sanofi Winthrop                    | Solution     | single dose ampul   |
| hydrochloric acid |            |                     | IV - intravenous     | ticarcillin disodium and clavulanate       | Timentin (solution)                     | SmithKline Beecham Pharmaceuticals | Frozen       | Galaxy plastic      |
| hydrochloric acid |            |                     | IM - intramuscular   | nalbuphine hydrochloride                   | Nubain                                  | DuPont Pharma                      | Solution     | ampuls              |
| hydrochloric acid |            |                     | IM - intramuscular   | nalbuphine hydrochloride                   | Nubain (ampules)                        | DuPont Pharma                      | Solution     | ampules             |
| hydrochloric acid |            |                     | IV - intravenous     | cisplatin injection                        | Platinol-AQ                             | Bristol-Myers Squibb-Oncology      | Solution     | multidose vial      |
| hydrochloric acid |            |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP  | Pregnyl ®                               | Organon                            | Powder       | multidose vials     |
| hydrochloric acid |            | ~5.5                | IV - intravenous     | zidovudine                                 | Retrovir IV Infusion                    | Glaxo Wellcome                     | Solution     | single use vial     |
| hydrochloric acid |            | 3.9                 | IM - intramuscular   | nalmefene hydrochloride injection          | Revex™                                  | Ohmeda Pharmaceutical              | Solution     | ampul               |
| hydrochloric acid |            | 2.0 - 3.0           | IM - intramuscular   | glycopyrrolate, USP                        | Robinul Injectable                      | A. H. Robins Company               | Liquid       | multidose vial      |
| hydrochloric acid |            | ~6.5                | IV - intravenous     | cefotixin sodium injection                 | Premixed Intravenous Solution Mefoxin   | Merck & Company                    | Solution     | single dose         |
| hydrochloric acid |            | ~8.5                | IA - intraarterial   | methotrexate sodium                        | Methotrexate Sodium Injection           | Immunex Corporation                | Solution     | vial                |
| hydrochloric acid |            | ~8.5                | IA - intraarterial   | methotrexate sodium                        | Methotrexate LPF ® Sodium               | Immunex Corporation                | Solution     | vial                |
| hydrochloric acid |            |                     | IA - intraarterial   | methotrexate sodium                        | Methotrexate Sodium for Injection       | Immunex Corporation                | Freeze-dried | vial                |
| hydrochloric acid |            | 4.0 - 6.0           | IV - intravenous     | metocurine iodide injection USP            | Metubine ® Iodide                       | Dista                              | Solution     | multidose vial      |
| hydrochloric acid |            | 6.8&60.4            | IM - intramuscular   | rabies immune globulin (human)             | Imogam ® Rabies                         | Connaught Laboratories             | Solution     | vial                |
| hydrochloric acid |            | 5.2 - 6.5           | IM - intramuscular   | iron dextran injection                     | INFeD                                   | Schein Pharmaceutical Inc.         | Dark-brown   | single dose amber   |
| hydrochloric acid |            | 4.5                 | IT - intrathecal     | morphine sulfate                           | Infumorph ®                             | Elkins-Sinn Inc.                   | Solution     | single dose amber   |
| hydrochloric acid |            | 4.1 - 6.0           | IV - intravenous     | verapamil hydrochloride                    | Isoptin ®                               | Knoll Laboratories                 | Solution     | single dose vial    |
| hydrochloric acid |            | 3.5 - 4.5           | IM - intramuscular   | isoproterenol hydrochloride injection, USP | Isuprel                                 | Sanofi Winthrop                    | Solution     | ampul               |
| hydrochloric acid |            | 4.2 - 6.2           | IV - intravenous     | cefmetazole sodium injection               | Zefazone ® IV solution                  | The Upjohn Company                 | premixed     | plastic Galaxy      |
| hydrochloric acid |            | 5.0 - 7.5           | IV - intravenous     | cefuroxime sodium injection                | Zinacef ®                               | Glaxo Wellcome                     | Frozed       | Galaxy plastic      |
| hydrochloric acid |            | 3.8 - 5.8           | IV - intravenous     | ofloxacin injection                        | Floxin ® IV - premixed                  | Ortho Pharmaceutical               | Premixed     | single use flexible |
| hydrochloric acid |            |                     | IV - intravenous     | fluorescein sodium                         | Fluorescite ® Injection                 | Alcon Laboratories                 | Solution     | prefilled syringe   |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V | pH where applicable | Administration Route | Drug Name  | Brand Name                          | Manufacturer              | Dosage Form      | Storage Container |
|----------------------|------------|---------------------|----------------------|--|-------------------------------------|---------------------------|------------------|-------------------|
| hydrochloric acid    |            | 5.0 - 7.5           | IV - intravenous     | cefazidime sodium injection                      | Fortaz ® Injection                  | Glaxo Wellcome            | Frozen           | Galaxy plastic    |
| hydrochloric acid    |            | 7.4                 | IV - intravenous     | foscarnet sodium hexahydrate                     | Foscavir                            | Astra USA, Inc.           | Solution         | glass bottle      |
| hydrochloric acid    |            | 5.0 - 7.5           | IV - intravenous     | heparin sodium                                   | Heparin Sodium Injection            | The Upjohn Company        | Solution         | vial              |
| hydrochloric acid    |            |                     | IV - intravenous     | heparin sodium                                   | Heparin Sodium Injunctio -Eli Lilly | Eli Lilly & Company       | Solution         | multidose vial    |
| hydrochloric acid    |            | neutral             | SC - subcutaneous    | 50% human insulin isophane suspension and        | Humulin 50/50                       | Eli Lilly & Company       | Suspension       | vial              |
| hydrochloric acid    |            | neutral             | SC - subcutaneous    | 70% human insulin isophane suspension and        | Humulin 70/30                       | Eli Lilly & Company       | Suspension       | vial              |
| hydrochloric acid    |            | neutral             | SC - subcutaneous    | human insulin and zinc suspension                | Humulin L (Lente)                   | Eli Lilly & Company       | Suspension       | vial              |
| hydrochloric acid    |            | neutral             | SC - subcutaneous    | human insulin suspension with protamine and zinc | IHumulin N (NPH)                    | Eli Lilly & Company       | Suspension       | vial              |
| hydrochloric acid    |            | neutral             | IV - intravenous     | zinc-human insulin                               | Humulin R (Regular)                 | Eli Lilly & Company       | Solution (clear) | vial              |
| hydrochloric acid    |            | neutral             | SC - subcutaneous    | crystalline suspension of human insulin and      | Humulin U (Ultralente)              | Eli Lilly & Company       | Suspension       | vial              |
| hydrochloric acid    |            | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride                     | Nesacaine Injection                 | Astra USA, Inc.           | Solution         | multidose vials   |
| hydrochloric acid    |            | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride                     | Nesacaine-MPF Injection             | Astra USA, Inc.           | Solution         | single dose vials |
| hydrochloric acid NF |            | 3.5 - 5.5           | IV - intravenous     | dexrazoxane hydrochloride                        | Zinecard ™                          | Pharmacia Inc.            | Lyophilized      | single use vials  |
| hydrochloric         |            | 4.5 - 6.5           | IV - intravenous     | aprotinin injection                              | Trasylol ®                          | Bayer Corporation-Pharma  | Solution         | vials             |
| hydrochloric acid    |            | 2.5 - 5.0           | IM - intramuscular   | epinephrine injection                            | EpiPen Auto-Injectors               | Center Laboratories       | Solution         | auto-injectors    |
| hydrolyzed           |            |                     | SC - subcutaneous    | Rubella Virus Vaccine Live, MSD                  | Meruvax II                          | Merck & Company           | Lyophilized      | single dose vial  |
| hydrolyzed gelatin   |            |                     | SC - subcutaneous    | measles virus vaccine live, MSD                  | Attenuvax                           | Merck & Company           | Lyophilized      | single dose vial  |
| hydrolyzed gelatin   |            |                     | SC - subcutaneous    | rubella and mumps virus vaccine live, MSD        | Biavax II                           | Merck & Company           | Lyophilized      | single dose vial  |
| hydrolyzed gelatin   |            |                     | SC - subcutaneous    | Measles, Mumps, and Rubella Virus Vaccine Live,  | M-M-R II                            | Merck & Company           | Lyophilized      | single dose vial  |
| hydrolyzed gelatin   |            |                     | SC - subcutaneous    | Measles and Rubella Virus Vaccine Live           | M-R-VAX II                          | Merck & Company           | Lyophilized      | single dose vial  |
| hydrolyzed gelatin   |            |                     | SC - subcutaneous    | Mumps Virus Vaccine Live, MSD                    | Mumpsvax                            | Merck & Company           | Lyophilized      | single dose vial  |
| hydrolyzed gelatin   | -2.5       |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)         | Varivax                             | Merck & Company           | Lyophilized      | single-dose vial  |
| hydrous sodium       | 0.65       |                     | IV - intravenous     | tolazoline hydrochloride USP                     | Priscoline                          | CibaGeneva Corporation    | Solution         | ampuls            |
| imidazole            | ≤0.005     |                     | IV - intravenous     | antihemophilic factor (recombinant)              | Kogenate ®                          | Bayer Corporation-Biologi | Lyophilized      | single dose vial  |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V     | pH where applicable | Administration Route | Drug Name   | Brand Name                          | Manufacturer                 | Dosage Form    | Storage Container |
|-----------------|----------------|---------------------|----------------------|---|-------------------------------------|------------------------------|----------------|-------------------|
| imidazole       | ≤0.005         |                     | IV - intravenous     | antihemophilic factor (recombinant)                   | Helixate™                           | Amour Pharmaceutical         | Lyophilized    | single dose       |
| iron ammonium   |                |                     | IVS - intravesical   | an attenuated live culture preparation of BCG vaccine | TICE® BCG                           | Organon                      | Freeze-dried   | ampules           |
| isotonic saline |                |                     | IM - intramuscular   | pneumococcal vaccine polyvalent                       | Pneumovax 23                        | Merck & Company              | Liquid         | single dose vials |
| isotonic sodium |                | ~ 7.4               | IM-intramuscular     | Diphtheria & Tetanus Toxoids and Acellular            | Tripedia™                           | Connaught Laboratories, Inc. | Solution/Suspe | vial              |
| L-arginine      | 3.4-3.5        | 7.3                 | IV-intravenous       | Alteplase   | Activase®                           | Genentech, Inc.              | Lyophilized    | vials             |
| L-arginine      | 0.349 - 11.6   | 5.0 - 7.5           | IM - intramuscular   | cefazidime pentahydrate                               | Ceptaz®                             | Glaxo Wellcome               | Powder         | vial              |
| L-aspartic acid | 0.0136         | 5.7 - 6.4           | IV - intravenous     | famotidine  | Pepcid Injection Premixed           | Merck & Company              | Premixed       | single dose       |
| L-aspartic acid |                | 5.7 - 6.4           | IV - intravenous     | famotidine  | Pepcid Injection Premixed           | Merck & Company              | Premixed       | single dose       |
| L-aspartic acid | 0.4            |                     | IV - intravenous     | famotidine  | Pepcid Injection                    | Merck & Company              | Solution       | multidose vial    |
| L-cysteine      | 0.013          | 2.5 - 5.0           | IV - intravenous     | secretin  | Secretin-Ferring                    | Ferring Laboratories, Inc.   | Lyophilized    | vial              |
| L-lysine        | 0.92           |                     | IV - intravenous     | anistreplase  | Eminase®                            | Roberts Pharmaceutical       | Lyophilized    | vial              |
| lactic acid     |                | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                   | Talwin Injection (ampuls)           | Sanofi Winthrop              | Solution       | ampuls            |
| lactic acid     |                | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                   | Talwin Injection (cartridge needle) | Sanofi Winthrop              | Solution       | cartridge needle  |
| lactic acid     |                | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                   | Talwin injection (multidose vial)   | Sanofi Winthrop              | Solution       | multidose vials   |
| lactic acid     |                | 3.0 - 3.6           | IM - intramuscular   | haloperidol lactate                                   | Haldol                              | McNeil Pharmaceutical        | Solution       | ampuls            |
| lactic acid     | 0.724 - 1.158  | 4.0                 | IM - intramuscular   | dezocine  | Dalgan                              | Astra USA, Inc.              | Solution       | single dose vials |
| lactic acid     |                | 3.3 - 3.9           | IV - intravenous     | ciprofloxacin   | Cipro® IV-concentrated              | Bayer Corporation-Pharma     | Concentrated   | vials             |
| lactic acid     |                | 3.5 - 4.6           | IV - intravenous     | ciprofloxacin   | Cipro® IV                           | Bayer Corporation-Pharma     | Ready-to-Use   | flexible          |
| lactic acid     | 0.0282 - 0.129 | 3.2 - 4.0           | IV - intravenous     | milrinone lactate injection                           | Primacor                            | Sanofi Winthrop              | Solution       | single dose vials |
| lactic acid     |                | 3.4 ± 0.4           | IM - intramuscular   | droperidol  | Inapsine                            | Janssen Pharmaceutical Inc.  | Solution       | ampoules          |
| lactic acid     | 0.5 - 0.75     | 3.2 - 4.0           | IV - intravenous     | amrinone lactate                                      | Inocor Lactate Injection            | Sanofi Winthrop              | Solution       | ampuls            |
| lactic acid     | 0.012          | 3.5 - 4.5           | IM - intramuscular   | isoproterenol hydrochloride injection, USP            | Isuprel                             | Sanofi Winthrop              | Solution       | ampul             |
| lactose         | 8.5            |                     | ID - intradermal     | Old Tuberculin  | Tuberculin, Old, Tine Test          | Lederle Laboratories         | Solution       | disposable        |
| lactose         | 1.33 - 4.9     |                     | IM - intramuscular   | glucagon hydrochloride                                | Glucagon                            | Eli Lilly & Company          | Lyophilized    | single dose vials |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V   | pH where applicable | Administration Route  | Drug Name   | Brand Name                             | Manufacturer                  | Dosage Form      | Storage Container  |
|----------------------|--------------|---------------------|-----------------------|---|--|-------------------------------|------------------|--------------------|
| lactose              |              |                     | IVS - intravesical    | an attenuated live culture preparation of BCG vaccine | TICE ® BCG                             | Organon                       | Freeze-dried     | ampules            |
| lactose              | 17.2         |                     | ICN - intracavernosal | alprostadil   | Caverject Sterile Powder               | The Upjohn Company            | Freeze-dried     | vial               |
| lactose              | 0.4          |                     | IM - intramuscular    | haemophilus b conjugate vaccine (meningococcal)       | PedvaxHIB                              | Merck & Company               | Lyophilized      | single dose vials  |
| lactose              | 0.5 - 1.0    |                     | IM - intramuscular    | menotropins for injections, USP                       | Pergonal ®                             | Serono Laboratories, Inc.     | Lyophilized      | ampule             |
| lactose              | 4.0          |                     | IM - intramuscular    | conjugated estrogens, USP                             | Premarin Intravenous                   | Wyeth-Ayerst                  | Lyophilized      | Secule (R) vial    |
| lactose              | 0.5 - 1.0    |                     | SC - subcutaneous     | meningococcal polysaccharide vaccine, groups A,       | Menomune ®                             | Connaught Laboratories        | Freeze-dried     | vial               |
| lactose              | 0.5 - 1.0    |                     | IM - intramuscular    | urofollitropin for injection                          | Metrodin ®                             | Serono Laboratories, Inc.     | Lyophilized      | ampule             |
| lactose              | 5.0 - 10.0   |                     | IV - intravenous      | gonadorelin hydrochloride                             | Factrel                                | Wyeth-Ayerst                  | Lyophilized      | single dose Secule |
| lactose (anhydrous)  | 1.0          |                     | IV - intravenous      | doxorubicin hydrochloride for injection USP           | Rubex ®                                | Bristol-Myers Squibb-Oncology | Lyophilized      | single dose vial   |
| lactose hydrous      | 0.0 - 2.5    | 7.0 - 8.0           | IM - intramuscular    | methylprednisolone sodium succinate, USP              | Solu-Medrol Sterile Powder             | The Upjohn Company            | Powder           | Act-O-vial         |
| lactose hydrous      | 0.525 - 1.05 |                     | IM - intramuscular    | menotropins for injection                             | Humegon™                               | Organon Inc.                  | Lyophilized      | vial               |
| lactose monohydrate  | 1.0          |                     | IV - intravenous      | doxorubicin hydrochloride                             | Doxorubicin Hydrochloride for          | Astra USA, Inc.               | red-orange       | single dose vial   |
| lactose NF           | 1.0          |                     | IV - intravenous      | idarubicin hydrochloride for injection                | Idamycin ®                             | Pharmacia Inc.                | Orange-Red       | vial               |
| lactose NF (hydrous) | 1.0          |                     | IV - intravenous      | doxorubicin hydrochloride for injection, USP          | Adriamycin RDF ®                       | Pharmacia Inc.                | red-orange       | single dose vials  |
| lecithin             | 0.5          |                     | IM - intramuscular    | penicillin G benzathine and penicillin G              | Bicillin C-R 900/300                   | Wyeth-Ayerst                  | Suspension       | sterile cartridge  |
| lecithin             | 0.5          |                     | IM - intramuscular    | penicillin G benzathine suspension                    | Bicillin L-A                           | Wyeth-Ayerst                  | Suspension       | disposable         |
| lecithin             | 0.5          |                     | IM - intramuscular    | penicillin G benzathine and penicillin G              | Bicillin C-R                           | Wyeth-Ayerst                  | Suspension       | disposable         |
| m-cresol             |              | neutral             | SC - subcutaneous     | Human Insulin Injection (semi-synthetic)              | Velosulin BR                           | Novo Nordisk                  | Solution         | vials              |
| M-cresol             | 0.3          | ~7.5                | IM - intramuscular    | somatropin rDNA origin for injection                  | Humatrope ®                            | Eli Lilly & Company           | Lyophilized      | vials              |
| m-cresol             | 0.25         | neutral             |                       | insulin injection purified pork                       | Regular Concentrated Iletin ® II U-500 | Eli Lilly & Company           | Solution (clear) | vials              |
| m-cresol             |              | neutral             | IV - intravenous      | insulin injection, USP, beef-porcine                  | Regular Iletin I                       | Eli Lilly & Company           | Clear Solution   | vials              |
| m-cresol             |              | neutral             | IV - intravenous      | insulin injection, USP, purified pork                 | Regular Iletin II                      | Eli Lilly & Company           | Solution (clear) | vials              |
| m-cresol             |              | neutral             | SC - subcutaneous     | isophane insulin suspension, USP, beef-pork           | NPH Iletin I                           | Eli Lilly & Company           | Suspension       | vials              |
| m-cresol             |              | neutral             | SC - subcutaneous     | isophane insulin suspension, USP, purified pork       | NPH Iletin II                          | Eli Lilly & Company           | Suspension       | vials              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient          | Conc. %W/V | pH where applicable | Administration Route | Drug Name   | Brand Name                             | Manufacturer                  | Dosage Form      | Storage Container |
|--------------------|------------|---------------------|----------------------|---|--|-------------------------------|------------------|-------------------|
| m-cresol           |            | neutral             | SC - subcutaneous    | 70% NPH human insulin isophane suspension and         | Novolin ® 70/30                        | Novo Nordisk Pharmaceuticals  | Suspension       | vials             |
| m-cresol           |            | neutral             | SC - subcutaneous    | NPH human insulin isophane suspension                 | Novolin ® N, NPH                       | Novo Nordisk Pharmaceuticals  | Suspension       | vials             |
| m-cresol           |            | neutral             | IM - intramuscular   | regular human insulin injection                       | Novolin ® R                            | Novo Nordisk Pharmaceuticals  | Solution (clear) | vials             |
| m-cresol           |            | neutral             | SC - subcutaneous    | NPH (N) Purified Pork Isophane Insulin                | NPH (N) Purified Pork Isophane Insulin | Novo Nordisk Pharmaceuticals  | Suspension       | vials             |
| m-cresol           | 0.3        | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection                | Genotropin™ Injection                  | Pharmacia, Inc.               | Lyophilized      | Intra-Mix two     |
| m-cresol           |            | neutral             | SC - subcutaneous    | 50% human insulin isophane suspension and             | Humulin 50/50                          | Eli Lilly & Company           | Suspension       | vial              |
| m-cresol           |            | neutral             | SC - subcutaneous    | 70% human insulin isophane suspension and             | Humulin 70/30                          | Eli Lilly & Company           | Suspension       | vial              |
| m-cresol           |            | neutral             | SC - subcutaneous    | human insulin suspension with protamine and zinc      | Humulin N (NPH)                        | Eli Lilly & Company           | Suspension       | vial              |
| m-cresol           |            | neutral             | IV - intravenous     | zinc-human insulin                                    | Humulin R (Regular)                    | Eli Lilly & Company           | Solution (clear) | vial              |
| magnesium chloride | 0.03       | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                                    | Amo ® Vitrax ®                         | Allergan Inc.                 | Solution         | disposable glass  |
| magnesium chloride | 0.03       | 7.2 ± 0.4           | ITO - intraocular    | purified hydroxypropylmet hylcellulose                | Ocucoat                                | Storz Ophthalmics             | Solution         | syringes          |
| magnesium chloride | 2.5 - 6.0  |                     | IM - intramuscular   | oxytetracycline                                       | Terramycin-ampule                      | Roerig                        | Solution         | ampule            |
| magnesium chloride | 2.5        |                     | IM - intramuscular   | oxytetracycline                                       | Terramycin                             | Roerig                        | Solution         | multidose vial    |
| magnesium sulfate  |            |                     | IVS - intravesical   | an attenuated live culture preparation of BCG vaccine | TICE ® BCG                             | Organon                       | Freeze-dried     | ampules           |
| maleic acid        | 1.6        | ~3.0                | IM - intramuscular   | chlordiazepoxide hydrochloride                        | Librium injectable (IM)                | Roche Products, Inc.          | Crystalline      | amber ampuls      |
| maleic acid        |            | ~5.0                | IV - intravenous     | teniposide  | Vumon Injection Concentrate (VM-26)    | Bristol-Myers Squibb-Oncology | Solution         | ampules           |
| maltose            | 9.0 - 11.0 | 4.0 - 4.5           | IV - intravenous     | immune globulin intravenous human, 5%                 | Gamimune ® N 5%                        | Bayer Corporation-Biologi     | Solution         | vials             |
| mannitol           | 2.92       | ~6.1                | IV - intravenous     | imiglucerase  | Cerezyme™                              | Genzyme Corporation           | Lyophilized      | vial              |
| mannitol           | 4.0        |                     | SC - subcutaneous    | interferon gamma 1b                                   | Actimmune ®                            | Genentech, Inc.               | Solution         | single dose vial  |
| mannitol           | 2.0        | 7.0                 | IV - intravenous     | plicamycin  | Mithracin                              | Bayer Corporation-Pharma      | Freeze-dried     | vials             |
| mannitol           | 0.1        |                     | IV - intravenous     | mitomycin and/or mitomycin-C                          | Mutamycin                              | Bristol-Myers Squibb-Oncology | Solid            | vial              |
| mannitol           | 5.96       |                     | IM - intramuscular   | thiothixene hydrochloride                             | Navane Intramuscular for Injection     | Roerig Pfizer                 | Solid            | vials             |
| mannitol           | 0.97       | 4.0                 | IV - intravenous     | vecuronium bromide                                    | Norcuron ®                             | Organon                       | Freeze-dried     | vials             |
| mannitol           | 0.9 - 9.0  | ~7.4                | SC - subcutaneous    | somatropin (rDNA origin) for injection                | Nutropin ®                             | Genentech, Inc.               | Lyophilized      | vials             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient | Conc. %W/V  | pH where applicable | Administration Route | Drug Name                                    | Brand Name                               | Manufacturer                     | Dosage Form  | Storage Container |
|-----------|-------------|---------------------|----------------------|--|--|----------------------------------|--------------|-------------------|
| mannitol  | 1.0         | 5.0 - 7.0           | IV - intravenous     | carboplatin for injection                    | Paraplatin ®                             | Bristol-Myers Squibb-Oncology    | Lyophilized  | single-dose vials |
| mannitol  | 0.5         | -7.5                | IM - intramuscular   | somatropin rDNA origin for injection         | Humatrope ®                              | Eli Lilly & Company              | Lyophilized  | vials             |
| mannitol  | 4.0         | 7.4 ± 0.3           | IV - intravenous     | sargramostim                                 | Leukine ®                                | Immunex Corporation              | Lyophilized  | single use vial   |
| mannitol  | 0.125       |                     | IV - intravenous     | gonadorelin diacetate                        | Lutrepulse for Injection                 | Ferring Laboratories, Inc.       | Lyophilized  | vial              |
| mannitol  | 1.4         |                     | IV - intravenous     | chlorothiazide sodium                        | Intravenous Sodium Diuril                | Merck & Company                  | Lyophilized  | vial              |
| mannitol  |             | 3.0 - 4.0           | IV - intravenous     | dacarbazine                                  | DTIC-Dome Sterile                        | Bayer Corporation-Pharma         | Solid        | vials             |
| mannitol  | 0.125       |                     | IV - intravenous     | ethacrynate sodium                           | Intravenous Sodium Edecrin               | Merck & Company                  | Freeze-dried | vial              |
| mannitol  | 1.6 - 4.0   |                     | IM - intramuscular   | L-asparagine amidohydrolase, type EC-2       | Elspar                                   | Merck & Company                  | Lyophilized  | vial              |
| mannitol  | 0.5         |                     | IV - intravenous     | urokinase for injection                      | Abbokinase                               | Abbott Laboratories              | Lyophilized  | vial              |
| mannitol  | 1.5         |                     | IV - intravenous     | urokinase                                    | Abbokinase Open-Cath                     | Abbott Laboratories              | Lyophilized  | single dose       |
| mannitol  | 5.0         | -9.5                | IV - intravenous     | dantrolene sodium                            | Dantrium Intravenous                     | Procter & Gamble Pharmaceuticals | Lyophilized  | vials             |
| mannitol  | 2.5         | 4.5 - 6.5           | IV - intravenous     | daunorubicin hydrochloride                   | Cerubidine                               | Chiron Therapeutics              | Lyophilized  | vial              |
| mannitol  | 3.8         | 8.1 - 8.3           | IV - intravenous     | warfarin sodium                              | Coumadin                                 | Dupont Pharma                    | Lyophilized  | vial              |
| mannitol  | 5.0         | 4.0                 | IV - intravenous     | filgrastim (recombinant methionyl human      | Neupogen ®                               | Amgen, Inc.                      | Solution     | single dose vial  |
| mannitol  | 0.8         |                     | IV - intravenous     | monoclonal antibody purified human           | Monoclate-P ® Factor VIII: C Pasteurized | Armour Pharmaceutical            | Lyophilized  | single dose vial  |
| mannitol  | ~3.0        | neutral             | IV - intravenous     | monoclonal antibody purified human Factor IX | Mononine ®-Coagulation Factor IX (human) | Armour Pharmaceutical            | Lyophilized  | single dose vial  |
| mannitol  | 1.5 - 1.875 |                     | IV - intravenous     | cyclophosphamide (anhydrous)                 | Lyophilized Cytoxan for Injection        | Bristol-Myers Squibb-Oncology    | Lyophilized  | single dose vials |
| mannitol  | 10.0        | 3.5 - 5.5           | IV - intravenous     | vincristine sulfate, USP                     | Oncovin ®                                | Eli Lilly & Company              | Solution     | vials             |
| mannitol  | 2.0         |                     | IV - intravenous     | famotidine                                   | Pepcid Injection                         | Merck & Company                  | Solution     | multidose vial    |
| mannitol  | 0.2         |                     | IM - intramuscular   | Levothyroxine sodium USP                     | Synthroid Injection                      | Knoll Laboratories               | Lyophilized  | single dose vials |
| mannitol  | 1.0 - 5.0   |                     | IM - intramuscular   | human chorionic gonadotropin (HCG) for       | Profasi                                  | Serono Laboratories, Inc.        | Lyophilized  | multidose vial    |
| mannitol  | 0.8 - 8.0   | -7.8                | IM - intramuscular   | somatrem for injection                       | Protropin ®                              | Genentech, Inc.                  | Lyophilized  | vial              |
| mannitol  | 0.005 - 2.5 |                     | IM - intramuscular   | phentolamine mesylate USP                    | Regitine                                 | CibaGeneva Corporation           | Lyophilized  | vial              |
| mannitol  | 5.0         | 7.2 - 7.8           | IV - intravenous     | aldesleukin (recombinant human               | Proleukin ®                              | Chiron Therapeutics              | Lyophilized  | single use vial   |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                 | Brand Name                                  | Manufacturer               | Dosage Form | Storage Container |
|----------------------|------------|---------------------|----------------------|---|---|----------------------------|-------------|-------------------|
| mannitol             | 0.267      | 2.5 - 5.0           | IV - intravenous     | secretin                                  | Secretin-Ferring                            | Ferring Laboratories, Inc. | Lyophilized | vial              |
| mannitol             | 10.0       | 4.5 - 6.5           | SC - subcutaneous    | histrelin acetate                         | Supprelin ®                                 | Roberts Pharmaceutical     | Solution    | single use vial   |
| mannitol             | 2.0        |                     | IV - intravenous     | anistreplase                              | Eminase ®                                   | Roberts Pharmaceutical     | Lyophilized | vial              |
| mannitol             | 8.3        | 0.5 - 2.0           | IV - intravenous     | metronidazole hydrochloride               | Flagyl IV                                   | SCS                        | Lyophilized | single dose vial  |
| mannitol             | 2.5        | 7.2 - 8.2           | IV - intravenous     | fludarabine phosphate                     | Fludara for Injection                       | Berlex Laboratories        | Lyophilized | vial              |
| mannitol             | 0.158      | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection    | Genotropin™ Injection                       | Pharmacia, Inc.            | Lyophilized | Intra-Mix two     |
| mannitol             | 3.95       | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection    | Genotropin™ Injection                       | Pharmacia, Inc.            | Lyophilized | Intra-Mix two     |
| mannitol             | 1.32       |                     | IV - intravenous     | sermorelin acetate for injection          | Geret ®                                     | Serono Laboratories, Inc.  | Lyophilized | ampule            |
| mannitol             | 1.82       |                     | IV - intravenous     | daetinomycin                              | Cosmegen                                    | Merck & Company            | Lyophilized | vials             |
| mannitol USP         | 3.75 - 4.7 | 6.0 - 7.4           | IV - intravenous     | pamidronate disodium                      | Aredia                                      | CibaGeneva Corporation     | Lyophilized | vials             |
| metacresol (see      | 0.0-0.1    | 3.5 - 6.0           | IM - intramuscular   | meperidine hydrochloride                  | Demerol Hydrochloride                       | Sanofi Winthrop            | Solution    | sterile cartridge |
| methanesulfonic acid |            | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate                | D.H.E. 45 ®                                 | Sandoz                     | Solution    | ampuls            |
| methanesulfonic acid |            | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate injection, USP | D.H.E. 45 ® or Dyhdergot ®                  | Sandoz                     | Solution    | ampuls            |
| methyl and propyl    | 0.2        | ~5.0                | IM - intramuscular   | trimethobenzamide HCl                     | Tigan ®-ampuls                              | Roberts Pharmaceuticals    | Solution    | ampuls            |
| methyl & propyl      | 0.2        | ~5.9                | IM - intramuscular   | neostigmine methylsulfate                 | Prostigmin Injectable (ampuls)              | ICN Pharmaceuticals        | Solution    | ampuls            |
| methylparaben        | 0.15       | 7.5 - 8.0           | IV - intravenous     | Dexamethasone sodium phosphate, USP       | Decadron Phosphate Injection                | Merck & Company            | Solution    | vials             |
| methylparaben        | 0.15       | 6.5 - 6.9           | LI - local injection | dexamethasone sodium phosphate-lidocai    | Decadron Phosphate with Xylocaine Injection | Merck & Company            | Solution    | vials             |
| methylparaben        | 0.137      |                     | IM - intramuscular   | medroxyprogesterone acetate               | Depo-Provera Contraceptive injection        | The Upjohn Company         | Aqueous     | vials             |
| methylparaben        | 0.1        | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                       | Talwin injection (multidose vial)           | Sanofi Winthrop            | Solution    | multidose vials   |
| methylparaben        | 0.18       | 3.0 - 6.5           | IM - intramuscular   | tobramycin sulfate                        | Tobramycin Sulfate Injection, USP           | Elkins-Sinn                | Solution    | multidose vials   |
| methylparaben        | 0.08       | 3.0 - 4.0           | IV - intravenous     | labetalol hydrochloride                   | Trandate Injection ®                        | Glaxo Wellcome             | Solution    | vials             |
| methylparaben        | 0.18       | 3.5 ± 0.5           | IV - intravenous     | Naloxone hydrochloride injection          | Narcan (vials)                              | DuPont Pharma              | Solution    | multidose vials   |
| methylparaben        | 0.1        | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride              | Nesacaine Injection                         | Astra USA, Inc.            | Solution    | multidose vials   |
| methylparaben        | 0.08       | 3.0 - 4.0           | IV - intravenous     | labetalol HCl                             | Normodyne                                   | Schering Corporation       | Solution    | multidose vial    |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient     | Conc. %W/V | pH where applicable | Administration Route | Drug Name  | Brand Name                                       | Manufacturer                   | Dosage Form | Storage Container |
|---------------|------------|---------------------|----------------------|--|--|--------------------------------|-------------|-------------------|
| methylparaben | 0.18       | 3.0 - 3.6           | IM - intramuscular   | haloperidol lactate                                  | Haldol   | McNeil Pharmaceutical          | Solution    | ampuls            |
| methylparaben | 0.1        | 4.0 - 6.5           | various              | bupivacaine hydrochloride                            | Sensorcaine ®                                    | Astra USA, Inc.                | Solution    | multidose vials   |
| methylparaben | 0.1        | 3.3 - 5.5           | various              | bupivacaine hydrochloride, and epinephrine as        | Sensorcaine ® with Epinephrine                   | Astra USA, Inc.                | Solution    | multidose vials   |
| methylparaben | 0.1        | 5.0 - 7.0           | various              | lidocaine hydrochloride                              | Xylocaine  | Astra USA, Inc.                | Solution    | multidose vials   |
| methylparaben | 0.1        | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at           | Xylocaine with Epinephrine                       | Astra USA, Inc.                | Solution    | multidose vials   |
| methylparaben |            | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, beef-pork              | Lente Iletin I                                   | Eli Lilly & Company            | Suspension  | vials             |
| methylparaben |            | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, purified pork          | Lente Iletin II                                  | Eli Lilly & Company            | Suspension  | vials             |
| methylparaben | 0.18       |                     | IM - intramuscular   | hydromorphone hydrochloride                          | Dilaudid-vials                                   | Knoll Laboratories             | Solution    | multidose vials   |
| methylparaben | 0.15       |                     | IM - intramuscular   | amitriptyline HCl                                    | Elavil   | Zeneca Pharmaceuticals         | Solution    | vials             |
| methylparaben | 0.1        |                     | IM - intramuscular   | penicillin G benzathine and penicillin G             | Bicillin C-R 900/300                             | Wyeth-Ayerst                   | Suspension  | sterile cartridge |
| methylparaben | 0.1        |                     | IM - intramuscular   | penicillin G benzathine suspension                   | Bicillin L-A                                     | Wyeth-Ayerst                   | Suspension  | disposable        |
| methylparaben | 0.1        | 4.5 - 6.8           | various              | mepivacaine hydrochloride                            | Carbocaine Hydrochloride-multidose               | Sanofi Winthrop                | Solution    | multiple dose     |
| methylparaben | 0.15       |                     | IV - intravenous     | methyl dopate HCl                                    | Aldomet Ester Hydrochloride                      | Merck & Company                | Solution    | vials             |
| methylparaben | 0.1        | 3.5                 | IM - intramuscular   | succinylcholine chloride                             | Anectine Injection                               | Giaxo Wellcome                 | Solution    | multidose vials   |
| methylparaben | 0.15       |                     | IM - intramuscular   | metaraminol bitartrate                               | Aramine  | Merck & Company                | Solution    | vials             |
| methylparaben | 0.1        | 4.8 - 5.2           | IM - intramuscular   | fluphenazine hydrochloride injection                 | Prolixin Injection                               | Apothecon/Bristol-Myers Squibb | Solution    | multidose vials   |
| methylparaben | 0.13       | 3.5 - 5.5           | IV - intravenous     | vincristine sulfate, USP                             | Oncovin ®  | Eli Lilly & Company            | Solution    | vials             |
| methylparaben | 0.18       | ~4.0                | IV - intravenous     | flumazenil   | Romazicon™                                       | Roche Laboratories             | Solution    | vials             |
| methylparaben |            | neutral             | SC - subcutaneous    | Lente (R) human insulin zinc suspension              | Novolin ® L                                      | Novo Nordisk Pharmaceuticals   | Suspension  | vials             |
| methylparaben |            | neutral             | SC - subcutaneous    | Lente (L) Purified Pork Insulin Zinc Suspension, USP | Lente (L) Purified Pork Insulin Zinc Suspension, | Novo Nordisk Pharmaceuticals   | Suspension  | vials             |
| methylparaben | 0.18       |                     | IM - intramuscular   | nalbuphine hydrochloride                             | Nubain   | DuPont Pharma                  | Solution    | ampuls            |
| methylparaben | 0.18       |                     | SC - subcutaneous    | oxymorphone hydrochloride                            | Numorphan  | DuPont Pharma                  | Solution    | multidose vials   |
| methylparaben | 0.12       |                     | IM - intramuscular   | interferon alfa-2b, recombinant                      | Intron A (solution)                              | Schering Corporation           | Solution    | vials             |
| methylparaben | 0.18       |                     | IM - intramuscular   | gentamicin sulfate USP                               | Garamycin Injectable                             | Schering Corporation           | Solution    | vial              |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient          | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                                      | Brand Name                              | Manufacturer                | Dosage Form | Storage Container |
|--------------------|---------------|---------------------|----------------------|--|---|-----------------------------|-------------|-------------------|
| methylparaben      |               | neutral             | SC - subcutaneous    | human insulin and zinc suspension              | Humulin L (Lente)                       | Eli Lilly & Company         | Suspension  | vial              |
| methylparaben      |               | neutral             | SC - subcutaneous    | crystalline suspension of human insulin and    | Humulin U (Ultralente)                  | Eli Lilly & Company         | Suspension  | vial              |
| methylparaben      | 0.15          | 7.5 - 8.5           | IM - intramuscular   | hydrocortisone sodium phosphate                | Hydrocortone Phosphate                  | Merck & Company             | Solution    | multidose vial    |
| methylparaben      | 0.1           |                     | IM - intramuscular   | penicillin G benzathine and penicillin G       | Bicillin C-R                            | Wyeth-Ayerst                | Suspension  | disposable        |
| methylparaben NF   | 0.02          |                     | IV - intravenous     | doxorubicin hydrochloride for injection, USP   | Adriamycin RDF ®                        | Pharmacia Inc.              | red-orange  | single dose vials |
| methylparaben (see | 0.0 - 0.1     | 4.0 - 6.5           | various              | bupivacaine hydrochloride                      | Marcaine Hydrochloride                  | Sanofi Winthrop             | Solution    | single dose vials |
| methylparaben (see | 0.0 - 0.1     | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine      | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop             | Solution    | single dose vials |
| methylparaben (see | 0.018         | 3.4 ± 0.4           | IM - intramuscular   | droperidol                                     | Inapsine                                | Janssen Pharmaceutical Inc. | Solution    | ampoules          |
| methylparaben (see | 0.0 - 0.12    | 3.3 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate            | Zofran ® Injection                      | Glaxo Wellcome              | Solution    | single dose vial  |
| monobasic          | 0.096         | 6.7 - 7.3           | IM - intramuscular   | ranitidine hydrochloride                       | Zantac Injection                        | Glaxo Wellcome              | Solution    | single dose vial  |
| monobasic sodium   | 0.045         | 7.0 ± 0.5           | IV - intravenous     | muromonab-CD3 biochemically purified IgG2a     | Orthoclone OKT3                         | Ortho Biotech Inc.          | Solution    | ampule            |
| monobasic sodium   | 0.65-0.69     | 3.5 - 7.0           | IM - intramuscular   | Methylprednisolone acetate                     | Depo-Medrol                             | The Upjohn Company          | Suspension  | single dose vial  |
| monobasic sodium   | 0.34          | 6.8 - 7.2           | ID - intradermal     | betamethasone sodium phosphate & betamethasone | Celestone Soluspan Suspension           | Schering Corporation        | Suspension  | multidose vial    |
| monobasic sodium   | 0.12          | 7.2 - 7.4           | IM - intramuscular   | pegademase bovine                              | Adagen ®                                | Enzon                       | Solution    | single dose vials |
| monobasic sodium   | 0.114 - 0.126 | 7.3                 | IM - intramuscular   | pegaspargase                                   | Oncaspar ®                              | Rhone-Poulenc Rorer         | Solution    | single dose vials |
| monobasic sodium   | 0.05 - 0.5    |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP      | Pregnyl ®                               | Organon                     | Powder      | multidose vials   |
| monobasic sodium   | 0.04 - 0.2    |                     | IM - intramuscular   | human chorionic gonadotropin (HCG) for         | Profasi                                 | Serono Laboratories, Inc.   | Lyophilized | multidose vial    |
| monobasic sodium   | 0.017         | 7.2 - 7.8           | IV - intravenous     | aldesleukin (recombinant human                 | Proleukin ®                             | Chiron Therapeutics         | Lyophilized | single use vial   |
| monobasic sodium   |               | 7.9                 | IV - intravenous     | sodium tetradecyl sulfate injection            | Sotradecol ®                            | Elkins-Sinn Inc.            | Solution    | ampul             |
| monobasic sodium   | 0.132         |                     | IV - intravenous     | sermorelin acetate for injection               | Geret ®                                 | Serono Laboratories, Inc.   | Lyophilized | ampule            |
| monobasic sodium   | 0.46          |                     | IV - intravenous     | urokinase                                      | Abbokinase Open-Cath                    | Abbott Laboratories         | Lyophilized | single dose       |
| monobasic sodium   | 0.04 - 0.1    | 7.0 - 8.0           | IM - intramuscular   | hydrocortisone sodium succinate                | Solu-Cortef Sterile Powder              | The Upjohn Company          | Powder      | Act-O-vial        |
| monobasic sodium   | 0.08 - 0.16   | 7.0 - 8.0           | IM - intramuscular   | methylprednisolone sodium succinate, USP       | Solu-Medrol Sterile Powder              | The Upjohn Company          | Powder      | Act-O-vial        |
| monoethanolamine   | 1.7 - 4.2     |                     | IM - intramuscular   | oxytetracycline                                | Terramycin-ampule                       | Roerig                      | Solution    | ampule            |
| monoethanolamine   | 2.6           |                     | IM - intramuscular   | oxytetracycline                                | Terramycin                              | Roerig                      | Solution    | multidose vial    |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V      | pH where applicable | Administration Route | Drug Name                                       | Brand Name                              | Manufacturer                  | Dosage Form  | Storage Container  |
|---------------------|-----------------|---------------------|----------------------|---|---|-------------------------------|--------------|--------------------|
| monosodium          |                 |                     | IVS - intravesical   | BCG Live (intravesical)                         | TheraCys ®                              | Connaught Laboratories        | Freeze-dried | vial               |
| monosodium          | ~0.1            |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)        | Varivax                                 | Merck & Company               | Lyophilized  | single-dose vial   |
| monosodium          | 0.0046          | 7.0 ± 0.3           | IM - intramuscular   | typhoid Vi polysaccharide vaccine               | Typhim Vi™                              | Connaught Laboratories        | Solution     | syringe            |
| monosodium          | 0.0125<br>0.025 |                     | IM - intramuscular   | menotropins for injection                       | Humegon™                                | Organon Inc.                  | Lyophilized  | vial               |
| monothioglycerol    | 0.20            |                     | IV - intravenous     | methylglupate HCl                               | Aldomet Ester Hydrochloride             | Merck & Company               | Solution     | vials              |
| monothioglycerol    | 0.1 v/v         | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine       | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop               | Solution     | single dose vials  |
| monothioglycerol    | ≤ 0.5           |                     | IM - intramuscular   | promethazine hydrochloride                      | Phenergan Injection                     | Wyeth-Ayerst                  | Solution     | sterile cartridge  |
| mouse serum protein | <0.00005        |                     | SC - subcutaneous    | Japanese encephalitis virus vaccine             | Je-Vax™                                 | Connaught Laboratories, Inc.  | Lyophilized  | vial               |
| myristyl-gamma-pic  | 0.0189 - 0.0195 | 3.5 - 7.0           | IM - intramuscular   | methylprednisolone acetate                      | Depo-Medrol Sterile Aqueous Suspension  | The Upjohn Company            | Aqueous      | single dose vials  |
| myristyl-gamma-pic  | 0.169           |                     | IM - intramuscular   | medroxyprogesterone acetate                     | Depo-provera Sterile Aqueous Suspension | The Upjohn Company            | Suspension   | vials              |
| N,N-dimethylacetami | 6.0             | ~5.0                | IV - intravenous     | teniposide                                      | Vumon Injection Concentrate (VM-26)     | Bristol-Myers Squibb-Oncology | Solution     | ampules            |
| Neomycin            | trace           |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)        | Varivax                                 | Merck & Company               | Lyophilized  | single-dose vial   |
| neomycin            | 0.005           |                     | SC - subcutaneous    | measles virus vaccine live, MSD                 | Attenuvax                               | Merck & Company               | Lyophilized  | single dose vial   |
| neomycin            | 0.005           |                     | SC - subcutaneous    | rubella and mumps virus vaccine live, MSD       | Biavax II                               | Merck & Company               | Lyophilized  | single dose vial   |
| neomycin            | 0.005           |                     | SC - subcutaneous    | Measles, Mumps, and Rubella Virus Vaccine Live, | M-M-R II                                | Merck & Company               | Lyophilized  | single dose vial   |
| neomycin            | 0.005           |                     | SC - subcutaneous    | Measles and Rubella Virus Vaccine Live          | M-R-VAX II                              | Merck & Company               | Lyophilized  | single dose vial   |
| neomycin            | 0.005           |                     | SC - subcutaneous    | Rubella Virus Vaccine Live, MSD                 | Meruvax II                              | Merck & Company               | Lyophilized  | single dose vial   |
| neomycin            | 0.005           |                     | SC - subcutaneous    | Mumps Virus Vaccine Live, MSD                   | Mumpsvax                                | Merck & Company               | Lyophilized  | single dose vial   |
| neomycin            | 0.000001        |                     | SC - subcutaneous    | combination of type 1 (Mahoney), type2 (MEF-1). | Ipol™                                   | Connaught Laboratories        | Suspension   | syringe            |
| neomycin sulfate    | <0.022          |                     | ID - intradermal     | inactivated rabies vaccine prepared from strain | Rabies Vaccine, Imovax Rabies ID        | Connaught Laboratories        | Freeze-dried | disposable         |
| neomycin sulfate    | 0.015           |                     | IM - intramuscular   | rabies virus prepared from strain               | Imovax ® Rabies Vaccine                 | Connaught Laboratories Inc.   | Freeze-dried | single dose vial   |
| niacinamide         | 2.5             | 7.0 - 8.0           | IM - intramuscular   | prednisolone sodium phosphate                   | Hydeltrasol                             | Merck & Company               | Solution     | vial               |
| nitrogen            |                 |                     | IV - intravenous     | cyclosporine concentrate for injection USP      | Sandimmune ®                            | Sandoz Pharmaceuticals        | Solution     | Ampul              |
| octoxynol 9         | ≤0.0001         | 6.8 ± 0.4           | IV-intravenous       | Immune Globulin Intravenous (human) (IGIV)      | Gammagard ® S/D                         | Baxter Healthcare Corporation | Lyophilized  | single use bottles |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V  | pH where applicable | Administration Route | Drug Name  | Brand Name                             | Manufacturer                       | Dosage Form | Storage Container  |
|---------------------|-------------|---------------------|----------------------|--|--|------------------------------------|-------------|--------------------|
| other proteins      | 0.1 - 0.67  |                     | IV - intravenous     | antihemophilic factor (human) (Factor VIII, AHF)   | Humate-P™                              | Amour Pharmaceutical               | Lyophilized | single dose vial   |
| p-aminodiphenyl-p'- | 0.003       |                     | IV - intravenous     | anistreplase                                       | Eminase®                               | Roberts Pharmaceutical             | Lyophilized | vial               |
| parabens (methyl &  | 0.2         | ~4.3                | SC - subcutaneous    | levorphanol tartrate                               | Levo-Dromoran                          | Roche Laboratories                 | Solution    | ampuls             |
| parabens (methyl &  | 0.2         | ~5.0                | IM - intramuscular   | pyridostigmine bromide                             | Mestinon Injectable                    | ICN Pharmaceuticals                | Solution    | ampuls             |
| phenol              | 0.45        | ~5.0                | IM - intramuscular   | trimethobenzamide HCl                              | Tigan®-vials                           | Roberts Pharmaceuticals            | Solution    | multiple dose vial |
| phenol              | 0.45        | ~5.0                | IM - intramuscular   | trimethobenzamide HCl                              | Tigan®-syringe                         | Roberts Pharmaceuticals            | Solution    | disposable         |
| phenol              | 0.28        |                     | IQ - intracutaneous  | tuberculin PPD (Mantoux)                           | Tubersol®                              | Connaught Laboratories             | Solution    | vials              |
| phenol              | 0.25        | 7.0 ± 0.3           | IM - intramuscular   | typhoid Vi polysaccharide vaccine                  | Typhim Vi™                             | Connaught Laboratories             | Solution    | syringe            |
| phenol              | 0.5         |                     | SC - subcutaneous    | typhoid vaccine                                    | Typhoid Vaccine USP                    | Wyeth-Ayerst                       | Suspension  | vials              |
| phenol              | 0.2         |                     | IM - intramuscular   | glucagon hydrochloride                             | Glucagon                               | Eli Lilly & Company                | Lyophilized | single dose vials  |
| phenol              |             | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, beef-pork        | NPH Iletin I                           | Eli Lilly & Company                | Suspension  | vials              |
| phenol              |             | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, purified pork    | NPH Iletin II                          | Eli Lilly & Company                | Suspension  | vials              |
| phenol              | 0.45        | ~4.3                | SC - subcutaneous    | levorphanol tartrate                               | Levo-Dromoran-vials                    | Roche Laboratories                 | Solution    | multidose vial     |
| phenol              | 0.5         |                     | IM - intramuscular   | calcitonin-salmon                                  | Calcimar® Injection; Synthetic         | Rhone-Poulenc Rorer                | Solution    | vials              |
| phenol              | 0.5         |                     | ID - intradermal     | equal parts of Ogawa and Inaba serotypes of killed | Cholera Vaccine USP                    | Wyeth-Ayerst                       | Suspension  | vials              |
| phenol              | 0.5         | 3.8 - 6.0           | IM - intramuscular   | cimetidine hydrochloride                           | Tagamet 150 mg/ml                      | SmithKline Beecham Pharmaceuticals | Solution    | single dose vial   |
| phenol              | 0.125 - 0.5 |                     | IM - intramuscular   | tobramycin sulfate injection                       | Nebcin®                                | Eli Lilly & Company                | Solution    | multidose vials    |
| phenol              |             | neutral             | SC - subcutaneous    | 70% NPH human insulin isophane suspension and      | Novolin® 70/30                         | Novo Nordisk Pharmaceuticals,      | Suspension  | vials              |
| phenol              |             | neutral             | SC - subcutaneous    | NPH human insulin isophane suspension              | Novolin® N, NPH                        | Novo Nordisk Pharmaceuticals,      | Suspension  | vials              |
| phenol              |             | neutral             | SC - subcutaneous    | NPH (N) Purified Pork Isophane Insulin             | NPH (N) Purified Pork Isophane Insulin | Novo Nordisk Pharmaceuticals Inc.  | Suspension  | vials              |
| phenol              | ≤ 0.5       |                     | IM - intramuscular   | promethazine hydrochloride                         | Phenergan Injection (ampuls)           | Wyeth-Ayerst                       | Solution    | ampuls             |
| phenol              | ≤ 0.5       |                     | IM - intramuscular   | promethazine hydrochloride                         | Phenergan Injection                    | Wyeth-Ayerst                       | Solution    | sterile cartridge  |
| phenol              | 0.25        |                     | IM - intramuscular   | pneumococcal vaccine polyvalent                    | Pneumovax 23                           | Merck & Company                    | Liquid      | single dose vials  |
| phenol              | 0.45        | ~5.9                | IM - intramuscular   | neostigmine methylsulfate                          | Prostigmin Injectable                  | ICN Pharmaceuticals                | Solution    | multidose vial     |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V | pH where applicable | Administration Route | Drug Name  | Brand Name                                  | Manufacturer                       | Dosage Form      | Storage Container |
|----------------------|------------|---------------------|----------------------|--|---|------------------------------------|------------------|-------------------|
| phenol               | 0.3 - 0.33 |                     | IM - intramuscular   | interferon alfa-2a, recombinant                          | Roferon ®-A                                 | Roche Laboratories                 | Solution         | vial              |
| phenol               | 0.33       |                     | IM - intramuscular   | interferon alfa-2a, recombinant                          | Roferon ®-A (powder)                        | Roche Laboratories                 | Powder (sterile) | vial              |
| phenol               | ≤0.5       |                     | IM - intramuscular   | meperidine hydrochloride & promethazine                  | Mepergan                                    | Wyeth-Ayerst                       | Solution         | sterile cartridge |
| phenol               | 0.5        | 4.0 - 6.0           | IV - intravenous     | metocurine iodide injection USP                          | Metubine ® Iodide                           | Dista                              | Solution         | multidose vial    |
| phenol               | 0.5        |                     | IM - intramuscular   | calcitonin-salmon  | Miacalcin ®                                 | Sandoz Pharmaceuticals             | Solution         | vial              |
| phenol               | 0.002      |                     | IM - intramuscular   | rabies virus prepared from strain                        | Imovax ® Rabies Vaccine                     | Connaught Laboratories Inc.        | Freeze-dried     | single dose vial  |
| phenol               | 0.25       | 5.0 - 8.0           | IM - intramuscular   | streptomycin sulfate                                     | Streptomycin Sulfate Injection              | Pfizer Roerig                      | Solution         | ampule            |
| phenol               | 0.5        |                     | SC - subcutaneous    | Epinephrine  | Sus-phrine ®                                | Forest Pharmaceuticals Inc.        | Suspension       | ampul             |
| phenol               | 0.5        | 6.7 - 7.3           | IM - intramuscular   | ranitidine hydrochloride                                 | Zantac Injection                            | Glaxo Wellcome                     | Solution         | single dose vial  |
| phenol               |            | neutral             | SC - subcutaneous    | 50% human insulin isophane suspension and                | Humulin 50/50                               | Eli Lilly & Company                | Suspension       | vial              |
| phenol               |            | neutral             | SC - subcutaneous    | 70% human insulin isophane suspension and                | Humulin 70/30                               | Eli Lilly & Company                | Suspension       | vial              |
| phenol               |            | neutral             | SC - subcutaneous    | human insulin suspension with protamine and zinc         | Humulin N (NPH)                             | Eli Lilly & Company                | Suspension       | vial              |
| phenol               | 0.5        | 7.0 - 8.0           | IM - intramuscular   | prednisolone sodium phosphate                            | Hydeltrasol                                 | Merck & Company                    | Solution         | vial              |
| phenol               |            | neutral             | IM - intramuscular   | Regular Purified Pork Insulin Injection USP              | Regular Purified Pork Insulin Injection USP | Nova Nordisk Pharmaceuticals       | Solution         | vial              |
| phenol red           |            |                     | IM - intramuscular   | inactivated CVS Kissling/MDPH rabies virus               | Rabies Vaccine Adsorbed                     | SmithKline Beecham Pharmaceuticals | Suspension       | vial              |
| phenol red indicator | <0.003     |                     | ID - intradermal     | inactivated rabies vaccine prepared from strain          | Rabies Vaccine, Imovax Rabies ID            | Connaught Laboratories             | Freeze-dried     | disposable        |
| phenol (see          | 0.0 - 0.45 | ~ 5.4               | IV - intravenous     | edrophonium chloride                                     | Tensilon                                    | ICN Pharmaceuticals                | Solution         | multidose vials   |
| phenol (see          | 0.0 - 0.5  | 4.2 ± 0.3           | IV - intravenous     | octreotide acetate injection                             | Sandostatin ®                               | Sandoz Pharmaceuticals             | Solution         | ampuls            |
| phenoxyethanol (2)   | 0.5        |                     | IM - intramuscular   | hepatitis A vaccine                                      | Havrix (Hepatitis A Vaccine, Inactivated)   | SmithKline Beecham Biologicals     | Suspension       | single dose vial  |
| phenoxyethanol (2)   | 0.5        |                     | SC - subcutaneous    | poliovirus vaccine inactivated; type 1 (Mahoney), type 2 | Poliovax ®                                  | Connaught Laboratories, Inc.       | Suspension       | ampoules          |
| phenoxyethanol (2)   | 1.0        |                     | SC - subcutaneous    | combination of type 1 (Mahoney), type 2 (MEF-1).         | Ipol™                                       | Connaught Laboratories             | Suspension       | syringe           |
| phosphate            |            | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, purified pork          | NPH Iletin II                               | Eli Lilly & Company                | Suspension       | vials             |
| phosphate            |            | neutral             | SC - subcutaneous    | NPH human insulin isophane suspension                    | Novolin ® N, NPH                            | Novo Nordisk Pharmaceuticals       | Suspension       | vials             |
| phosphate            |            | neutral             | SC - subcutaneous    | NPH (N) Purified Pork Isophane Insulin                   | NPH (N) Purified Pork Isophane Insulin      | Novo Nordisk Pharmaceuticals       | Suspension       | vials             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V | pH where applicable | Administration Route | Drug Name  | Brand Name                                | Manufacturer                   | Dosage Form    | Storage Container |
|---------------------|------------|---------------------|----------------------|--|---|--------------------------------|----------------|-------------------|
| phosphate buffer    |            | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, beef-pork            | NPH Iletin I                              | Eli Lilly & Company            | Suspension     | vials             |
| phosphate buffer    |            | neutral             | SC - subcutaneous    | 70% NPH human insulin isophane suspension and          | Novolin ® 70/30                           | Novo Nordisk Pharmaceuticals   | Suspension     | vials             |
| phosphate buffer    |            | neutral             | SC - subcutaneous    | 50% human insulin isophane suspension and              | Humulin 50/50                             | Eli Lilly & Company            | Suspension     | vial              |
| phosphate buffer    |            | neutral             | SC - subcutaneous    | 70% human insulin isophane suspension and              | Humulin 70/30                             | Eli Lilly & Company            | Suspension     | vial              |
| phosphate buffer    |            | neutral             | SC - subcutaneous    | human insulin suspension with protamine and zinc       | Humulin N (NPH)                           | Eli Lilly & Company            | Suspension     | vial              |
| phosphate buffered  |            |                     | IM-intramuscular     | Diphtheria and Tetanus Toxoids and Acellular           | Acel-Imune                                | Lederle Laboratories           | Suspension(aft | multidose vial    |
| phosphate buffered  |            |                     | IQ - intracutaneous  | tuberculin PPD (Mantoux)                               | Tubersol ®                                | Connaught Laboratories         | Solution       | vials             |
| phosphate buffered  |            |                     | SC - subcutaneous    | combination of type 1 (Mahoney), type2 (MEF-1),        | Ipol™                                     | Connaught Laboratories         | Suspension     | syringe           |
| phosphate buffered  |            |                     | SC - subcutaneous    | Japanese encephalitis virus vaccine                    | Je-Vax™                                   | Connaught Laboratories, Inc.   | Lyophilized    | vial              |
| phosphate buffered  | 0.01M      |                     | IM - intramuscular   | influenza virus vaccine, types A & B (surface antigen) | Fluvirin™                                 | Evans Medical                  | Solution       | vial              |
| phosphate-buffered  |            |                     | IM - intramuscular   | hepatitis A vaccine                                    | Havrix (Hepatitis A Vaccine, Inactivated) | SmithKline Beecham Biologicals | Suspension     | single dose vial  |
| phosphoric acid     | 1.0        | 7.3                 | IV-intravenous       | Alteplase  | Activase ®                                | Genentech, Inc.                | Lyophilized    | vials             |
| phosphoric acid     |            | ~7.5                | IM - intramuscular   | somatropin rDNA origin for injection                   | Humatrope ®                               | Eli Lilly & Company            | Lyophilized    | vials             |
| phosphoric acid     |            | 6.3 ± 0.6           | IV - intravenous     | cladribine   | Leustatin Injection                       | Ortho Biotech, Inc.            | Solution       | single use vials  |
| phosphoric acid     |            | 6.0 - 7.4           | IV - intravenous     | pamidronate disodium                                   | Aredia                                    | CibaGeneva Corporation         | Lyophilized    | vials             |
| phosphoric acid     |            |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP              | Pregnyl ®                                 | Organon                        | Powder         | multidose vials   |
| phosphoric acid     |            | ~7.8                | IM - intramuscular   | somatrem for injection                                 | Protropin ®                               | Genentech, Inc.                | Lyophilized    | vial              |
| phosphoric acid     |            |                     | IM - intramuscular   | menotropins for injection                              | Humegon™                                  | Organon Inc.                   | Lyophilized    | vial              |
| phosphoric acid     |            |                     |                      |  | Norcuron (R)                              |                                |                |                   |
| polyethylene glycol | ≤ 0.0005   | 6.6 - 7.4           | IV - intravenous     | alpha-proteinase inhibitor (human)                     | Prolastin ®                               | Bayer Corporation-Biologi      | Lyophilized    | single dose vials |
| polyethylene glycol | 65.0       | 3.0 - 4.0           | IV-intravenous       | Etoposide  | VePesid                                   | Bristol-Myers Squibb-Oncology  | Solution       | multiple dose     |
| polyethylene glycol | 50.0 (v/v) |                     | IV - intravenous     | methocarbamol  | Robaxin Injectable                        | A. H. Robins Company           | Solution       | single dose vial  |
| polyethylene glycol | ≤0.15      |                     | IV-intravenous       | Antihemophilic Factor (recombinant)                    | Bioclote™                                 | Amour Pharmaceutical           | Lyophilized    | single-dose       |
| polyethylene glycol | 2.82-2.95  | 3.5 - 7.0           | IM - intramuscular   | Methylprednisolone acetate                             | Depo-Medrol                               | The Upjohn Company             | Suspension     | single dose vial  |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V       | pH where applicable | Administration Route | Drug Name                                       | Brand Name                                | Manufacturer                   | Dosage Form    | Storage Container  |
|---------------------|------------------|---------------------|----------------------|---|---|--------------------------------|----------------|--------------------|
| polyethylene glycol | 2.89             |                     | IM - intramuscular   | medroxyprogesterone acetate                     | Depo-Provera Contraceptive injection      | The Upjohn Company             | Aqueous        | vials              |
| polyethylene glycol | 3.0              | ~6.0                | IM - intramuscular   | triamcinolone diacetate                         | Aristocort Forte (P)                      | Fujisawa                       | Micronized     | vial               |
| polyethylene glycol | 3.0              | ~6.0                | IL - intralesional   | triamcinolone diacetate                         | Aristocort                                | Fujisawa USA, Inc.             | Micronized     | vial               |
| polyethylene glycol | 2.8 - 2.9        | 3.5 - 7.0           | IM - intramuscular   | methylprednisolone acetate                      | Depo-Medrol Sterile Aqueous Suspension    | The Upjohn Company             | Aqueous        | single dose vials  |
| polyethylene glycol | 2.03             |                     | IM - intramuscular   | medroxyprogesterone acetate                     | Depo-provera Sterile Aqueous Suspension   | The Upjohn Company             | Suspension     | vials              |
| polyethylene glycol | 18.0 (v/v)       |                     | IM - intramuscular   | lorazepam                                       | Ativan                                    | Wyeth-Ayerst                   | Solution       | sterile cartridge  |
| polyethylene glycol | ≤0.2             | 6.8 ± 0.4           | IV-intravenous       | Immune Globulin Intravenous (human) (IGIV)      | Gammagard ® S/D                           | Baxter Healthcare Corporation  | Lyophilized    | single use bottles |
| polyethylene glycol | ≤0.15            |                     | IV - intravenous     | antihemophilic factor (Human)                   | Koate ®-HP                                | Bayer Corporation-Biologi      | Lyophilized    | single dose bottle |
| polyethylene        |                  |                     | IV - intravenous     | torsemide                                       | Demadex                                   | Burroughs Wellcome Co.         | Solution       | ampuls             |
| polylactic acid     | 13.2             |                     | IM - intramuscular   | leuprolide acetate                              | Lupron Depot-3 month, 22.5                | TAP Pharmaceuticals            | Lyophilized    | vial               |
| polymyxin           | 0.000005         |                     | SC - subcutaneous    | combination of type 1 (Mahoney), type2 (MEF-1), | Ipol™                                     | Connaught Laboratories         | Suspension     | syringe            |
| polyoxyethylated    | 7.0              | 5.0 - 7.0           | IM - intramuscular   | phytonadione (vitamin K1)                       | AquaMephyton                              | Merck & Company                | Aqueous        | ampuls             |
| polyoxyl 60         | 20.0             |                     | IV - intravenous     | tacrolimus injection                            | Prograf                                   | Fujisawa USA, Inc.             | Solution       | ampules            |
| polysorbate 20      | 0.005            |                     | IM - intramuscular   | hepatitis A vaccine                             | Havrix (Hepatitis A Vaccine, Inactivated) | SmithKline Beecham Biologicals | Suspension     | single dose vial   |
| polysorbate 80      | ≤0.00375 - ≤0.05 |                     | IV-intravenous       | Anti-hemophilic Factor (recombinant)            | Bioclote™                                 | Armour Pharmaceutical          | Lyophilized    | single-dose        |
| polysorbate 80      | 12.0             |                     | IM-intramuscular     | Vitamin A Palmitate as retinol                  | Aquasol A Parenteral                      | Astra USA, Inc.                | Solution       | single-dose vial   |
| polysorbate 80      | ≤0.01            | 6.8 ± 0.4           | IV-intravenous       | Immune Globulin Intravenous (human) (IGIV)      | Gammagard ® S/D                           | Baxter Healthcare Corporation  | Lyophilized    | single use bottles |
| polysorbate 80      | 0.075            | 5.0 - 7.5           | IM-intramuscular     | Dexamethasone Acetate Suspension                | Dalalone D.P. ®                           | Forest Pharmaceuticals         | Suspension     | vials              |
| polysorbate 80      | 0.008-0.01       | 7.3                 | IV-intravenous       | Alteplase                                       | Activase ®                                | Genentech, Inc.                | Lyophilized    | vials              |
| polysorbate 80      |                  |                     | IM-intramuscular     | Diphtheria and Tetanus Toxoids and Acellular    | Acel-Imune                                | Lederle Laboratories           | Suspension(af) | multidose vial     |
| polysorbate 80      | 0.4              | 5.0 - 7.0           | IM-intramuscular     | Cortisone Acetate                               | Cortone Acetate                           | Merck & Company                | Suspension     | vials              |
| polysorbate 80      | 0.075            | 5.0 - 7.5           | IM-intramuscular     | dexamethasone acetate                           | Decadron-LA                               | Merck & Company                | Suspension     | vials              |
| polysorbate 80      | 0.1              | 6.0 - 8.0           | IAR - intraarticular | Prednisolone Tebutate                           | Hydeltra T. B. A.                         | Merck & Company                | Suspension     | vials              |
| polysorbate 80      | 0.4              | 5.0 - 7.0           | IAR - intraarticular | Hydrocortisone acetate                          | Hydrocortone Acetate                      | Merck & Company                | Suspension     | vials              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient      | Conc. %W/V  | pH where applicable | Administration Route | Drug Name  | Brand Name                               | Manufacturer                       | Dosage Form    | Storage Container  |
|----------------|-------------|---------------------|----------------------|--|--|------------------------------------|----------------|--------------------|
| polysorbate 80 | ≤0.006      |                     | IV - intravenous     | antihemophilic factor (recombinant)                      | Kogenate ®                               | Bayer Corporation-Biologi          | Lyophilized    | single dose vial   |
| polysorbate 80 | ≤0.0025     |                     | IV - intravenous     | antihemophilic factor (Human)                            | Koate ®-HP                               | Bayer Corporation-Biologi          | Lyophilized    | single dose bottle |
| polysorbate 80 | 0.02        | 7.0 ± 0.5           | IV - intravenous     | muromonab-CD3 biochemically purified IgG2a               | Orthoclone OKT3                          | Ortho Biotech Inc.                 | Solution       | ampule             |
| polysorbate 80 | 0.01        |                     | IM - intramuscular   | IgG anti-Rho(D)  | MICRhoGAM Rho(D) Immune Globulin (human) | Ortho Diagnostic Systems Inc.      | Solution       | pre-filled single  |
| polysorbate 80 | 0.01        |                     | IM - intramuscular   | IgG anti-Rho(D)  | RhoGAM Rho(D) Immune Globulin (human)    | Ortho Diagnostic Systems Inc.      | Solution       | prefilled single   |
| polysorbate 80 | 0.1         |                     | IM - intramuscular   | leuprolide acetate                                       | Lupron Depot 3.75                        | TAP Pharmaceuticals                | Lyophilized    | single dose vial   |
| polysorbate 80 | 1.0         |                     | IM - intramuscular   | leuprolide acetate                                       | Lupron Depot-Ped                         | TAP Pharmaceuticals                | Lyophilized    | single dose vial   |
| polysorbate 80 | 0.188-0.197 | 3.5 - 7.0           | IM - intramuscular   | Methylprednisolone acetate                               | Depo-Medrol                              | The Upjohn Company                 | Suspension     | single dose vial   |
| polysorbate 80 | 0.241       |                     | IM - intramuscular   | medroxyprogesterone acetate                              | Depo-Provera Contraceptive injection     | The Upjohn Company                 | Aqueous        | vials              |
| polysorbate 80 | ≤0.006      |                     | IV - intravenous     | antihemophilic factor (recombinant)                      | Helixate™                                | Armour Pharmaceutical              | Lyophilized    | single dose        |
| polysorbate 80 | 0.20        | ~6.0                | IM - intramuscular   | triamcinolone diacetate                                  | Aristocort Forte (P)                     | Fujisawa                           | Micronized     | vial               |
| polysorbate 80 | 0.40        | 4.5 - 6.5           | IAR - intraarticular | triamcinolone hexacetonide                               | Aristospan Suspension 20 mg/ml           | Fujisawa                           | Micronized     | vials              |
| polysorbate 80 | 0.20        | ~6.0                | IL - intralesional   | triamcinolone diacetate                                  | Aristocort                               | Fujisawa USA, Inc.                 | Micronized     | vial               |
| polysorbate 80 | 0.20        | 4.5 - 6.5           | IL - intralesional   | triamcinolone hexacetonide suspension                    | Aristospan Suspension 5 mg/ml            | Fujisawa USA, Inc.                 | Suspension     | vial               |
| polysorbate 80 | 0.001       | 7.2                 | IV - intravenous     | Fab fragment of the chimeric human-murine                | Abciximab, ReoPro™                       | Centocor B. V./Eli Lilly & Company | Solution       | single use vial    |
| polysorbate 80 | 10.0        |                     | IV - intravenous     | amiodarone Hcl   | Cordarone Intravenous (Cordarone IV)     | Wyeth-Ayerst                       | Solution       | ampuls             |
| polysorbate 80 | 0.01        |                     | SC - subcutaneous    | interferon gamma 1b                                      | Actimmune ®                              | Genentech, Inc.                    | Solution       | single dose vial   |
| polysorbate 80 |             | ~ 7.4               | IM-intramuscular     | Diphtheria & Tetanus Toxoids and Acellular               | Tripedia™                                | Connaught Laboratories, Inc.       | Solution/Suspe | vial               |
| polysorbate 80 | 0.1         |                     | IM - intramuscular   | leuprolide acetate                                       | Lupron Depot-3 month, 22.5               | TAP Pharmaceuticals                | Lyophilized    | vial               |
| Polysorbate 80 | 0.0005      |                     | IQ - intracutaneous  | tuberculin PPD (Mantoux)                                 | Tubersol ®                               | Connaught Laboratories             | Solution       | vials              |
| polysorbate 80 | 0.025       |                     | IVS - intravesical   | BCG Live (intravesical)                                  | TheraCys ®                               | Connaught Laboratories             | Freeze-dried   | vial               |
| polysorbate 80 | 4.0         | ~3.0                | IM - intramuscular   | chlordiazepoxide hydrochloride                           | Librium injectable (IM)                  | Roche Products, Inc.               | Crystalline    | amber ampuls       |
| polysorbate 80 | 0.004       | 4.0                 | IV - intravenous     | filgrastim (recombinant methionyl human                  | Neupogen ®                               | Amgen, Inc.                        | Solution       | single dose vial   |
| polysorbate 80 | 0.002       |                     | SC - subcutaneous    | poliovirus vaccine inactivated; type 1 (Mahoney), type 2 | Poliovax ®                               | Connaught Laboratories, Inc.       | Suspension     | ampoules           |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V  | pH where applicable | Administration Route | Drug Name   | Brand Name                                     | Manufacturer                  | Dosage Form    | Storage Container |
|---------------------|-------------|---------------------|----------------------|---|--|-------------------------------|----------------|-------------------|
| polysorbate 80      | 0.04        | 4.5 - 6.0           | IM - intramuscular   | sterile cefazolin sodium USP                          | Kefzol "                                       | Eli Lilly & Company           | Powder         | vials             |
| polysorbate 80      | 1.0         |                     | IM - intramuscular   | leuprolide acetate                                    | Lupron Depot 7.5                               | TAP Pharmaceuticals,          | Lyophilized    | single dose vials |
| polysorbate 80      | 8.0         | 3.0 - 4.0           | IV-intravenous       | Etoposide   | VePesid  | Bristol-Myers Squibb-Oncology | Solution       | multiple dose     |
| polysorbate 80 NF   | 5.0         | 5.5                 | IM-intramuscular     | Loxapine Hydrochloride                                | Loxitane ®                                     | Lederle Parenterals Inc.      | Solution       | multidose vial    |
| polysorbate 80 NF   | 0.01        | ~6.1                | IV - intravenous     | imiglucerase  | Cerezyme™                                      | Genzyme Corporation           | Lyophilized    | vial              |
| poppyseed           | 1.0         |                     | IPL - intrapleurally | ethiodized oil  | Ethiodol                                       | Savage Laboratories           | Fluid          | ampules           |
| potassium           | ≤ 0.0039    |                     | IV - intravenous     | albumin (human), 25%                                  | Albuminar ®-25                                 | Amour Pharmaceutical          | Solution       | vials             |
| potassium           | ≤0.0039     | 6.9 ± 0.5           | IV - intravenous     | albumin (human) 5%                                    | Albuminar ®-5                                  | Amour Pharmaceutical          | Solution       | bottles           |
| potassium chloride  | ~0.16       |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)              | Varivax  | Merck & Company               | Lyophilized    | single-dose vial  |
| potassium chloride  | 0.03        | 4.5 - 6.8           | various              | mepivacaine hydrochloride                             | Carbocaine Hydrochloride-single                | Sanofi Winthrop               | Solution       | single dose vials |
| potassium chloride  | 0.075       | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                                    | Amo ® Vitrax ®                                 | Allergan Inc.                 | Solution       | disposable glass  |
| potassium chloride  | 0.075       | 7.2 ± 0.4           | ITO - intraocular    | purified hydroxypropylmet hylcellulose                | Ocucoat  | Storz Ophthalmics             | Solution       | syringes          |
| potassium (K+)      | ≤ 0.0078    |                     | IV - intravenous     | selected plasma proteins                              | Plasma Protein Fraction (human) 5%-Plasma Plex | Amour Pharmaceutical          | Solution       | bottles           |
| potassium           | 0.1         |                     | IM - intramuscular   | methoxamine hydrochloride                             | Vasoxyl  | Glaxo Wellcome                | Solution       | ampuls            |
| potassium phosphate |             |                     | IVS - intravesical   | an attenuated live culture preparation of BCG vaccine | TICE® BCG                                      | Organon                       | Freeze-dried   | ampules           |
| potassium phosphate |             |                     | IM - intramuscular   | diphtheria & tetanus toxoids & Pertussis Vaccine      | Tri-Immunol                                    | Lederle Laboratories          | Suspension(aft | multidose vials   |
| potassium phosphate | ~0.16       |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)              | Varivax  | Merck & Company               | Lyophilized    | single-dose vial  |
| potassium phosphate |             |                     | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Pertussis            | Tetramune, (DTP-HbOC)                          | Lederle Laboratories          | Suspension(aft | vial              |
| povidone            | 0.55        |                     | IM - intramuscular   | penicillin G benzathine and penicillin G              | Bicillin C-R 900/300                           | Wyeth-Ayerst                  | Suspension     | sterile cartridge |
| povidone            | 0.6         |                     | IM - intramuscular   | penicillin G benzathine suspension                    | Bicillin L-A                                   | Wyeth-Ayerst                  | Suspension     | disposable        |
| povidone            | 0.2         |                     | IV - intravenous     | melphalan hydrochloride                               | Alkeran for Injection                          | Glaxo Wellcome                | Freeze-dried   | single use vial   |
| povidone            | 0.55        |                     | IM - intramuscular   | penicillin G benzathine and penicillin G              | Bicillin C-R                                   | Wyeth-Ayerst                  | Suspension     | disposable        |
| propyl gallate      | 0.02        |                     | IM - intramuscular   | oxytetracycline                                       | Terramycin                                     | Roerig                        | Solution       | multidose vial    |
| propylene glycol    | 70.0 (v/v%) | 5.5                 | IM-intramuscular     | Loxapine Hydrochloride                                | Loxitane ®                                     | Lederle Parenterals Inc.      | Solution       | multidose vial    |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient        | Conc. %W/V  | pH where applicable | Administration Route | Drug Name                              | Brand Name                                  | Manufacturer            | Dosage Form  | Storage Container |
|------------------|-------------|---------------------|----------------------|--|---|-------------------------|--------------|-------------------|
| propylene glycol | 40.0        | -10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole      | Septra I.V. Infusion                        | Glaxo Wellcome          | Solution     | multidose vials   |
| propylene glycol |             |                     | IM - intramuscular   | lorazepam                              | Ativan                                      | Wyeth-Ayerst            | Solution     | sterile cartridge |
| propylene glycol | 40.0        | 6.8 - 7.2           | IM - intramuscular   | digoxin                                | Lanoxin                                     | Glaxo-Wellcome          | Solution     | ampul             |
| propylene glycol | 20.0        | -3.0                | IM - intramuscular   | chlordiazepoxide hydrochloride         | Librium injectable (IM)                     | Roche Products, Inc.    | Crystalline  | amber ampuls      |
| propylene glycol | 40.0 (v/v)  | -9.5                | IM - intramuscular   | pentobarbital sodium injection         | Nembutal Sodium Solution                    | Abbott Laboratories     | Solution     | ampul             |
| propylene glycol | 33.0 (v/v)  | 4.0                 | IM - intramuscular   | dezocine                               | Dalgan                                      | Astra USA, Inc.         | Solution     | single dose vials |
| propylene glycol | 40.0        | 6.8 - 7.2           | IM - intramuscular   | digoxin                                | Lanoxin (Digoxin) Injection                 | Glaxo Wellcome          | Solution     | ampuls            |
| propylene glycol | 40.0        | 12.0                | IV - intravenous     | phenytoin sodium injection, USP        | Dilantin                                    | Parke-Davis             | Solution     | steri-vials       |
| propylene glycol | 40.0        |                     | IM - intramuscular   | diazepam                               | Valium Injectable                           | Roche Products          | Solution     | ampuls            |
| propylene glycol | 67.0 - 75.2 |                     | IM - intramuscular   | oxytetracycline                        | Terramycin-ampule                           | Roerig                  | Solution     | ampule            |
| propylene glycol | 74.1        |                     | IM - intramuscular   | oxytetracycline                        | Terramycin                                  | Roerig                  | Solution     | multidose vial    |
| propylene glycol | 4.5         |                     | IV - intravenous     | nitroglycerin injection, USP           | Nitro-Bid ®                                 | Marion Merrell Dow Inc. | Solution     | vials             |
| propylene glycol | 40.0        | -10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole      | Septra IV Infusion                          | Glaxo Wellcome          | Solution     | vial              |
| propylene glycol | 40.0        | -10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole      | Septra IV Infusion ADD                      | Glaxo Wellcome          | Solution     | vial              |
| propylene glycol | 60.0 (v/v)  |                     | IV - intravenous     | mephalthan hydrochloride               | Alkeran for Injection                       | Glaxo Wellcome          | Freeze-dried | single use vial   |
| propylparaben    | 0.02        | 7.5 - 8.0           | IV - intravenous     | Dexamethasone sodium phosphate, USP    | Decadron Phosphate Injection                | Merck & Company         | Solution     | vials             |
| propylparaben    | 0.02        | 6.5 - 6.9           | LI - local injection | dexamethasone sodium phosphate-lidocai | Decadron Phosphate with Xylocaine Injection | Merck & Company         | Solution     | vials             |
| propylparaben    | 0.015       |                     | IM - intramuscular   | medroxyprogesterone acetate            | Depo-Provera Contraceptive injection        | The Upjohn Company      | Aqueous      | vials             |
| propylparaben    | 0.02        | 3.0 - 6.5           | IM - intramuscular   | tobramycin sulfate                     | Tobramycin Sulfate Injection, USP           | Elkins-Sinn             | Solution     | multidose vials   |
| propylparaben    | 0.01        | 3.0 - 4.0           | IV - intravenous     | labetalol hydrochloride                | Trandate Injection ®                        | Glaxo Wellcome          | Solution     | vials             |
| propylparaben    | 0.02        | 3.5 ± 0.5           | IV - intravenous     | Naloxone hydrochloride injection       | Narcan (vials)                              | DuPont Pharma           | Solution     | multidose vials   |
| propylparaben    | 0.01        | 3.0 - 4.0           | IV - intravenous     | labetalol HCl                          | Normodyne                                   | Schering Corporation    | Solution     | multidose vial    |
| propylparaben    | 0.02        | 3.0 - 3.6           | IM - intramuscular   | haloperidol lactate                    | Haldol                                      | McNeil Pharmaceutical   | Solution     | ampuls            |
| propylparaben    | 0.02        |                     | IM - intramuscular   | hydromorphone hydrochloride            | Dilaudid-vials                              | Knoll Laboratories      | Solution     | multidose vials   |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient          | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                                       | Brand Name                             | Manufacturer                   | Dosage Form | Storage Container |
|--------------------|---------------|---------------------|----------------------|---|--|--------------------------------|-------------|-------------------|
| propylparaben      | 0.02          |                     | IM - intramuscular   | amitriptyline HCl                               | Elavil                                 | Zeneca Pharmaceuticals         | Solution    | vials             |
| propylparaben      | 0.01          |                     | IM - intramuscular   | penicillin G benzathine and penicillin G        | Bicillin C-R 900/300                   | Wyeth-Ayerst                   | Suspension  | sterile cartridge |
| propylparaben      | 0.01          |                     | IM - intramuscular   | penicillin G benzathine suspension              | Bicillin L-A                           | Wyeth-Ayerst                   | Suspension  | disposable        |
| propylparaben      | 0.02          |                     | IV - intravenous     | methyl dopate HCl                               | Aldomet Ester Hydrochloride            | Merck & Company                | Solution    | vials             |
| propylparaben      | 0.02          |                     | IM - intramuscular   | metaraminol bitartrate                          | Aramine                                | Merck & Company                | Solution    | vials             |
| propylparaben      | 0.01          | 4.8 - 5.2           | IM - intramuscular   | fluphenazine hydrochloride injection            | Prolixin Injection                     | Apothecon/Bristol-Myers Squibb | Solution    | multidose vials   |
| propylparaben      | 0.02          | 3.5 - 5.5           | IV - intravenous     | vincristine sulfate, USP                        | Oncovin ®                              | Eli Lilly & Company            | Solution    | vials             |
| propylparaben      | 0.02          | ~4.0                | IV - intravenous     | flumazenil                                      | Romazicon™                             | Roche Laboratories             | Solution    | vials             |
| propylparaben      | 0.02          |                     | IM - intramuscular   | nalbuphine hydrochloride                        | Nubain                                 | DuPont Pharma                  | Solution    | ampuls            |
| propylparaben      | 0.02          |                     | SC - subcutaneous    | oxymorphone hydrochloride                       | NuMorphan                              | DuPont Pharma                  | Solution    | multidose vials   |
| propylparaben      | 0.012         |                     | IM - intramuscular   | interferon alfa-2b, recombinant                 | Intron A (solution)                    | Schering Corporation           | Solution    | vials             |
| propylparaben      | 0.1           |                     | IM - intramuscular   | aurothioglucose                                 | Solganal                               | Schering Corporation           | Suspension  | multidose vial    |
| propylparaben      | 0.02          |                     | IM - intramuscular   | gentamicin sulfate USP                          | Garamycin Injectable                   | Schering Corporation           | Solution    | vial              |
| propylparaben      | 0.02          | 7.5 - 8.5           | IM - intramuscular   | hydrocortisone sodium phosphate                 | Hydrocortone Phosphate                 | Merck & Company                | Solution    | multidose vial    |
| propylparaben      | 0.01          |                     | IM - intramuscular   | penicillin G benzathine and penicillin G        | Bicillin C-R                           | Wyeth-Ayerst                   | Suspension  | disposable        |
| propylparaben (see | 0.002         | 3.4 ± 0.4           | IM - intramuscular   | droperidol                                      | Inapsine                               | Janssen Pharmaceutical Inc.    | Solution    | ampoules          |
| propylparaben (see | 0.0 - 0.015   | 3.3 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate             | Zofran ® Injection                     | Glaxo Wellcome                 | Solution    | single dose vial  |
| protamine          | 0.025         | neutral             | SC - subcutaneous    | 70% NPH human insulin isophane suspension and   | Novolin ® 70/30                        | Novo Nordisk Pharmaceuticals   | Suspension  | vials             |
| protamine          | 0.035         | neutral             | SC - subcutaneous    | NPH human insulin isophane suspension           | Novolin ® N, NPH                       | Novo Nordisk Pharmaceuticals   | Suspension  | vials             |
| protamine          | 0.035         | neutral             | SC - subcutaneous    | NPH (N) Purified Pork Isophane Insulin          | NPH (N) Purified Pork Isophane Insulin | Novo Nordisk Pharmaceuticals   | Suspension  | vials             |
| protamine sulfate  | 0.032 - 0.044 | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, beef-pork     | NPH Iletin I                           | Eli Lilly & Company            | Suspension  | vials             |
| protamine sulfate  | 0.032 - 0.044 | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, purified pork | NPH Iletin II                          | Eli Lilly & Company            | Suspension  | vials             |
| protamine sulfate  | 0.016 - 0.018 | neutral             | SC - subcutaneous    | 50% human insulin isophane suspension and       | Humulin 50/50                          | Eli Lilly & Company            | Suspension  | vial              |
| protamine sulfate  | 0.022 - 0.026 | neutral             | SC - subcutaneous    | 70% human insulin isophane suspension and       | Humulin 70/30                          | Eli Lilly & Company            | Suspension  | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V    | pH where applicable | Administration Route | Drug Name  | Brand Name                               | Manufacturer                    | Dosage Form    | Storage Container |
|---------------------|---------------|---------------------|----------------------|--|--|---------------------------------|----------------|-------------------|
| protamine sulfate   | 0.032 - 0.044 | neutral             | SC - subcutaneous    | human insulin suspension with protamine and zinc | Humulin N (NPH)                          | Eli Lilly & Company             | Suspension     | vial              |
| purified gelatin    | 0.065         |                     | IM - intramuscular   | leuprolide acetate                               | Lupron Depot 3.75                        | TAP Pharmaceuticals             | Lyophilized    | single dose vial  |
| purified gelatin    | .13           |                     | IM - intramuscular   | leuprolide acetate                               | Lupron Depot 7.5                         | TAP Pharmaceuticals             | Lyophilized    | single dose vials |
| purified gelatin    | 0.13-0.26     |                     | IM - intramuscular   | leuprolide acetate                               | Lupron Depot-Ped                         | TAP Pharmaceuticals             | Lyophilized    | single dose vial  |
| residual components |               |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)         | Varivax                                  | Merck & Company                 | Lyophilized    | single-dose vial  |
| saline              | 0.9           | 6.9 ± 0.5           | IV - intravenous     | albumin (human) 5%                               | Albuminar ®-5                            | Armour Pharmaceutical           | Solution       | bottles           |
| sesame oil          |               |                     | IM - intramuscular   | haloperidol decanoate                            | Haldol Decanoate 50 and 100              | McNeil Pharmaceutical           | Solution (in   | ampuls            |
| sesame oil          | q.s.          |                     | IM - intramuscular   | testosterone enanthate 200mg/mL                  | Delatestryl                              | BioTechnology General Corp.-BTG | Solution       | single dose       |
| sesame oil          |               |                     | IM - intramuscular   | fluphenazine decanoate injection                 | Prolixin Decanoate                       | Apothecon/Bristol-Myers Squibb  | Solution       | single dose       |
| sesame oil          |               |                     | IM - intramuscular   | aurothioglucose                                  | Solganal                                 | Schering Corporation            | Suspension     | multidose vial    |
| sesame oil vehicle  |               |                     | IM - intramuscular   | fluphenazine Enanthate Injection                 | Prolixin Enanthate                       | Apothecon/Bristol-Myers Squibb  | Solution       | vials             |
| simethicone         | 0.004         |                     | IM - intramuscular   | conjugated estrogens, USP                        | Premarin Intravenous                     | Wyeth-Ayerst                    | Lyophilized    | Secule (R) vial   |
| sodium              | ≤0.414        |                     | IV - intravenous     | Antihemophilic Factor (recombinant)              | Bioclata™                                | Armour Pharmaceutical           | Lyophilized    | single-dose       |
| sodium              | 0.230-0.298   |                     | IV - intravenous     | antihemophilic factor (recombinant)              | Kogenate ®                               | Bayer Corporation-Biologi       | Lyophilized    | single dose vial  |
| sodium              | 0.230-0.29    |                     | IV - intravenous     | antihemophilic factor (recombinant)              | Helixate™                                | Armour Pharmaceutical           | Lyophilized    | single dose       |
| sodium              | 0.230 - 0.299 |                     | IV - intravenous     | albumin (human), 25%                             | Albuminar ®-25                           | Armour Pharmaceutical           | Solution       | vials             |
| sodium              | 0.230 - 0.299 | 6.9 ± 0.5           | IV - intravenous     | albumin (human) 5%                               | Albuminar ®-5                            | Armour Pharmaceutical           | Solution       | bottles           |
| sodium              | 0.329         |                     | IV - intravenous     | alglucerase injection                            | Ceredase ®                               | Genzyme Corporation             | Solution       | glass bottle      |
| sodium              | 0.230 - 0.483 | 6.6 - 7.4           | IV - intravenous     | alpha 1-proteinase inhibitor (human)             | Prolastin ®                              | Bayer Corporation-Biologi       | Lyophilized    | single dose vials |
| sodium              | 0.0035        | 4.0                 | IV - intravenous     | filgrastim (recombinant methionyl human          | Neupogen ®                               | Amgen, Inc.                     | Solution       | single dose vial  |
| sodium              | 0.690 - 1.04  |                     | IV - intravenous     | monoclonal antibody purified human               | Monoclata-P ® Factor VIII: C Pasteurized | Armour Pharmaceutical           | Lyophilized    | single dose vial  |
| sodium              | 0.046 - 0.069 |                     | IV - intravenous     | cytomegalovirus immune globulin intravenous      | CytoGam ®                                | MedImmune, Inc.                 | Sterile Liquid | single dose vial  |
| sodium              | 0.253 - 0.483 | 6.0 - 7.5           | IV - intravenous     | antithrombin III (human)                         | Thrombate III ®                          | Bayer Corporation-Biologi       | Lyophilized    | single dose vials |
| sodium acetate      |               | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, purified pork      | Lente Iletin II                          | Eli Lilly & Company             | Suspension     | vials             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient             | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                   | Brand Name                                     | Manufacturer           | Dosage Form | Storage Container  |
|-----------------------|------------|---------------------|----------------------|---|--|------------------------|-------------|--------------------|
| sodium acetate        |            |                     | IM - intramuscular   | calcitonin-salmon                           | Calcimar ® Injection; Synthetic                | Rhone-Poulenc Rorer    | Solution    | vials              |
| sodium acetate        | 0.39       | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                          | Amo ®Vitrax ®                                  | Allergan Inc.          | Solution    | disposable glass   |
| sodium acetate        | 0.013      | ~5.2                | IV - intravenous     | trimethaphan camsylate                      | Arfonad Injection                              | Roche Laboratories     | Solution    | ampul              |
| sodium acetate        |            | 3.5 - 5.5           | IV - intravenous     | vincristine sulfate, USP                    | Oncovin ®                                      | Eli Lilly & Company    | Solution    | vials              |
| sodium acetate        | 0.005      | 3.0 - 4.5           | IV - intravenous     | mitoxantrone hydrochloride                  | Novantrone                                     | Immunex Corporation    | Solution    | multidose vials    |
| sodium acetate        | 0.39       | 7.2 ± 0.4           | ITO - intraocular    | purified hydroxypropylmet hylcellulose      | Ocucoat  | Storz Ophthalmics      | Solution    | syringes           |
| sodium acetate        |            |                     | IM - intramuscular   | promethazine hydrochloride                  | Phenergan Injection (ampuls)                   | Wyeth-Ayerst           | Solution    | ampuls             |
| sodium acetate        |            |                     | IM - intramuscular   | promethazine hydrochloride                  | Phenergan Injection                            | Wyeth-Ayerst           | Solution    | sterile cartridge  |
| sodium acetate        | 0.02       | ~5.9                | IM - intramuscular   | neostigmine methylsulfate                   | Prostigmin Injectable                          | ICN Pharmaceuticals    | Solution    | multidose vial     |
| sodium acetate        | 0.2        | 4.0                 | IV - intravenous     | rocuronium bromide                          | Zemuron™ Injection                             | Organon                | Solution    | multidose vial     |
| sodium acetate        |            | neutral             | SC - subcutaneous    | crystalline suspension of human insulin and | Humulin U (Ultralente)                         | Eli Lilly & Company    | Suspension  | vial               |
| sodium acetate buffer |            | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, beef-pork     | Lente Iletin I                                 | Eli Lilly & Company    | Suspension  | vials              |
| sodium acetate buffer |            |                     | IM - intramuscular   | meperidine hydrochloride & promethazine     | Mepergan                                       | Wyeth-Ayerst           | Solution    | sterile cartridge  |
| sodium acetate buffer |            | neutral             | SC - subcutaneous    | human insulin and zinc suspension           | Humulin L (Lente)                              | Eli Lilly & Company    | Suspension  | vial               |
| sodium acetate        | 0.2        |                     | IM - intramuscular   | calcitonin-salmon                           | Miacalcin ®                                    | Sandoz Pharmaceuticals | Solution    | vial               |
| sodium acetate        | 0.2        | 4.2 ± 0.3           | IV - intravenous     | octreotide acetate injection                | Sandostatin ®                                  | Sandoz Pharmaceuticals | Solution    | ampuls             |
| sodium acetate, USP   | 0.1        | 4.0 ± 0.3           | IM - intramuscular   | oxytocin                                    | Syntocinon ®                                   | Sandoz                 | Solution    | ampul              |
| sodium                | 0.108      |                     | IV - intravenous     | selected plasma proteins                    | Plasma Protein Fraction (human) 5%-Plasma Plex | Armour Pharmaceutical  | Solution    | bottles            |
| sodium                | 0.539      |                     | IV - intravenous     | albumin (human), 25%                        | Albuminar ®-25                                 | Armour Pharmaceutical  | Solution    | vials              |
| sodium                | 0.108      | 6.9 ± 0.5           | IV - intravenous     | albumin (human) 5%                          | Albuminar ®-5                                  | Armour Pharmaceutical  | Solution    | bottles            |
| sodium                | 5.0        |                     | IM - intramuscular   | diazepam                                    | Valium Injectable                              | Roche Products         | Solution    | ampuls             |
| sodium bicarbonate    |            |                     | IV - intravenous     | albumin (human), 25%                        | Albuminar ®-25                                 | Armour Pharmaceutical  | Solution    | vials              |
| sodium bicarbonate    |            | 6.9 ± 0.5           | IV - intravenous     | albumin (human) 5%                          | Albuminar ®-5                                  | Armour Pharmaceutical  | Solution    | bottles            |
| sodium bicarbonate    |            | 4.0 - 6.5           | IV - intravenous     | cefotetan disodium injection                | Cefotan ®                                      | Zeneca Pharmaceuticals | Premixed    | Galaxy (R) plastic |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient          | Conc. % W/V | pH where applicable | Administration Route    | Drug Name   | Brand Name                                  | Manufacturer                       | Dosage Form  | Storage Container |
|--------------------|-------------|---------------------|-------------------------|---|---|------------------------------------|--------------|-------------------|
| sodium bicarbonate |             | 6.8 ± 0.4           | IV - intravenous        | immune globulin (human) primarily IgG                 | Gammar ®                                    | Amour Pharmaceutical               | Solution     | vials             |
| sodium bicarbonate | 1.64        | 8.0 - 9.0           | IV - intravenous        | cyclophosphamide for injection, USP                   | Lyophilized Neosar ®                        | Pharmacia                          | Lyophilized  | vials             |
| sodium bicarbonate | 0.01 - 0.02 | 6.5 - 7.5           | IV - intravenous        | imipenem-cilastatin sodium for injection              | Primaxin IV                                 | Merck & Company                    | Powder (dry) | vials             |
| sodium bicarbonate |             | ~6.5                | IV - intravenous        | cefoxitin sodium injection                            | Premixed Intravenous Solution Mefoxin       | Merck & Company                    | Solution     | single dose       |
| sodium biphosphate | 0.5         |                     | IM - intramuscular      | prochlorperazine as the edisylate                     | Compazine                                   | SmithKline Beecham Pharmaceuticals | Solution     | vials             |
| sodium biphosphate | 1.16        |                     | IM - intramuscular      | trifluoperazine hydrochloride                         | Stelazine                                   | SmithKline Beecham Pharmaceuticals | Solution     | multidose vial    |
| sodium bisulfite   | 0.1         | 5.0 - 7.5           | IM-intramuscular        | Dexamethasone Acetate Suspension                      | Dalalone D.P. ®                             | Forest Pharmaceuticals,            | Suspension   | vials             |
| sodium bisulfite   | 0.1         | 5.0 - 7.5           | IM-intramuscular        | dexamethasone acetate                                 | Decadron-LA                                 | Merck & Company                    | Suspension   | vials             |
| sodium bisulfite   | 0.1         | 7.5 - 8.0           | IV - intravenous        | Dexamethasone sodium phosphate . USP                  | Decadron Phosphate Injection                | Merck & Company                    | Solution     | vials             |
| sodium bisulfite   | 0.05        | 6.5 - 6.9           | LI - local injection    | dexamethasone sodium phosphate-lidocai                | Decadron Phosphate with Xylocaine Injection | Merck & Company                    | Solution     | vials             |
| sodium bisulfite   | 0.05        |                     | IM - intramuscular      | imipramine hydrochloride USP                          | Tofranil                                    | CibaGeneva Corporation             | Solution     | ampuls            |
| sodium bisulfite   | ≤0.05       | 6.0 - 7.0           | IV - intravenous        | Provides Rose's recommended daily intake of essential | 5.4% NephAmine ®                            | R&D Laboratories Inc.              | Solution     | glass containers  |
| sodium bisulfite   | 0.32        |                     | IV - intravenous        | methylodpate HCl                                      | Aldomet Ester Hydrochloride                 | Merck & Company                    | Solution     | vials             |
| sodium bisulfite   | 0.13        | 4.5                 | IM - intramuscular      | amikacin sulfate injection                            | Amikin ®                                    | Apothecon/Bristol-Myers Squibb     | Solution     | vials             |
| sodium bisulfite   | 0.1         |                     | IM - intramuscular      | physostigmine salicylate                              | Antilirium                                  | Forest                             | Solution     | ampuls            |
| sodium bisulfite   | 0.2         |                     | IM - intramuscular      | metaraminol bitartrate                                | Aramine                                     | Merck & Company                    | Solution     | vials             |
| sodium bisulfite   |             |                     | IV - intravenous        | perphenazine  | Trilafon Injection                          | Schering Corporation               | Solution     | ampul             |
| sodium bisulfite   | 0.1         |                     | IM - intramuscular (see | chlorpromazine hydrochloride                          | Thorazine-ampule                            | SmithKline Beecham                 | Solution     | ampule            |
| sodium bisulfite   | 0.1         |                     | IM - intramuscular (see | chlorpromazine hydrochloride                          | Thorazine                                   | SmithKline Beecham                 | Solution     | multidose vials   |
| sodium bisulfite   | 0.024       |                     | IV - intravenous        | dobutamine hydrochloride injection                    | Dobutrex ®                                  | Eli Lilly & Company                | Solution     | vials             |
| sodium bisulfite   | 0.15        |                     | IM - intramuscular      | L-epinephrine hydrochloride (injection).              | Ana-Kit                                     | Bayer Corporation-Pharma           | Solution     | syringe           |
| sodium bisulfite   | 0.16 - 0.32 |                     | IM - intramuscular      | tobramycin sulfate injection                          | Nebcin ®                                    | Eli Lilly & Company                | Solution     | multidose vials   |
| sodium bisulfite   | 0.32        |                     | IM - intramuscular      | gentamicin sulfate USP                                | Garamycin Injectable                        | Schering Corporation               | Solution     | vial              |
| sodium bisulfite   | 0.17        | 7.0 - 8.0           | IM - intramuscular      | prednisolone sodium phosphate                         | Hydeltrasol                                 | Merck & Company                    | Solution     | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V  | pH where applicable | Administration Route | Drug Name                                     | Brand Name                                     | Manufacturer                      | Dosage Form | Storage Container  |
|---------------------|-------------|---------------------|----------------------|---|--|-----------------------------------|-------------|--------------------|
| sodium bisulfite    | 0.32        | 7.5 - 8.5           | IM - intramuscular   | hydrocortisone sodium phosphate               | Hydrocortone Phosphate                         | Merck & Company                   | Solution    | multidose vial     |
| sodium bisulfite NF | 0.1         |                     | IM - intramuscular   | orphenadrine citrate                          | Norflex Injection                              | 3M Pharmaceuticals                | Solution    | ampul              |
| sodium caprylate    | 0.067       |                     | IV - intravenous     | selected plasma proteins                      | Plasma Protein Fraction (human) 5%-Plasma Plex | Armour Pharmaceutical             | Solution    | bottles            |
| sodium caprylate    | 0.332       |                     | IV - intravenous     | albumin (human), 25%                          | Albuminar ®-25                                 | Armour Pharmaceutical             | Solution    | vials              |
| sodium caprylate    | 0.0641      | 6.9 ± 0.5           | IV - intravenous     | albumin (human) 5%                            | Albuminar ®-5                                  | Armour Pharmaceutical             | Solution    | bottles            |
| sodium carbonate    | 0.12 - 3.3  | 5.0 - 8.0           | IV - intravenous     | ceftazidime pentahydrate                      | Tazicef  | SmithKline Beecham Pharmaceutical | Powder      | piggyback vials    |
| sodium carbonate    | 0.12 - 3.28 | 5.0 - 8.0           | IV - intravenous     | ceftazidime, USP                              | Tazidime ®                                     | Eli Lilly & Company               | Powder      | vials              |
| sodium carbonate    | 0.5         |                     | IV - intravenous     | hemin for injection                           | Panhematin                                     | Abbott Laboratories               | Lyophilized | single dose vial   |
| sodium carbonate    |             | 6.8 ± 0.4           | IV - intravenous     | immune globulin IV (human) primarily IgG      | Gammagard ®-IV                                 | Armour Pharmaceutical             | Lyophilized | single dose vials  |
| sodium carbonate    | 0.063 - 2.1 | 6.0 - 8.5           | IM - intramuscular   | cefamandole nafate for injection USP          | Mandel ®                                       | Eli Lilly & Company               | Powder      | vials              |
| sodium carbonate    |             | 4.0 - 6.0           | IV - intravenous     | metocurine iodide injection USP               | Metubine ® Iodide                              | Dista                             | Solution    | multidose vial     |
| sodium carbonate    |             | 6.4 - 7.2           | IM - intramuscular   | tetanus immune globulin (human) primarily IgG | Hyper-Tet ®                                    | Bayer Corporation-Biologi         | Solution    | prefilled          |
| sodium carbonate    |             | 6.4 - 7.2           | IM - intramuscular   | rabies immune globulin (human)                | Hyperab ®                                      | Bayer Corporation-Biologi         | Solution    | vial               |
| sodium carbonate    |             | 6.4 - 7.2           | IM - intramuscular   | hepatitis B immune globulin (human)           | HyperHep ®                                     | Bayer Corporation-Biologi         | Solution    | single dose        |
| sodium carbonate    |             |                     | IM - intramuscular   | Rho(D) immune globulin (human)                | HypRho ®-D                                     | Bayer Corporation-Biologi         | Solution    | single dose vial   |
| sodium carbonate    |             |                     | IM - intramuscular   | Rho(D) immune globulin (human)                | HypRho®-D Mini-Dose                            | Bayer Corporation-Biologi         | Solution    | single dose        |
| sodium carbonate    | 0.118 - 3.3 | 5.0 - 8.0           | IM - intramuscular   | ceftazidime pentahydrate                      | Fortaz ®                                       | Glaxo Wellcome                    | Powder      | vial               |
| sodium              | 0.5         | 5.0 - 7.0           | IM-intramuscular     | Cortisone Acetate                             | Cortone Acetate                                | Merck & Company                   | Suspension  | vials              |
| sodium              | 0.5         | 5.0 - 7.5           | IM-intramuscular     | dexamethasone acetate                         | Decadron-LA                                    | Merck & Company                   | Suspension  | vials              |
| sodium              | 0.5         | 5.0 - 7.0           | IAR - intraarticular | Hydrocortisone acetate                        | Hydrocortone Acetate                           | Merck & Company                   | Suspension  | vials              |
| sodium chloride     | 0.85        | 6.8 ± 0.4           | IV-intravenous       | Immune Globulin Intravenous (human) (IGIV)    | Gammagard ® S/D                                | Baxter Healthcare Corporation     | Lyophilized | single use bottles |
| sodium chloride     | 0.667       | 5.0 - 7.5           | IM-intramuscular     | Dexamethasone Acetate Suspension              | Dalalone D.P. ®                                | Forest Pharmaceuticals            | Suspension  | vials              |
| sodium chloride     | 0.9         | 5.0 - 7.0           | IM-intramuscular     | Cortisone Acetate                             | Cortone Acetate                                | Merck & Company                   | Suspension  | vials              |
| sodium chloride     | 0.667       | 5.0 - 7.5           | IM-intramuscular     | dexamethasone acetate                         | Decadron-LA                                    | Merck & Company                   | Suspension  | vials              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V   | pH where applicable | Administration Route     | Drug Name  | Brand Name                               | Manufacturer                       | Dosage Form    | Storage Container |
|-----------------|--------------|---------------------|--------------------------|--|--|------------------------------------|----------------|-------------------|
| sodium chloride | 0.9          | 5.0 - 7.0           | IAR - intraarticular     | Hydrocortisone acetate                           | Hydrocortone Acetate                     | Merck & Company                    | Suspension     | vials             |
| sodium chloride | 0.86         | 7.0 ± 0.5           | IV - intravenous         | muromonab-CD3 biochemically purified IgG2a       | Orthoclone OKT3                          | Ortho Biotech Inc.                 | Solution       | ampule            |
| sodium chloride | 0.29         |                     | IM - intramuscular       | IgG anti-Rho(D)                                  | MICRhoGAM Rho(D) Immune Globulin (human) | Ortho Diagnostic                   | Solution       | pre-filled single |
| sodium chloride | 0.29         |                     | IM - intramuscular       | IgG anti-Rho(D)                                  | RhoGAM Rho(D) Immune Globulin (human)    | Ortho Diagnostic Systems Inc.      | Solution       | prefilled single  |
| sodium chloride |              | 3.5 - 7.0           | IM - intramuscular       | Methylprednisolone acetate                       | Depo-Medrol                              | The Upjohn Company                 | Suspension     | single dose vial  |
| sodium chloride | 0.868        |                     | IM - intramuscular       | medroxyprogesterone acetate                      | Depo-Provera Contraceptive injection     | The Upjohn Company                 | Aqueous        | vials             |
| sodium chloride | 0.85         | ~6.0                | IM - intramuscular       | triamcinolone diacetate                          | Aristocort Forte (P)                     | Fujisawa                           | Micronized     | vial              |
| sodium chloride | 0.85         | ~6.0                | IL - intralesional       | triamcinolone diacetate                          | Aristocort                               | Fujisawa USA, Inc.                 | Micronized     | vial              |
| sodium chloride | 0.88         | 7.2                 | IV - intravenous         | Fab fragment of the chimeric human-murine        | Abeximab, ReoPro™                        | Centocor B. V./Eli Lilly & Company | Solution       | single use vial   |
| sodium chloride |              |                     | IV - intravenous         | Enalaprilat                                      | Vasotec I.V.                             | Merck & Company                    | Solution       | vial              |
| sodium chloride | 0.8          | ~3.0                | IV - intravenous         | midazolam hydrochloride                          | Versed                                   | Hoffman - LaRoche Inc.             | Solution       | vials             |
| sodium chloride | 0.28         | 4.0 - 5.0           | IM - intramuscular       | pentazocine lactate                              | Talwin Injection (ampuls)                | Sanofi Winthrop                    | Solution       | ampuls            |
| sodium chloride | 0.22         | 4.0 - 5.0           | IM - intramuscular       | pentazocine lactate                              | Talwin Injection (cartridge needle)      | Sanofi Winthrop                    | Solution       | cartridge needle  |
| sodium chloride | 0.15         | 4.0 - 5.0           | IM - intramuscular       | pentazocine lactate                              | Talwin injection (multidose vial)        | Sanofi Winthrop                    | Solution       | multidose vials   |
| sodium chloride |              | 5.5 - 6.5           | IV - intravenous         | atenolol   | Tenormin I. V. Injection                 | Zeneca Pharmaceuticals             | Solution       | ampules           |
| sodium chloride |              |                     | IM - intramuscular       | refined tetanus toxoid                           | Tetanus Toxoid Adsorbed, aluminum        | Lederle Laboratories               | Suspension     | vial              |
| sodium chloride | 0.9          | ~6.5                | IV - intravenous         | protirelin                                       | Thyrel® TRH                              | Ferring Laboratories, Inc.         | Solution       | ampuls            |
| sodium chloride | 0.9          | 4.5 - 6.5           | IV - intravenous         | aprotinin injection                              | Trasylol®                                | Bayer Corporation-Pharma           | Solution       | vials             |
| sodium chloride |              |                     | IM - intramuscular       | diphtheria & tetanus toxoids & Pertussis Vaccine | Tri-Immunol                              | Lederle Laboratories               | Suspension(aft | multidose vials   |
| sodium chloride | 0.83         | 7.0 ± 0.3           | IM - intramuscular       | typhoid Vi polysaccharide vaccine                | Typhim Vi™                               | Connaught Laboratories             | Solution       | syringe           |
| sodium chloride | 0.9          | 3.0 - 5.0           | IPC - intrapericardially | mechlorethamine HCl                              | Mustargen                                | Merck & Company                    | Crystalline    | vials             |
| sodium chloride | 0.86 - 0.9   | 3.5 ± 0.5           | IV - intravenous         | Naloxone hydrochloride injection                 | Narcan (ampuls)                          | DuPont Pharma                      | Solution       | ampuls            |
| sodium chloride | 0.835 - 0.86 | 3.5 ± 0.5           | IV - intravenous         | Naloxone hydrochloride injection                 | Narcan (vials)                           | DuPont Pharma                      | Solution       | multidose vials   |
| sodium chloride | 0.35         |                     | SC - subcutaneous        | phenylephrine hydrochloride injection            | Neo-Synephrine hydrochloride             | Sanofi Winthrop                    | Solution       | ampuls            |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                                     | Brand Name                               | Manufacturer                       | Dosage Form    | Storage Container |
|-----------------|---------------|---------------------|----------------------|---|--|------------------------------------|----------------|-------------------|
| sodium chloride | 0.47 - 0.67   | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride                  | Nesacaine Injection                      | Astra USA, Inc.                    | Solution       | multidose vials   |
| sodium chloride | 0.33 - 0.47   | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride                  | Nesacaine-MPF Injection                  | Astra USA, Inc.                    | Solution       | single dose vials |
| sodium chloride | ~0.64         |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)      | Varivax                                  | Merck & Company                    | Lyophilized    | single-dose vial  |
| sodium chloride | 0.29          |                     | IV - intravenous     | ritodrine hydrochloride                       | Yutopar                                  | Astra USA, Inc.                    | Solution       | vial              |
| sodium chloride | 0.85          |                     | IVS - intravesical   | BCG Live (intravesical)                       | TheraCys ®                               | Connaught Laboratories             | Freeze-dried   | vial              |
| sodium chloride |               |                     | IM - intramuscular   | furosemide                                    | Lasix ®                                  | Hoechst-Roussel Pharmaceuticals    | Solution       | ampuls            |
| sodium chloride |               | 4.0 - 6.5           | various              | bupivacaine hydrochloride                     | Sensorcaine ®                            | Astra USA, Inc.                    | Solution       | multidose vials   |
| sodium chloride |               | 3.3 - 5.5           | various              | bupivacaine hydrochloride, and epinephrine as | Sensorcaine ® with Epinephrine           | Astra USA, Inc.                    | Solution       | multidose vials   |
| sodium chloride |               | 4.0 - 6.5           | various              | bupivacaine hydrochloride                     | Sensorcaine ®-MPF                        | Astra USA, Inc.                    | Solution       | single dose vials |
| sodium chloride |               | 5.0 - 7.0           | various              | lidocaine hydrochloride                       | Xylocaine                                | Astra USA, Inc.                    | Solution       | multidose vials   |
| sodium chloride |               | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at    | Xylocaine with Epinephrine               | Astra USA, Inc.                    | Solution       | multidose vials   |
| sodium chloride |               | 5.0 - 7.0           | various              | lidocaine hydrochloride                       | Xylocaine MPF                            | Astra USA, Inc.                    | Solution       | single dose vials |
| sodium chloride |               | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at    | Xylocaine MPF with epinephrine           | Astra USA, Inc.                    | Solution       | ampules           |
| sodium chloride | 0.0 - 0.6/0.7 | 5.0 - 7.0           | IV - intravenous     | lidocaine hydrochloride injection             | Xylocaine for ventricular arrhythmias    | Astra USA, Inc.                    | Solution       | single dose vials |
| sodium chloride | 0.9           | 4.7 - 7.3           | IV - intravenous     | granisetron hydrochloride                     | Kytril Injection                         | SmithKline Beecham                 | Solution       | single use vials  |
| sodium chloride | 0.8           | ~8.1 (prior         | IM - intramuscular   | leucovorin calcium                            | Leucovorin Calcium for Injection         | Immunex Corporation                | Cryodesiccated | vial              |
| sodium chloride | 0.8           | ~8.1                | IM - intramuscular   | leucovorin calcium                            | Wellcovorin brand Leucovorin Calcium for | Glaxo Wellcome                     | Powder         | vial              |
| sodium chloride | 0.9           | 6.3 ± 0.6           | IV - intravenous     | cladribine                                    | Leustatin Injection                      | Ortho Biotech, Inc.                | Solution       | single use vials  |
| sodium chloride |               | 3.0 - 4.5           | IV - intravenous     | norepinephrine bitartrate                     | Levophed bitartrate injection            | Sanofi Winthrop                    | Solution       | ampul             |
| sodium chloride | 0.9           | 5.0 - 7.0           | IT - intrathecal     | baclofen injection                            | Lioresal Intrathecal                     | Medtronic, Inc.                    | Solution       | ampule            |
| sodium chloride |               |                     | SC - subcutaneous    | leuprolide acetate                            | Lupron Injection                         | TAP Pharmaceuticals                | Solution       | multidose vial    |
| sodium chloride | 0.9           | 4.0 - 8.0           | IV - intravenous     | fluconazole                                   | Diflucan                                 | Roerig                             | Solution       | glass bottles     |
| sodium chloride |               |                     | IM - intramuscular   | combination of purified tetanus & diphtheria  | Diphtheria & Tetanus Toxoids & Pertussis | SmithKline Beecham Pharmaceuticals | Suspension     | vials             |
| sodium chloride |               |                     | IM - intramuscular   | combines diphtheria & tetanus toxoids         | Diphtheria & Tetanus Toxoids & Pertussis | Connaught Laboratories, Inc.       | Turbid Liquid  | vial              |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                               | Brand Name                          | Manufacturer                | Dosage Form | Storage Container |
|-----------------|---------------|---------------------|----------------------|---|-------------------------------------|-----------------------------|-------------|-------------------|
| sodium chloride | 0.9           | 3.0                 | IV - intravenous     | doxorubicin hydrochloride               | Doxorubicin Hydrochloride Injection | Astra USA, Inc.             | Solution    | single dose vials |
| sodium chloride | 0.9           | 2.5 - 6.5           | IV - intravenous     | morphine sulfate injection USP          | Duramorph ®                         | Elkins-Sinn, Inc.           | Solution    | ampuls            |
| sodium chloride | 0.0113 - 0.09 |                     | IM - intramuscular   | botulinum toxin type A                  | Botox ®                             | Allergan Inc.               | Lyophilized | ampuls            |
| sodium chloride |               | 4.0                 | SC - subcutaneous    | terbutaline sulfate injection USP       | Brethine                            | CibaGeneva Corporation      | Solution    | ampuls            |
| sodium chloride | 0.89          | 3.0 - 5.0           | SC - subcutaneous    | terbutaline sulfate USP                 | Bricanyl                            | Marion Merrell Dow Inc.     | Solution    | ampul             |
| sodium chloride |               |                     | IM - intramuscular   | calcitonin-salmon                       | Caleimar ® Injection; Synthetic     | Rhone-Poulenc Rorer         | Solution    | vials             |
| sodium chloride | 0.46 - 0.66   | 4.5 - 6.8           | various              | mepivacaine hydrochloride               | Carbocaine Hydrochloride-single     | Sanofi Winthrop             | Solution    | single dose vials |
| sodium chloride | 0.5 - 0.7     | 4.5 - 6.8           | various              | mepivacaine hydrochloride               | Carbocaine Hydrochloride-multidose  | Sanofi Winthrop             | Solution    | multiple dose     |
| sodium chloride | 1.0           |                     | IV - intravenous     | urokinase for injection                 | Abbokinase                          | Abbott Laboratories         | Lyophilized | vial              |
| sodium chloride | 0.17          |                     | IV - intravenous     | urokinase                               | Abbokinase Open-Cath                | Abbott Laboratories         | Lyophilized | single dose       |
| sodium chloride | 0.9           | 5.5 - 7.5           | IV - intravenous     | adenosine                               | Adenocard ®                         | Fujisawa USA, Inc.          | Solution    | flip-top vials    |
| sodium chloride | 0.9           | 4.5 - 7.5           | IV - intravenous     | adenosine                               | Adenoscan                           | Fujisawa USA, Inc.          | Solution    | vial              |
| sodium chloride | 0.9           | 3.0                 | IV - intravenous     | doxorubicin hydrochloride injection USP | Adriamycin PFS ®                    | Pharmacia Inc.              | Solution    | single dose vials |
| sodium chloride |               | 4.0 - 6.0           | IV - intravenous     | alfentanil hydrochloride                | Alfenta Injection                   | Janssen Pharmaceutical Inc. | Solution    | ampoules          |
| sodium chloride | 0.32          | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                      | Amo ® Vitrax ®                      | Allergan Inc.               | Solution    | disposable glass  |
| sodium chloride | 0.9           |                     | ITO - intraocular    | sodium hyaluronate                      | Amvisc ® Plus                       | Chiron Vision               | Solution    | disposable glass  |
| sodium chloride |               | 3.5                 | IM - intramuscular   | succinylcholine chloride                | Anectine Injection                  | Glaxo Wellcome              | Solution    | multidose vials   |
| sodium chloride | 0.44          |                     | IM - intramuscular   | metaraminol bitartrate                  | Aramine                             | Merck & Company             | Solution    | vials             |
| sodium chloride | 0.9           | 4.0                 | IV - intravenous     | desmopressin acetate                    | DDAVP ® Injection                   | Rhone-Poulenc Rorer         | Solution    | ampuls            |
| sodium chloride | 0.85          | ~7.0                | IM - intramuscular   | bumetanide                              | Bumex ®                             | Roche Laboratories          | Solution    | ampuls            |
| sodium chloride | 0.9           |                     | IM - intramuscular   | benztropine mesylate                    | Cogentin                            | Merck & Company             | Solution    | ampuls            |
| sodium chloride | 0.01          | 8.1 - 8.3           | IV - intravenous     | warfarin sodium                         | Coumadin                            | Dupont Pharma               | Lyophilized | vial              |
| sodium chloride | 0.88          |                     | SC - subcutaneous    | pentagastrin                            | Peptavlon                           | Wyeth-Ayerst                | Solution    | ampoules          |
| sodium chloride | 0.9           |                     | IM - intramuscular   | dicyclomine hydrochloride USP           | Bentyl Injection-ampul              | Merrell Dow Pharmaceuticals | Solution    | ampul             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V      | pH where applicable | Administration Route    | Drug Name                                    | Brand Name                               | Manufacturer                       | Dosage Form | Storage Container |
|-----------------|-----------------|---------------------|-------------------------|--|--|------------------------------------|-------------|-------------------|
| sodium chloride | 0.9             |                     | IM - intramuscular      | dicyclomine hydrochloride                    | Bentyl Injection                         | Merrell Dow Pharmaceuticals        | Solution    | multidose vial    |
| sodium chloride | 0.9             | 5.0 - 7.0           | IV - intravenous        | cimetidine hydrochloride                     | Tagamet                                  | SmithKline Beecham Pharmaceuticals | Premixed    | single dose       |
| sodium chloride | 0.7             |                     | IV - intravenous        | digoxin immune Fab (Ovine)                   | Digibind                                 | Glaxo Wellcome                     | Lyophilized | vials             |
| sodium chloride | 0.6             |                     | IM - intramuscular (see | chlorpromazine hydrochloride                 | Thorazine-ampule                         | SmithKline Beecham                 | Solution    | ampule            |
| sodium chloride | 0.1             |                     | IM - intramuscular (see | chlorpromazine hydrochloride                 | Thorazine                                | SmithKline Beecham                 | Solution    | multidose vials   |
| sodium chloride | 0.85            | 7.2 - 7.4           | IM - intramuscular      | pegademase bovine                            | Adagen ®                                 | Enzon                              | Solution    | single dose vials |
| sodium chloride | 0.435 - 0.668   |                     | IM - intramuscular      | ketorolac tromethamine                       | Toradol                                  | Syntex Laboratories                | Solution    | Tubex cartridge   |
| sodium chloride | 0.8075 - 0.8925 | 7.3                 | IM - intramuscular      | pegaspargase                                 | Oncaspar ®                               | Rhone-Poulenc Rorer                | Solution    | single dose vials |
| sodium chloride |                 | 3.5 - 7.0           | IM - intramuscular      | methylprednisolone acetate                   | Depo-Medrol Sterile Aqueous Suspension   | The Upjohn Company                 | Aqueous     | single dose vials |
| sodium chloride | 0.58            | 6.9 ± 0.3           | IV - intravenous        | epoetin alfa (recombinant human              | Epogen ®                                 | Amgen, Inc.                        | Solution    | single dose vial  |
| sodium chloride | 0.82            | 6.1 ± 0.3           | IV - intravenous        | epoetin alfa (recombinant human              | Epogen ® - multidose                     | Amgen, Inc.                        | Solution    | multidose vial    |
| sodium chloride |                 | 4.8 - 5.2           | IM - intramuscular      | fluphenazine hydrochloride injection         | Prolixin Injection                       | Apothecon/Bristol-Myers Squibb     | Solution    | multidose vials   |
| sodium chloride | 0.5             | 6.8 ± 0.4           | IV - intravenous        | immune globulin IV (human) primarily IgG     | Gammar ®-IV                              | Armour Pharmaceutical              | Lyophilized | single dose vials |
| sodium chloride | ~0.386          | neutral             | IV - intravenous        | monoclonal antibody purified human Factor IX | Mononine ®-Coagulation Factor IX (human) | Armour Pharmaceutical              | Lyophilized | single dose vial  |
| sodium chloride | 0.9             | 2.5 - 6.5           | IV - intravenous        | morphine sulfate injection USP               | Astramorph/PF                            | Astra USA, Inc.                    | Solution    | ampule            |
| sodium chloride | 0.71            | 4.0 - 5.0           | various                 | etidocaine HCl                               | Duranest                                 | Astra USA, Inc.                    | Solution    | single dose vial  |
| sodium chloride | 0.62 - 0.71     | 3.0 - 4.5           | various                 | etidocaine HCl and epinephrine as bitartrate | Duranest Injections                      | Astra USA, Inc.                    | Solution    | single dose vial  |
| sodium chloride | 0.72            |                     | IM - intramuscular      | mesoridazine besylate USP                    | Serentil ®                               | Boehringer Ingelheim               | Solution    | ampuls            |
| sodium chloride | 0.9             |                     | IV - intravenous        | cyclophosphamide for injection, USP          | Neosar ®                                 | Pharmacia                          | Powder      | vials             |
| sodium chloride | 0.9             |                     | IV - intravenous        | cyclophosphamide (anhydrous)                 | Cytosan for Injection                    | Bristol-Myers Squibb-OncologyDi    | Powder      | single dose vials |
| sodium chloride |                 |                     | IM - intramuscular      | methoxamine hydrochloride                    | Vasoxyl                                  | Glaxo Wellcome                     | Solution    | ampuls            |
| sodium chloride | 0.9             | 5.7 - 6.4           | IV - intravenous        | famotidine                                   | Pepcid Injection Premixed                | Merck & Company                    | Premixed    | single dose       |
| sodium chloride | 0.85            |                     | IM - intramuscular      | L-epinephrine hydrochloride (injection).     | Ana-Kit                                  | Bayer Corporation-Pharma           | Solution    | syringe           |
| sodium chloride | 0.85            | 4.5 - 6.5           | IM - intramuscular      | metoclopramide injection, USP                | Reglan Injectable                        | A. H. Robins Company               | Solution    | single dose vials |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V  | pH where applicable | Administration Route | Drug Name                                       | Brand Name                              | Manufacturer                  | Dosage Form      | Storage Container |
|-----------------|-------------|---------------------|----------------------|---|---|-------------------------------|------------------|-------------------|
| sodium chloride | 0.9         | ~4.0                | IV - intravenous     | flumazenil                                      | Romazicon™                              | Roche Laboratories            | Solution         | vials             |
| sodium chloride |             | 4.0 - 6.5           | various              | bupivacaine hydrochloride                       | Marcaine Hydrochloride                  | Sanofi Winthrop               | Solution         | single dose vials |
| sodium chloride |             | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine       | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop               | Solution         | single dose vials |
| sodium chloride | 0.8         | 3.0 - 4.5           | IV - intravenous     | mitoxantrone hydrochloride                      | Novantrone                              | Immunex Corporation           | Solution         | multidose vials   |
| sodium chloride | 0.8         |                     | SC - subcutaneous    | oxymorphone hydrochloride                       | Numorphan                               | DuPont Pharma                 | Solution         | multidose vials   |
| sodium chloride | 0.49        | 7.2 ± 0.4           | ITO - intraocular    | purified hydroxypropylmethylcellulose           | Ocucoat                                 | Storz Ophthalmics             | Solution         | syringes          |
| sodium chloride | 0.9         |                     | IM - intramuscular   | haemophilus b conjugate vaccine (meningococcal) | PedvaxHIB                               | Merck & Company               | Lyophilized      | single dose vials |
| sodium chloride | 0.9         | ~5.0                | IV - intravenous     | pentastarch                                     | Pentaspán                               | DuPont Pharmaceuticals        | Solution         | bottles           |
| sodium chloride | 0.9         |                     | IV - intravenous     | cisplatin injection                             | Platinol-AQ                             | Bristol-Myers Squibb-Oncology | Solution         | multidose vial    |
| sodium chloride | 0.67        | 3.2 - 6.0           | spinal anesthesia    | tetracaine hydrochloride                        | Pontocaine Hydrochloride 1% Solution    | Sanofi Winthrop               | Solution         | ampuls            |
| sodium chloride | 0.56        |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP       | Pregnyl®                                | Organon                       | Powder           | multidose vials   |
| sodium chloride | 0.58 - 0.82 | 5.8 - 7.2           | IV - intravenous     | epoetin alfa                                    | Procrit                                 | Ortho Biotech, Inc.           | Solution         | single dose vial  |
| sodium chloride | 0.9         |                     | IV - intravenous     | protamine sulfate                               | Protamine Sulfate Injection, USP        | Eli Lilly & Company           | Solution         | vial              |
| sodium chloride | 0.9         | 3.9                 | IM - intramuscular   | nalmefene hydrochloride injection               | Revex™                                  | Ohmeda Pharmaceutical         | Solution         | ampul             |
| sodium chloride | 0.9         |                     | IM - intramuscular   | interferon alfa-2a, recombinant                 | Roferon®-A                              | Roche Laboratories            | Solution         | vial              |
| sodium chloride | 0.6         |                     | IM - intramuscular   | interferon alfa-2a, recombinant                 | Roferon®-A (powder)                     | Roche Laboratories            | Powder (sterile) | vial              |
| sodium chloride | 0.3         |                     | IM - intramuscular   | interferon alfa-2a, recombinant                 | Roferon®-A (powder)                     | Roche Laboratories            | Powder (sterile) | vial              |
| sodium chloride | 0.9         |                     | SC - subcutaneous    | meningococcal polysaccharide vaccine, groups A, | Menomune®                               | Connaught Laboratories        | Freeze-dried     | vial              |
| sodium chloride | 0.3         |                     | IM - intramuscular   | methylergonovine maleate                        | Methergine®                             | Sandoz Pharmaceuticals        | Solution         | ampuls            |
| sodium chloride | 0.26        | ~8.5                | IA - intraarterial   | methotrexate sodium                             | Methotrexate Sodium Injection           | Immunex Corporation           | Solution         | vial              |
| sodium chloride | 0.490       | ~8.5                | IA - intraarterial   | methotrexate sodium                             | Methotrexate LPF® Sodium                | Immunex Corporation           | Solution         | vial              |
| sodium chloride | 0.9         | 4.0 - 6.0           | IV - intravenous     | metocurine iodide injection USP                 | Metubine® Iodide                        | Dista                         | Solution         | multidose vial    |
| sodium chloride | 0.75        |                     | IM - intramuscular   | calcitonin-salmon                               | Miacalcin®                              | Sandoz Pharmaceuticals        | Solution         | vial              |
| sodium chloride | 0.7         | ~4.2 - 5.3          | SC - subcutaneous    | sumatriptan succinate                           | Imitrex®                                | Glaxo Wellcome                | Solution         | unit-of-use       |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient       | Conc. %W/V    | pH where applicable | Administration Route | Drug Name  | Brand Name                         | Manufacturer                       | Dosage Form    | Storage Container |
|-----------------|---------------|---------------------|----------------------|--|------------------------------------|------------------------------------|----------------|-------------------|
| sodium chloride | 0.9           | 5.2 - 6.5           | IM - intramuscular   | iron dextran injection                           | INFeD                              | Schein Pharmaceutical Inc.         | Dark-brown     | single dose amber |
| sodium chloride | 0.625 - 0.8   | 4.5                 | IT - intrathecal     | morphine sulfate                                 | Infumorph ®                        | Elkins-Sinn Inc.                   | Solution       | single dose amber |
| sodium chloride | 0.85          | 4.1 - 6.0           | IV - intravenous     | verapamil hydrochloride                          | Isoptin ®                          | Knoll Laboratories                 | Solution       | single dose vial  |
| sodium chloride | 0.7           | 3.5 - 4.5           | IM - intramuscular   | isoproterenol hydrochloride injection, USP       | Isuprel                            | Sanofi Winthrop                    | Solution       | ampul             |
| sodium chloride |               | 6.5 - 7.6           | IM - intramuscular   | Rho(D) immune globulin intravenous               | WinRho SD (TN)                     | Univax Biologicals                 | Lyophilized    | single use vial   |
| sodium chloride | <0.06 - <0.24 | 6.6 ± 0.2           | IV - intravenous     | immune globulin intravenous (human)              | Sandoglobulin ®                    | Sandoz Pharmaceuticals             | Lyophilized    | vial              |
| sodium chloride | 0.7           | 4.2 ± 0.3           | IV - intravenous     | octreotide acetate injection                     | Sandostatin ®                      | Sandoz Pharmaceuticals             | Solution       | ampuls            |
| sodium chloride | 0.64          |                     | IM - intramuscular   | butorphanol tartrate                             | Stadol ® Injection                 | Apothecon/Bristol-Myers Squibb     | Solution       | vial              |
| sodium chloride | 0.9           | 4.5 - 6.5           | SC - subcutaneous    | histrelin acetate                                | Supprelin ®                        | Roberts Pharmaceutical             | Solution       | single use vial   |
| sodium chloride | 0.45          | 6.7 - 7.3           | IV - intravenous     | ranitidine hydrochloride                         | Zantac Injection Premixed          | Glaxo Wellcome                     | Solution       | flexible plastic  |
| sodium chloride |               | 4.0                 | IV - intravenous     | rocuronium bromide                               | Zemuron™ Injection                 | Organon                            | Solution       | multidose vial    |
| sodium chloride | 0.83 - 0.9    | 3.3 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate              | Zofran ® Injection                 | Glaxo Wellcome                     | Solution       | single dose vial  |
| sodium chloride | 0.9           |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)                | Engerix-B                          | SmithKline Beecham Pharmaceuticals | Suspension     | single dose vial  |
| sodium chloride | 0.6           | 2.5 - 5.0           | IM - intramuscular   | epinephrine injection                            | EpiPen Auto-Injectors              | Center Laboratories                | Solution       | auto-injectors    |
| sodium chloride | 0.79          | 5.0 - 7.0           | IV - intravenous     | metronidazole                                    | Flagyl IV RTU                      | SCS                                | Solution       | single dose       |
| sodium chloride |               | 5.0 - 7.5           | SC - subcutaneous    | dalteparin sodium injection                      | Fragmin™                           | Pharmacia, Inc.                    | Solution       | single dose       |
| sodium chloride | 0.85          | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                               | Healon ®                           | Pharmacia, Inc. Ophthalmics Inc.   | Viscoelastic   | Disposable glass  |
| sodium chloride | 0.85          | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate 7000                          | Healon GV                          | Pharmacia Inc. Ophthalmics         | Viscoelastic   | disposable glass  |
| sodium chloride | 0.1           |                     | IV - intravenous     | heparin sodium                                   | Heparin Sodium Injectio -Eli Lilly | Eli Lilly & Company                | Solution       | multidose vial    |
| sodium chloride | 0.9           | 3.5 - 7.0           | IV - intravenous     | hetastarch                                       | Hespan                             | DuPont Pharma                      | Solution       | Excel plastic     |
| sodium chloride | 0.9           |                     | IM - intramuscular   | haemophilus b conjugate vaccine and diphtheria   | HibTTITER                          | Lederle Laboratories               | Solution       | multidose vial    |
| sodium chloride | 0.2 - 0.53    |                     | IV - intravenous     | antihemophilic factor (human) (Factor VIII, AHF) | Humate-P™                          | Armour Pharmaceutical              | Lyophilized    | single dose vial  |
| sodium chloride |               |                     | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Pertussis       | Tetramune, (DTP-HbOC)              | Lederle Laboratories               | Suspension(aft | vial              |
| sodium chloride |               | 3.3 - 5.5           | various              | bupivacaine hydrochloride, and epinephrine as    | Sensorcaine ® with Epinephrine     | Astra USA, Inc.                    | Solution       | multidose vials   |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V | pH where applicable | Administration Route  | Drug Name                                   | Brand Name                   | Manufacturer                 | Dosage Form  | Storage Container  |
|----------------------|------------|---------------------|-----------------------|---|------------------------------|------------------------------|--------------|--------------------|
| sodium chloride (see | 0.0 - 0.1  |                     | IM - intramuscular    | nalbuphine hydrochloride                    | Nubain                       | DuPont Pharma                | Solution     | ampuls             |
| sodium chloride (see | 0.0 - 0.2  |                     | IM - intramuscular    | nalbuphine hydrochloride                    | Nubain (ampules)             | DuPont Pharma                | Solution     | ampules            |
| sodium chloride (see | 0.0 - 0.9  | 5.0 - 7.5           | IV - intravenous      | heparin sodium                              | Heparin Sodium Injection     | The Upjohn Company           | Solution     | vial               |
| sodium chloride      |            |                     | ID - intradermal      | Mumps Skin Test Antigen (suspension killed) | MSTA™                        | Connaught Laboratories, Inc. | Suspension   | vial               |
| sodium chloride USP  | 0.29       |                     | IM - intramuscular    | orphenadrine citrate                        | Norflex Injection            | 3M Pharmaceuticals           | Solution     | ampul              |
| sodium chloride, USP | 0.0017     | 4.0 ± 0.3           | IM - intramuscular    | oxytocin                                    | Syntocinon ®                 | Sandoz                       | Solution     | ampul              |
| sodium chloride USP  | 0.9        |                     | IV - intravenous      | metoprolol tartrate                         | Lopressor                    | CibaGeneva Corporation       | Solution     | ampuls             |
| sodium citrate       | 1.0        | 7.5 - 8.0           | IV - intravenous      | Dexamethasone sodium phosphate, USP         | Decadron Phosphate Injection | Merck & Company              | Solution     | vials              |
| sodium citrate       | 0.1        | 6.0 - 8.0           | IAR - intraarticular  | Prednisolone Tebutate                       | Hydeltra T. B. A.            | Merck & Company              | Suspension   | vials              |
| sodium citrate       | 0.05       | ~5.0                | IM - intramuscular    | trimethobenzamide HCl                       | Tigan ®-ampuls               | Roberts Pharmaceuticals      | Solution     | ampuls             |
| sodium citrate       | 0.05       | ~5.0                | IM - intramuscular    | trimethobenzamide HCl                       | Tigan ®-vials                | Roberts Pharmaceuticals      | Solution     | multiple dose vial |
| sodium citrate       | 0.05       | ~5.0                | IM - intramuscular    | trimethobenzamide HCl                       | Tigan ®-syringe              | Roberts Pharmaceuticals      | Solution     | disposable         |
| sodium citrate       |            | ~ 5.4               | IV - intravenous      | edrophonium chloride                        | Tensilon                     | ICN Pharmaceuticals          | Solution     | multidose vials    |
| sodium citrate       | 0.4        |                     | SC - subcutaneous     | phenylephrine hydrochloride injection       | Neo-Synephrine hydrochloride | Sanofi Winthrop              | Solution     | ampuls             |
| sodium citrate       |            | ~4.5                | IM - intramuscular    | methotrimeprazine as the hydrochloride salt | Levoprome                    | Immunex Corporation          | Solution     | vials              |
| sodium citrate       | 0.2        |                     | IM - intramuscular    | hydromorphone hydrochloride                 | Dilaudid                     | Knoll Laboratories           | Solution     | ampules            |
| sodium citrate       | 0.2        |                     | IM - intramuscular    | hydromorphone hydrochloride                 | Dilaudid-HP Injection        | Knoll Laboratories           | Solution     | amber ampules      |
| sodium citrate       |            |                     | IM - intramuscular    | penicillin G benzathine and penicillin G    | Bicillin C-R 900/300         | Wyeth-Ayerst                 | Suspension   | sterile cartridge  |
| sodium citrate       |            |                     | IM - intramuscular    | penicillin G benzathine suspension          | Bicillin L-A                 | Wyeth-Ayerst                 | Suspension   | disposable         |
| sodium citrate       | 0.0047     |                     | ICN - intracavernosal | alprostadil                                 | Caverject Sterile Powder     | The Upjohn Company           | Freeze-dried | vial               |
| sodium citrate       | 0.17       | 7.0 - 7.5           | ITO - intraocular     | sodium hyaluronate                          | Amo ® Vitrax ®               | Allergan Inc.                | Solution     | disposable glass   |
| sodium citrate       | 0.58       | 6.9 ± 0.3           | IV - intravenous      | epoetin alfa (recombinant human)            | Epogen ®                     | Amgen, Inc.                  | Solution     | single dose vial   |
| sodium citrate       | 0.13       | 6.1 ± 0.3           | IV - intravenous      | epoetin alfa (recombinant human)            | Epogen ® - multidose         | Amgen, Inc.                  | Solution     | multidose vial     |
| sodium citrate       | 0.3        |                     | IM - intramuscular    | methoxamine hydrochloride                   | Vasoxyl                      | Glaxo Wellcome               | Solution     | ampuls             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient      | Conc. %W/V  | pH where applicable | Administration Route | Drug Name  | Brand Name                       | Manufacturer                       | Dosage Form  | Storage Container |
|----------------|-------------|---------------------|----------------------|--|----------------------------------|------------------------------------|--------------|-------------------|
| sodium citrate | 0.17        | 7.2 ± 0.4           | ITO - intraocular    | purified hydroxypropylmet hylcellulose           | Ocucoat                          | Storz Ophthalmics                  | Solution     | syringes          |
| sodium citrate |             | 6.0 - 8.5           | IM - intramuscular   | penicillin G potassium                           | Buffered Pfizerpen for Injection | Roerig                             | Powder       | vials             |
| sodium citrate | 0.244       |                     | IM - intramuscular   | conjugated estrogens, USP                        | Premarin Intravenous             | Wyeth-Ayerst                       | Lyophilized  | Secule (R) vial   |
| sodium citrate | 0.13 - 0.58 | 5.8 - 7.2           | IV - intravenous     | epoetin alfa                                     | Procrit                          | Ortho Biotech, Inc.                | Solution     | single dose vial  |
| sodium citrate | 0.02        | ~5.0                | IM - intramuscular   | pyridostigmine bromide                           | Mestinon Injectable              | ICN Pharmaceuticals                | Solution     | ampuls            |
| sodium citrate | 0.64        |                     | IM - intramuscular   | butorphanol tartrate                             | Stadol ® Injection               | Apothecon/Bristol-Myers Squibb     | Solution     | vial              |
| sodium citrate | 0.023       | 3.0 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate              | Zofran ® Injection Premixed      | Glaxo Wellcome                     | Solution     | single dose       |
| sodium citrate | 0.35 - 0.93 |                     | IV - intravenous     | antihemophilic factor (human) (Factor VIII, AHF) | Humate-P™                        | Armour Pharmaceutical              | Lyophilized  | single dose vial  |
| sodium citrate | 1.0         | 7.5 - 8.5           | IM - intramuscular   | hydrocortisone sodium phosphate                  | Hydrocortone Phosphate           | Merck & Company                    | Solution     | multidose vial    |
| sodium citrate | 2.0         |                     | IV - intravenous     | mephalan hydrochloride                           | Alkeran for Injection            | Glaxo Wellcome                     | Freeze-dried | single use vial   |
| sodium citrate |             |                     | IM - intramuscular   | penicillin G benzathine and penicillin G         | Bicillin C-R                     | Wyeth-Ayerst                       | Suspension   | disposable        |
| sodium citrate | 2.85        | 3.5 - 5.5           | IM - intramuscular   | amikacin sulfate                                 | Amikacin Sulfate Injection, USP  | Elkins-Sinn                        | Solution     | vials             |
| sodium citrate | 0.5         | 4.5                 | IM - intramuscular   | amikacin sulfate injection                       | Amikin ®                         | Apothecon/Bristol-Myers Squibb     | Solution     | vials             |
| sodium citrate | 1.2         | 5.0 - 8.0           | IM - intramuscular   | streptomycin sulfate                             | Streptomycin Sulfate Injection   | Pfizer Roerig                      | Solution     | ampule            |
| sodium citrate | 0.025       | 3.3 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate              | Zofran ® Injection               | Glaxo Wellcome                     | Solution     | single dose vial  |
| sodium citrate | 2.88        | 6.0 - 7.0           | IV - intravenous     | gallium nitrate injection                        | Ganite                           | Solopak Laboratories, Inc.         | Solution     | single dose       |
| sodium citrate | 0.065       | 3.7 - 4.1           | IV - intravenous     | diltiazem hydrochloride                          | Cardizem                         | Marion Merrell Dow Inc.            | Solution     | vial              |
| sodium citrate |             | 5.0 - 7.5           | IV - intravenous     | cefotaxime sodium injection                      | Premixed Claforan ® Injection    | Hoechst-Roussel Pharmaceuticals    | Frozen       | Galaxy single     |
| sodium citrate | 0.3         |                     | IV - intravenous     | ticarcillin disodium and clavulanate             | Timentin (solution)              | SmithKline Beecham Pharmaceuticals | Frozen       | Galaxy plastic    |
| sodium citrate | 0.94        |                     | IM - intramuscular   | nalbuphine hydrochloride                         | Nubain                           | DuPont Pharma                      | Solution     | ampuls            |
| sodium citrate | 0.94        |                     | IM - intramuscular   | nalbuphine hydrochloride                         | Nubain (ampules)                 | DuPont Pharma                      | Solution     | ampules           |
| sodium citrate |             | 4.2 - 6.2           | IV - intravenous     | cefmetazole sodium injection                     | Zefazone ® IV solution           | The Upjohn Company                 | premixed     | plastic Galaxy    |
| sodium citrate | 0.6 - 1.2   | 5.0 - 7.5           | IV - intravenous     | cefuroxime sodium injection                      | Zinacef ®                        | Glaxo Wellcome                     | Frozed       | Galaxy plastic    |
| sodium         | 41 mg       | 4.2 (see            | IV - intravenous     | amphotericin B for injection                     | Fungizone Intravenous            | Apothecon/Bristol-Myers Squibb     | Lyophilized  | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V | pH where applicable | Administration Route | Drug Name                               | Brand Name                                  | Manufacturer                       | Dosage Form  | Storage Container |
|---------------------|------------|---------------------|----------------------|---|---|------------------------------------|--------------|-------------------|
| sodium dihydrogen   | 0.061      |                     | IVS - intravesical   | BCG Live (intravesical)                 | TheraCys ®                                  | Connaught Laboratories             | Freeze-dried | vial              |
| sodium dihydrogen   | 0.028      | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection  | Genotropin™ Injection                       | Pharmacia, Inc.                    | Lyophilized  | Intra-Mix two     |
| sodium dihydrogen   | 0.071      |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)       | Engerix-B                                   | SmithKline Beecham Pharmaceuticals | Suspension   | single dose vial  |
| sodium dihydrogen   | 0.004      | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                      | Healon ®                                    | Pharmacia, Inc. Ophthalmics Inc.   | Viscoelastic | Disposable glass  |
| sodium dihydrogen   | 0.004      | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate 7000                 | Healon GV                                   | Pharmacia Inc. Ophthalmics         | Viscoelastic | disposable glass  |
| sodium dithionite   | 0.1        |                     | SC - subcutaneous    | oxymorphone hydrochloride               | Numorphan                                   | DuPont Pharma                      | Solution     | multidose vials   |
| sodium dodecyl      | 0.018      | 7.2 - 7.8           | IV - intravenous     | aldesleukin (recombinant human)         | Proleukin ®                                 | Chiron Therapeutics                | Lyophilized  | single use vial   |
| sodium formaldehyde | 0.3        |                     | IM - intramuscular   | oxytetracycline                         | Terramycin                                  | Roerig                             | Solution     | multidose vial    |
| sodium formaldehyde | 0.1        |                     | IV - intravenous     | rifampin for injection                  | Rifadin IV                                  | Marion Merrell Dow Inc.            | Lyophilized  | glass vial        |
| sodium formaldehyde | ≤0.075     |                     | IM - intramuscular   | meperidine hydrochloride & promethazine | Mepergan                                    | Wyeth-Ayerst                       | Solution     | sterile cartridge |
| sodium formaldehyd  | 0.5        |                     | IM - intramuscular   | oxytetracycline                         | Terramycin-ampule                           | Roerig                             | Solution     | ampule            |
| sodium hydrogen     | 0.0265     | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection  | Genotropin™                                 | Pharmacia Inc.                     | Lyophilized  | Intra-Mix two     |
| sodium hydroxide    |            |                     | IM-intramuscular     | Vitamin A Palmitate as retinol          | Aquasol A Parenteral                        | Astra USA, Inc.                    | Solution     | single-dose vial  |
| sodium hydroxide    |            | 5.0 - 7.5           | IM-intramuscular     | Dexamethasone Acetate Suspension        | Dalalone D.P. ®                             | Forest Pharmaceuticals             | Suspension   | vials             |
| sodium hydroxide    |            | 5.5                 | IM-intramuscular     | Loxapine Hydrochloride                  | Loxitane ®                                  | Lederle Parenterals Inc.           | Solution     | multidose vial    |
| sodium hydroxide    |            | 5.0 - 7.5           | IM-intramuscular     | dexamethasone acetate                   | Decadron-LA                                 | Merck & Company                    | Suspension   | vials             |
| sodium hydroxide    |            | 7.5 - 8.0           | IV - intravenous     | Dexamethasone sodium phosphate, USP     | Decadron Phosphate Injection                | Merck & Company                    | Solution     | vials             |
| sodium hydroxide    |            | 6.5 - 6.9           | LI - local injection | dexamethasone sodium phosphate-lidocai  | Decadron Phosphate with Xylocaine Injection | Merck & Company                    | Solution     | vials             |
| sodium hydroxide    |            | 3.5 - 7.0           | IM - intramuscular   | Methylprednisolone acetate              | Depo-Medrol                                 | The Upjohn Company                 | Suspension   | single dose vial  |
| sodium hydroxide    |            |                     | IM - intramuscular   | medroxyprogesterone acetate             | Depo-Provera Contraceptive injection        | The Upjohn Company                 | Aqueous      | vials             |
| sodium hydroxide    |            | ~6.0                | IM - intramuscular   | triamcinolone diacetate                 | Aristocort Forte (P)                        | Fujisawa                           | Micronized   | vial              |
| sodium hydroxide    |            | 4.5 - 6.5           | IAR - intraarticular | triamcinolone hexacetanide              | Aristospan Suspension 20 mg/ml              | Fujisawa                           | Micronized   | vials             |
| sodium hydroxide    |            | ~6.0                | IL - intralesional   | triamcinolone diacetate                 | Aristocort                                  | Fujisawa USA, Inc.                 | Micronized   | vial              |
| sodium hydroxide    |            | 4.5 - 6.5           | IL - intralesional   | triamcinolone hexacetanide suspension   | Aristospan Suspension 5 mg/ml               | Fujisawa USA, Inc.                 | Suspension   | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient        | Conc. %W/V | pH where applicable | Administration Route | Drug Name                            | Brand Name                          | Manufacturer                    | Dosage Form  | Storage Container  |
|------------------|------------|---------------------|----------------------|--------------------------------------|-------------------------------------|---------------------------------|--------------|--------------------|
| sodium hydroxide |            | ~6.1                | IV - intravenous     | imiglucerase                         | Cerezyme™                           | Genzyme Corporation             | Lyophilized  | vial               |
| sodium hydroxide |            | 7.3                 | IV-intravenous       | Alteplase                            | Activase®                           | Genentech, Inc.                 | Lyophilized  | vials              |
| sodium hydroxide |            | ~5.0                | IM - intramuscular   | trimethobenzamide HCl                | Tigan®-ampuls                       | Roberts Pharmaceuticals         | Solution     | ampuls             |
| sodium hydroxide |            | ~5.0                | IM - intramuscular   | trimethobenzamide HCl                | Tigan®-vials                        | Roberts Pharmaceuticals         | Solution     | multiple dose vial |
| sodium hydroxide |            | ~5.0                | IM - intramuscular   | trimethobenzamide HCl                | Tigan®-syringe                      | Roberts Pharmaceuticals         | Solution     | disposable         |
| sodium hydroxide |            |                     | IV - intravenous     | Enalaprilat                          | Vasotec I.V.                        | Merck & Company                 | Solution     | vial               |
| sodium hydroxide |            | ~3.0                | IV - intravenous     | midazolam hydrochloride              | Versed                              | Hoffman - LaRoche Inc.          | Solution     | vials              |
| sodium hydroxide |            |                     | IM - intramuscular   | hydroxyzine hydrochloride            | Vistaril                            | Roerig                          | Solution     | multidose vials    |
| sodium hydroxide |            | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                  | Talwin Injection (ampuls)           | Sanofi Winthrop                 | Solution     | ampuls             |
| sodium hydroxide |            | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                  | Talwin Injection (cartridge needle) | Sanofi Winthrop                 | Solution     | cartridge needle   |
| sodium hydroxide |            | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                  | Talwin injection (multidose vial)   | Sanofi Winthrop                 | Solution     | multidose vials    |
| sodium hydroxide |            | 5.5 - 6.5           | IV - intravenous     | atenolol                             | Tenormin I. V. Injection            | Zeneca Pharmaceuticals          | Solution     | ampules            |
| sodium hydroxide |            | ~6.5                | IV - intravenous     | protirelin                           | Thyrel® TRH                         | Ferring Laboratories, Inc.      | Solution     | ampuls             |
| sodium hydroxide |            | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride         | Nesacaine Injection                 | Astra USA, Inc.                 | Solution     | multidose vials    |
| sodium hydroxide |            | 2.7 - 4.0           | IF - infiltration &  | chloroprocaine hydrochloride         | Nesacaine-MPF Injection             | Astra USA, Inc.                 | Solution     | single dose vials  |
| sodium hydroxide |            | 4.0                 | IV - intravenous     | vecuronium bromide                   | Norcuron®                           | Organon                         | Freeze-dried | vials              |
| sodium hydroxide |            |                     | IM - intramuscular   | orphenadrine citrate                 | Norflex Injection                   | 3M Pharmaceuticals              | Solution     | ampul              |
| sodium hydroxide |            | 7.0 - 8.5           | IV - intravenous     | propofol                             | Diprivan® Injection 1%              | Zeneca Pharmaceuticals          | Emulsion     | ampules            |
| sodium hydroxide |            | ~8.0                | IV - intravenous     | diazepam emulsified injection        | Dizac                               | Ohmeda PPD, Inc.                | Emulsion     | single dose vial   |
| sodium hydroxide | 0.24       |                     | IV - intravenous     | ritodrine hydrochloride              | Yutopar                             | Astra USA, Inc.                 | Solution     | vial               |
| sodium hydroxide |            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole    | Septra I.V. Infusion                | Glaxo Wellcome                  | Solution     | multidose vials    |
| sodium hydroxide |            |                     | IM - intramuscular   | furosemide                           | Lasix®                              | Hoechst-Roussel Pharmaceuticals | Solution     | ampuls             |
| sodium hydroxide |            |                     | IM - intramuscular   | glucagon hydrochloride               | Glucagon                            | Eli Lilly & Company             | Lyophilized  | single dose vials  |
| sodium hydroxide |            | ~7.5                | IM - intramuscular   | somatropin rDNA origin for injection | Humatrope®                          | Eli Lilly & Company             | Lyophilized  | vials              |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient        | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                       | Brand Name                               | Manufacturer         | Dosage Form      | Storage Container |
|------------------|------------|---------------------|----------------------|---|--|----------------------|------------------|-------------------|
| sodium hydroxide |            | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate                      | D.H.E. 45 ®                              | Sandoz               | Solution         | ampuls            |
| sodium hydroxide |            | neutral             |                      | insulin injection purified pork                 | Regular Concentrated Iletin ® II U-500   | Eli Lilly & Company  | Solution (clear) | vials             |
| sodium hydroxide |            | 4.0 - 6.5           | various              | bupivacaine hydrochloride                       | Sensorcaine ®                            | Astra USA, Inc.      | Solution         | multidose vials   |
| sodium hydroxide |            | 3.3 - 5.5           | various              | bupivacaine hydrochloride, and epinephrine as   | Sensorcaine ® with Epinephrine           | Astra USA, Inc.      | Solution         | multidose vials   |
| sodium hydroxide |            | 4.0 - 6.5           | various              | bupivacaine hydrochloride                       | Sensorcaine ®-MPF                        | Astra USA, Inc.      | Solution         | single dose vials |
| sodium hydroxide |            | 3.3 - 5.5           | various              | bupivacaine hydrochloride and epinephrine as    | Sensorcaine ®-MPF with epinephrine       | Astra USA, Inc.      | Solution         | single dose vials |
| sodium hydroxide |            | 5.0 - 7.0           | various              | lidocaine hydrochloride                         | Xylocaine                                | Astra USA, Inc.      | Solution         | multidose vials   |
| sodium hydroxide |            | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at      | Xylocaine with Epinephrine               | Astra USA, Inc.      | Solution         | multidose vials   |
| sodium hydroxide |            | 5.0 - 7.0           | various              | lidocaine hydrochloride                         | Xylocaine MPF                            | Astra USA, Inc.      | Solution         | single dose vials |
| sodium hydroxide |            | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at      | Xylocaine MPF with epinephrine           | Astra USA, Inc.      | Solution         | ampules           |
| sodium hydroxide |            | 5.0 - 7.0           | IV - intravenous     | lidocaine hydrochloride injection               | Xylocaine for ventricular arrhythmias    | Astra USA, Inc.      | Solution         | single dose vials |
| sodium hydroxide |            | 5.0 - 7.0           | transtracheal        | lidocaine hydrochloride injection               | 4% Xylocaine MPF                         | Astra USA, Inc.      | Solution         | ampules           |
| sodium hydroxide |            | 5.5 - 7.0           | spinal anesthesia    | lidocaine hydrochloride                         | Xylocaine MPF 1.5%/5% with 7.5%          | Astra USA, Inc.      | Solution         | ampules           |
| sodium hydroxide |            | neutral             | IV - intravenous     | insulin injection, USP, beef-porcine            | Regular Iletin I                         | Eli Lilly & Company  | Clear Solution   | vials             |
| sodium hydroxide |            | neutral             | IV - intravenous     | insulin injection, USP, purified pork           | Regular Iletin II                        | Eli Lilly & Company  | Solution (clear) | vials             |
| sodium hydroxide |            | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, beef-pork         | Lente Iletin I                           | Eli Lilly & Company  | Suspension       | vials             |
| sodium hydroxide |            | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, purified pork     | Lente Iletin II                          | Eli Lilly & Company  | Suspension       | vials             |
| sodium hydroxide |            | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, beef-pork     | NPH Iletin I                             | Eli Lilly & Company  | Suspension       | vials             |
| sodium hydroxide |            | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, purified pork | NPH Iletin II                            | Eli Lilly & Company  | Suspension       | vials             |
| sodium hydroxide |            | ~8.1 (prior         | IM - intramuscular   | leucovorin calcium                              | Leucovorin Calcium for Injection         | Immunex Corporation  | Cryodesiccated   | vial              |
| sodium hydroxide |            | ~8.1                | IM - intramuscular   | leucovorin calcium                              | Wellcovorin brand Leucovorin Calcium for | Glaxo Wellcome       | Powder           | vial              |
| sodium hydroxide |            | ~4.3                | SC - subcutaneous    | levorphanol tartrate                            | Levo-Dromoran                            | Roche Laboratories   | Solution         | ampuls            |
| sodium hydroxide |            | ~4.3                | SC - subcutaneous    | levorphanol tartrate                            | Levo-Dromoran-vials                      | Roche Laboratories   | Solution         | multidose vial    |
| sodium hydroxide |            | ~3.0                | IM - intramuscular   | chlordiazepoxide hydrochloride                  | Librium injectable (IM)                  | Roche Products, Inc. | Crystalline      | amber ampuls      |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient        | Conc. %W/V | pH where applicable | Administration Route  | Drug Name                                | Brand Name                         | Manufacturer                    | Dosage Form  | Storage Container |
|------------------|------------|---------------------|-----------------------|--|------------------------------------|---------------------------------|--------------|-------------------|
| sodium hydroxide |            |                     | SC - subcutaneous     | leuprolide acetate                       | Lupron Injection                   | TAP Pharmaceuticals             | Solution     | multidose vial    |
| sodium hydroxide |            |                     | IM - intramuscular    | hydromorphone hydrochloride              | Dilaudid-vials                     | Knoll Laboratories              | Solution     | multidose vials   |
| sodium hydroxide |            |                     | IV - intravenous      | chlorothiazide sodium                    | Intravenous Sodium Diuril          | Merck & Company                 | Lyophilized  | vial              |
| sodium hydroxide | 5.0 - 6.0  |                     | IM - intramuscular    | diphenhydramine hydrochloride            | Benadryl                           | Parke Davis                     | Solution     | ampules           |
| sodium hydroxide |            |                     | IM - intramuscular    | calcitonin-salmon                        | Calcimar ® Injection; Synthetic    | Rhone-Poulenc Rorer             | Solution     | vials             |
| sodium hydroxide | 4.5 - 6.8  |                     | various               | mepivacaine hydrochloride                | Carbocaine Hydrochloride-single    | Sanofi Winthrop                 | Solution     | single dose vials |
| sodium hydroxide | 4.5 - 6.8  |                     | various               | mepivacaine hydrochloride                | Carbocaine Hydrochloride-multidose | Sanofi Winthrop                 | Solution     | multiple dose     |
| sodium hydroxide |            |                     | ICN - intracavernosal | alprostadil                              | Caverject Sterile Powder           | The Upjohn Company              | Freeze-dried | vial              |
| sodium hydroxide |            |                     | IV - intravenous      | urokinase for injection                  | Abbokinase                         | Abbott Laboratories             | Lyophilized  | vial              |
| sodium hydroxide |            |                     | IV - intravenous      | urokinase                                | Abbokinase Open-Cath               | Abbott Laboratories             | Lyophilized  | single dose       |
| sodium hydroxide | 8.0 - 9.8  |                     | IV - intravenous      | fluorescein injection                    | Ak-Fluor ®                         | Akon Inc.                       | Solution     | single dose vials |
| sodium hydroxide |            |                     | IV - intravenous      | albumin (human), 25%                     | Albuminar ®-25                     | Armour Pharmaceutical           | Solution     | vials             |
| sodium hydroxide | 6.9 ± 0.5  |                     | IV - intravenous      | albumin (human) 5%                       | Albuminar ®-5                      | Armour Pharmaceutical           | Solution     | bottles           |
| sodium hydroxide |            |                     | IV - intravenous      | methylolopate HCl                        | Aldomet Ester Hydrochloride        | Merck & Company                 | Solution     | vials             |
| sodium hydroxide | 3.5 - 5.5  |                     | IM - intramuscular    | amikacin sulfate                         | Amikacin Sulfate Injection, USP    | Elkins-Sinn                     | Solution     | vials             |
| sodium hydroxide | 6.7 - 7.6  |                     | IV - intravenous      | aminohippurate sodium                    | Aminohippurate sodium Injection    | Merck & Company                 | Solution     | vials             |
| sodium hydroxide | as needed  |                     | ITO - intraocular     | sodium hyaluronate                       | Amvisc ® Plus                      | Chiron Vision                   | Solution     | disposable glass  |
| sodium hydroxide | 6.5 - 8.5  |                     | IV - intravenous      | mesna                                    | Mesnex Injection                   | Bristol-Myers Squibb-Oncology   | Solution     | multidose vial    |
| sodium hydroxide | 8.0 - 9.0  |                     | IV - intravenous      | cyclophosphamide for injection, USP      | Lyophilized Neosar ®               | Pharmacia                       | Lyophilized  | vials             |
| sodium hydroxide | 5.0 - 7.5  |                     | IV - intravenous      | cefotaxime sodium injection              | Premixed Claforan ® Injection      | Hoechst-Roussel Pharmaceuticals | Frozen       | Galaxy single     |
| sodium hydroxide |            |                     | IV - intravenous      | dobutamine hydrochloride injection       | Dobutrex ®                         | Eli Lilly & Company             | Solution     | vials             |
| sodium hydroxide | 6.8 ± 0.4  |                     | IM - intramuscular    | hepatitis B immune globulin (human), MSD | Hep-B-Gammagec                     | Merck & Company                 | Solution     | vials             |
| sodium hydroxide | 5.7 - 6.4  |                     | IV - intravenous      | famotidine                               | Pepcid Injection Premixed          | Merck & Company                 | Premixed     | single dose       |
| sodium hydroxide | 4.5 - 6.5  |                     | IM - intramuscular    | metoclopramide injection, USP            | Reglan Injectable                  | A. H. Robins Company            | Solution     | single dose vials |
| sodium hydroxide | ~4.0       |                     | IV - intravenous      | flumazenil                               | Romazicon™                         | Roche Laboratories              | Solution     | vials             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient        | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                 | Brand Name                              | Manufacturer                       | Dosage Form    | Storage Container |
|------------------|------------|---------------------|----------------------|---|---|------------------------------------|----------------|-------------------|
| sodium hydroxide |            | 4.0 - 6.5           | various              | bupivacaine hydrochloride                 | Marcaine Hydrochloride                  | Sanofi Winthrop                    | Solution       | single dose vials |
| sodium hydroxide |            | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop                    | Solution       | single dose vials |
| sodium hydroxide |            | 4.0 - 6.5           | SA - subarachnoid    | bupivacaine hydrochloride                 | Marcaine Spinal                         | Sanofi Winthrop                    | Solution       | single dose ampul |
| sodium hydroxide |            |                     | IV - intravenous     | ticarcillin disodium and clavulanate      | Timentin (solution)                     | SmithKline Beecham Pharmaceuticals | Frozen         | Galaxy plastic    |
| sodium hydroxide |            |                     | IM - intramuscular   | tobramycin sulfate injection              | Nebcin ®                                | Eli Lilly & Company                | Solution       | multidose vials   |
| sodium hydroxide |            |                     | SC - subcutaneous    | oxymorphone hydrochloride                 | Numorphan                               | DuPont Pharma                      | Solution       | multidose vials   |
| sodium hydroxide |            |                     | IM - intramuscular   | papverine hydrochloride                   | Papverine Hydrochloride Injection, USP  | Eli Lilly & Company                | Solution       | multidose vials   |
| sodium hydroxide |            | ~5.0                | IV - intravenous     | pentastarch                               | Pentaspán                               | DuPont Pharmaceuticals             | Solution       | bottles           |
| sodium hydroxide |            |                     | IM - intramuscular   | Levothyroxine sodium USP                  | Synthroid Injection                     | Knoll Laboratories                 | Lyophilized    | single dose vials |
| sodium hydroxide |            |                     | IV - intravenous     | cisplatin injection                       | Platinol-AQ                             | Bristol-Myers Squibb-Oncology      | Solution       | multidose vial    |
| sodium hydroxide |            | 3.2 - 4.0           | IV - intravenous     | milrinone lactate injection               | Primacor                                | Sanofi Winthrop                    | Solution       | single dose vials |
| sodium hydroxide |            | ~5.9                | IM - intramuscular   | neostigmine methylsulfate                 | Prostigmin Injectable (ampuls)          | ICN Pharmaceuticals                | Solution       | ampuls            |
| sodium hydroxide |            | ~5.9                | IM - intramuscular   | neostigmine methylsulfate                 | Prostigmin Injectable                   | ICN Pharmaceuticals                | Solution       | multidose vial    |
| sodium hydroxide |            | 3.5 - 4.5           | IM - intramuscular   | pralidoxime chloride (2-PAM chloride)     | Protopam Chloride                       | Wyeth-Ayerst                       | Cryodesiccated | single dose vial  |
| sodium hydroxide |            | ~5.5                | IV - intravenous     | zidovudine                                | Retrovir IV Infusion                    | Glaxo Wellcome                     | Solution       | single use vial   |
| sodium hydroxide |            |                     | IV - intravenous     | rifampin for injection                    | Rifadin IV                              | Marion Merrell Dow Inc.            | Lyophilized    | glass vial        |
| sodium hydroxide |            | 2.0 - 3.0           | IM - intramuscular   | glycopyrrrolate, USP                      | Robinul Injectable                      | A. H. Robins Company               | Liquid         | multidose vial    |
| sodium hydroxide |            | ~5.0                | IM - intramuscular   | pyridostigmine bromide                    | Mestinon Injectable                     | ICN Pharmaceuticals                | Solution       | ampuls            |
| sodium hydroxide |            | ~8.5                | IA - intraarterial   | methotrexate sodium                       | Methotrexate Sodium Injection           | Immunex Corporation                | Solution       | vial              |
| sodium hydroxide |            | ~8.5                | IA - intraarterial   | methotrexate sodium                       | Methotrexate L.P.F. ® Sodium            | Immunex Corporation                | Solution       | vial              |
| sodium hydroxide |            |                     | IA - intraarterial   | methotrexate sodium                       | Methotrexate Sodium for Injection       | Immunex Corporation                | Freeze-dried   | vial              |
| sodium hydroxide |            | ~11.6               | IV - intravenous     | diazoxide                                 | Hyperstate IV Injection                 | Schering Corporation               | Solution       | ampule            |
| sodium hydroxide |            | 6.860.4             | IM - intramuscular   | rabies immune globulin (human)            | Imogam ® Rabies                         | Connaught Laboratories             | Solution       | vial              |
| sodium hydroxide |            | ~9.6                | IV - intravenous     | azathioprine                              | Imuran                                  | Glaxo Wellcome                     | Lyophilized    | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient        | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                | Brand Name                 | Manufacturer                | Dosage Form  | Storage Container   |
|------------------|------------|---------------------|----------------------|--|----------------------------|-----------------------------|--------------|---------------------|
| sodium hydroxide |            | 5.2 - 6.5           | IM - intramuscular   | iron dextran injection                   | INFeD                      | Schein Pharmaceutical Inc.  | Dark-brown   | single dose amber   |
| sodium hydroxide |            | 4.5                 | IT - intrathecal     | morphine sulfate                         | Infumorph ®                | Elkins-Sinn Inc.            | Solution     | single dose amber   |
| sodium hydroxide |            | 3.2 - 4.0           | IV - intravenous     | amrinone lactate                         | Inocor Lactate Injection   | Sanofi Winthrop             | Solution     | ampuls              |
| sodium hydroxide |            | 4.1 - 6.0           | IV - intravenous     | verapamil hydrochloride                  | Isoptin ®                  | Knoll Laboratories          | Solution     | single dose vial    |
| sodium hydroxide |            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole        | Septra IV Infusion         | Glaxo Wellcome              | Solution     | vial                |
| sodium hydroxide |            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole        | Septra IV Infusion ADD     | Glaxo Wellcome              | Solution     | vial                |
| sodium hydroxide |            | 7.0 - 8.0           | IM - intramuscular   | hydrocortisone sodium succinate          | Solu-Cortef Sterile Powder | The Upjohn Company          | Powder       | Act-O-vial          |
| sodium hydroxide |            | 7.0 - 8.0           | IM - intramuscular   | methylprednisolone sodium succinate, USP | Solu-Medrol Sterile Powder | The Upjohn Company          | Powder       | Act-O-vial          |
| sodium hydroxide |            | 7.9                 | IV - intravenous     | sodium tetradecyl sulfate injection      | Sotradecol ®               | Elkins-Sinn Inc.            | Solution     | ampul               |
| sodium hydroxide |            |                     | IV - intravenous     | streptokinase                            | Streptase                  | Astra USA, Inc.             | Lyophilized  | vial                |
| sodium hydroxide |            | 4.0 - 7.5           | IM - intramuscular   | fentanyl citrate                         | Sublimaze                  | Janssen Pharmaceutica Inc.  | Solution     | ampoule             |
| sodium hydroxide |            |                     | SC - subcutaneous    | Epinephrine                              | Sus-phrine ®               | Forest Pharmaceuticals Inc. | Suspension   | ampul               |
| sodium hydroxide |            | 3.5 - 3.5           | IV - intravenous     | streptozocin                             | Zanosar Sterile Powder     | The Upjohn Company          | Freeze-dried | vial                |
| sodium hydroxide |            | 4.2 - 6.2           | IV - intravenous     | cefmetazole sodium injection             | Zefazone ® IV solution     | The Upjohn Company          | premixed     | plastic Galaxy      |
| sodium hydroxide |            | 4.0                 | IV - intravenous     | rocuronium bromide                       | Zemuron™ Injection         | Organon                     | Solution     | multidose vial      |
| sodium hydroxide |            | 5.0 - 7.5           | IV - intravenous     | cefuroxime sodium injection              | Zinacef ®                  | Glaxo Wellcome              | Frozed       | Galaxy plastic      |
| sodium hydroxide | <0.004     |                     | IV - intravenous     | anistreplase                             | Eminase ®                  | Roberts Pharmaceutical      | Lyophilized  | vial                |
| sodium hydroxide |            | 3.8 - 5.8           | IV - intravenous     | ofloxacin injection                      | Floxin ® IV - premixed     | Ortho Pharmaceutical        | Premixed     | single use flexible |
| sodium hydroxide |            | 7.2 - 8.2           | IV - intravenous     | fludarabine phosphate                    | Fludara for Injection      | Berlex Laboratories         | Lyophilized  | vial                |
| sodium hydroxide |            |                     | IV - intravenous     | fluorescein sodium                       | Fluorescite ® Injection    | Alcon Laboratories          | Solution     | prefilled syringe   |
| sodium hydroxide |            | ~9.2                | IV - intravenous     | fluorouracil                             | Fluorouracil Injection     | Roche Laboratories          | Solution     | single use vial     |
| sodium hydroxide |            | 5.0 - 7.5           | IV - intravenous     | ceftazidime sodium injection             | Fortaz ® Injection         | Glaxo Wellcome              | Frozen       | Galaxy plastic      |
| sodium hydroxide |            | 7.4                 | IV - intravenous     | foscarnet sodium hexahydrate             | Foscavir                   | Astra USA, Inc.             | Solution     | glass bottle        |
| sodium hydroxide |            | 6.0 - 7.0           | IV - intravenous     | gallium nitrate injection                | Ganite                     | Solopak Laboratories, Inc.  | Solution     | single dose         |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V   | pH where applicable | Administration Route | Drug Name   | Brand Name                              | Manufacturer           | Dosage Form      | Storage Container |
|---------------------|--------------|---------------------|----------------------|---|---|------------------------|------------------|-------------------|
| sodium hydroxide    |              | 5.0 - 7.5           | IV - intravenous     | heparin sodium  | Heparin Sodium Injection                | The Upjohn Company     | Solution         | vial              |
| sodium hydroxide    |              |                     | IV - intravenous     | heparin sodium  | Heparin Sodium Injunctio -Eli Lilly     | Eli Lilly & Company    | Solution         | multidose vial    |
| sodium hydroxide    |              | 3.5 - 7.0           | IV - intravenous     | hetastarch  | Hespan                                  | DuPont Pharma          | Solution         | Excel plastic     |
| sodium hydroxide    |              |                     | IM - intramuscular   | menotropins for injection                             | Humegon™                                | Organon Inc.           | Lyophilized      | vial              |
| sodium hydroxide    |              | neutral             | SC - subcutaneous    | 50% human insulin isophane suspension and             | Humulin 50/50                           | Eli Lilly & Company    | Suspension       | vial              |
| sodium hydroxide    |              | neutral             | SC - subcutaneous    | 70% human insulin isophane suspension and             | Humulin 70/30                           | Eli Lilly & Company    | Suspension       | vial              |
| sodium hydroxide    |              | neutral             | SC - subcutaneous    | human insulin and zinc suspension                     | Humulin L (Lente)                       | Eli Lilly & Company    | Suspension       | vial              |
| sodium hydroxide    |              | neutral             | SC - subcutaneous    | human insulin suspension with protamine and zinc      | Humulin N (NPH)                         | Eli Lilly & Company    | Suspension       | vial              |
| sodium hydroxide    |              | neutral             | IV - intravenous     | zinc-human insulin                                    | Humulin R (Regular)                     | Eli Lilly & Company    | Solution (clear) | vial              |
| sodium hydroxide    |              | neutral             | SC - subcutaneous    | crystalline suspension of human insulin and           | Humulin U (Ultralente)                  | Eli Lilly & Company    | Suspension       | vial              |
| sodium hydroxide    |              | 7.0 - 8.0           | IM - intramuscular   | prednisolone sodium phosphate                         | Hydeltrasol                             | Merck & Company        | Solution         | vial              |
| sodium hydroxide    |              | 7.5 - 8.5           | IM - intramuscular   | hydrocortisone sodium phosphate                       | Hydrocortone Phosphate                  | Merck & Company        | Solution         | multidose vial    |
| sodium hydroxide    |              |                     | IV - intravenous     | ritodrine hydrochloride                               | Yutopar                                 | Astra USA, Inc.        | Solution         | vial              |
| sodium hydroxide    |              | 3.0 - 4.0           | IV - intravenous     | labetalol HCl   | Normodyne                               | Schering Corporation   | Solution         | multidose vial    |
| sodium hydroxide    |              | 3.5                 | IV - intravenous     | nicardipine HCl                                       | Cardene                                 | Wyeth-Ayerst           | Solution         | ampuls            |
| sodium hydroxide NF | amt required | 6.0 - 7.0           | IV - intravenous     | Provides Rose's recommended daily intake of essential | 5.4% NephAmine®                         | R&D Laboratories Inc.  | Solution         | glass containers  |
| sodium hydroxide NF |              | ~4.5                | IM - intramuscular   | methotrimeprazine as the hydrochloride salt           | Levoprome                               | Immunex Corporation    | Solution         | vials             |
| sodium hydroxide NF |              |                     | IV - intravenous     | torsemide   | Demadex                                 | Burroughs Wellcome Co. | Solution         | ampuls            |
| sodium hydroxide    |              |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP             | Pregnyl®                                | Organon                | Powder           | multidose vials   |
| sodium L-glutamate  | 0.5 - 1.25   |                     | IV - intravenous     | streptokinase   | Streptase                               | Astra USA, Inc.        | Lyophilized      | vial              |
| sodium lactate      | 1.4          |                     | IM - intramuscular   | biperiden lactate                                     | Akineton                                | Knoll Laboratories     | Solution         | ampule            |
| sodium lactate      | 1.87         | 3.5 - 5.5           | IV - intravenous     | dexrazoxane hydrochloride                             | Zinecard™                               | Pharmacia Inc.         | Lyophilized      | single use vials  |
| sodium lactate      | 0.102        | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine             | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop        | Solution         | single dose vials |
| sodium lactate      | 0.18         | 3.5 - 4.5           | IM - intramuscular   | isoproterenol hydrochloride injection, USP            | Isuprel                                 | Sanofi Winthrop        | Solution         | ampul             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V     | pH where applicable | Administration Route | Drug Name                                    | Brand Name                              | Manufacturer                  | Dosage Form | Storage Container |
|----------------------|----------------|---------------------|----------------------|--|---|-------------------------------|-------------|-------------------|
| sodium metabisulfite | 0.12           | 3.0 - 6.5           | IM - intramuscular   | tobramycin sulfate                           | Tobramycin Sulfate Injection, USP       | Elkins-Sinn                   | Solution    | multidose vials   |
| sodium metabisulfite | ≤0.2           |                     | SC - subcutaneous    | phenylephrine hydrochloride injection        | Neo-Synephrine hydrochloride            | Sanofi Winthrop               | Solution    | ampuls            |
| sodium metabisulfite | 0.24           | 3.5 - 6.0           | IM - intramuscular   | netilmicin sulfate, USP                      | Netromycin Injection                    | Schering Biochem. Corporation | Solution    | vials             |
| sodium metabisulfite | 0.1            |                     | IV - intravenous     | ritodrine hydrochloride                      | Yutopar                                 | Astra USA, Inc.               | Solution    | vial              |
| sodium metabisulfite | 0.1            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole            | Septra I.V. Infusion                    | Glaxo Wellcome                | Solution    | multidose vials   |
| sodium metabisulfite | 0.05           | 3.3 - 5.5           | various              | bupivacaine hydrochloride and epinephrine as | Sensorcaine ®-MPF with epinephrine      | Astra USA, Inc.               | Solution    | single dose vials |
| sodium metabisulfite | 0.05           | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at   | Xylocaine with Epinephrine              | Astra USA, Inc.               | Solution    | multidose vials   |
| sodium metabisulfite | ≤0.2           | 3.0 - 4.5           | IV - intravenous     | norepinephrine bitartrate                    | Levophed bitartrate injection           | Sanofi Winthrop               | Solution    | ampul             |
| sodium metabisulfite | 0.3            | ~4.5                | IM - intramuscular   | methotrimeprazine as the hydrochloride salt  | Levoprome                               | Immunex Corporation           | Solution    | vials             |
| sodium metabisulfite | 0.66           | 3.5 - 5.5           | IM - intramuscular   | amikacin sulfate                             | Amikacin Sulfate Injection, USP         | Elkins-Sinn                   | Solution    | vials             |
| sodium metabisulfite | 0.0075 - 0.015 | 4.0                 | IM - intramuscular   | dezocine                                     | Dalgan                                  | Astra USA, Inc.               | Solution    | single dose vials |
| sodium metabisulfite | 0.05           | 3.0 - 4.5           | various              | etidocaine HCl and epinephrine as bitartrate | Duranest Injections                     | Astra USA, Inc.               | Solution    | single dose vial  |
| sodium metabisulfite | 0.05           | 3.4 - 4.5           | various              | bupivacaine hydrochloride and epinephrine    | Marcaine Hydrochloride with Epinephrine | Sanofi Winthrop               | Solution    | single dose vials |
| sodium metabisulfite | 0.1            |                     | IM - intramuscular   | nalbuphine hydrochloride                     | Nubain                                  | DuPont Pharma                 | Solution    | ampuls            |
| sodium metabisulfite | ≤ 0.025        |                     | IM - intramuscular   | promethazine hydrochloride                   | Phenergan Injection (ampuls)            | Wyeth-Ayerst                  | Solution    | ampuls            |
| sodium metabisulfite | ≤0.025         |                     | IM - intramuscular   | meperidine hydrochloride & promethazine      | Mepergan                                | Wyeth-Ayerst                  | Solution    | sterile cartridge |
| sodium metabisulfite | 0.025          | 3.2 - 4.0           | IV - intravenous     | amrinone lactate                             | Inacor Lactate Injection                | Sanofi Winthrop               | Solution    | ampuls            |
| sodium metabisulfite | 0.1            | 3.5 - 4.5           | IM - intramuscular   | isoproterenol hydrochloride injection, USP   | Isuprel                                 | Sanofi Winthrop               | Solution    | ampul             |
| sodium metabisulfite | 0.1            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole            | Septra IV Infusion                      | Glaxo Wellcome                | Solution    | vial              |
| sodium metabisulfite | 0.1            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole            | Septra IV Infusion ADD                  | Glaxo Wellcome                | Solution    | vial              |
| sodium metabisulfite | 0.2            | 5.0 - 8.0           | IM - intramuscular   | streptomycin sulfate                         | Streptomycin Sulfate Injection          | Pfizer Roerig                 | Solution    | ampule            |
| sodium metabisulfite | 0.167          | 2.5 - 5.0           | IM - intramuscular   | epinephrine injection                        | EpiPen Auto-Injectors                   | Center Laboratories           | Solution    | auto-injectors    |
| sodium metabisulfite | 0.025          |                     | IM - intramuscular   | thiethylperazine maleate USP                 | Torecan ®                               | Roxane Laboratories, Inc.     | Solution    | ampul             |
| sodium metabisulfite | 0.05           | 3.3 - 5.5           | various              | lidocaine hydrochloride and epinephrine at   | Xylocaine MPF with epinephrine          | Astra USA, Inc.               | Solution    | ampules           |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient        | Conc. %W/V    | pH where applicable | Administration Route | Drug Name   | Brand Name                                     | Manufacturer                       | Dosage Form    | Storage Container |
|------------------|---------------|---------------------|----------------------|---|--|------------------------------------|----------------|-------------------|
| sodium (Na+)     | 0.299 - 0.368 |                     | IV - intravenous     | selected plasma proteins                            | Plasma Protein Fraction (human) 5%-Plasma Plex | Armour Pharmaceutical              | Solution       | bottles           |
| sodium phosphate |               | ~ 7.4               | IM-intramuscular     | Diphtheria & Tetanus Toxoids and Acellular          | Tripedia™                                      | Connaught Laboratories, Inc.       | Solution/Suspe | vial              |
| sodium phosphate | 0.13          | 7.2                 | IV - intravenous     | Fab fragment of the chimeric human-murine           | Abciximab, ReoPro™                             | Centocor B. V./Eli Lilly & Company | Solution       | single use vial   |
| sodium phosphate |               | neutral             | SC - subcutaneous    | Human Insulin Injection (semi-synthetic)            | Velosulin BR                                   | Novo Nordisk                       | Solution       | vials             |
| sodium phosphate | 0.17          | 6.8 - 7.2           | IM - intramuscular   | digoxin   | Lanoxin  | Glaxo-Wellcome                     | Solution       | ampul             |
| sodium phosphate |               |                     | IM - intramuscular   | combination of purified tetanus & diphtheria        | Diphtheria & Tetanus Toxoids & Pertussis       | SmithKline Beecham Pharmaceuticals | Suspension     | vials             |
| sodium phosphate |               |                     | IM - intramuscular   | combines diphtheria & tetanus toxoids               | Diphtheria & Tetanus Toxoids & Pertussis       | Connaught Laboratories, Inc.       | Turbid Liquid  | vial              |
| sodium phosphate | 0.17          | 6.8 - 7.2           | IM - intramuscular   | digoxin   | Lanoxin (Digoxin) Injection                    | Glaxo Wellcome                     | Solution       | ampuls            |
| sodium phosphate | 0.213 - 0.355 | 6.6 - 7.4           | IV - intravenous     | alpha1-proteinase inhibitor (human)                 | Prolastin®                                     | Bayer Corporation-Biologi          | Lyophilized    | single dose vials |
| sodium phosphate |               |                     | IV - intravenous     | protamine sulfate                                   | Protamine Sulfate Injection, USP               | Eli Lilly & Company                | Solution       | vial              |
| sodium phosphate | 0.048         | 5.0 - 7.0           | IV - intravenous     | metronidazole                                       | Flagyl IV RTU                                  | SCS                                | Solution       | single dose       |
| sodium phosphate |               |                     | IM - intramuscular   | combination of refined tetanus & diphtheria toxoids | Tetanus & Diphtheria Toxoids Adsorbed (Adult)  | Lederle Laboratories               | Suspension     | vial              |
| sodium phosphate |               |                     | IM - intramuscular   | refined tetanus toxoid                              | Tetanus Toxoid Adsorbed, aluminum              | Lederle Laboratories               | Suspension     | vial              |
| sodium phosphate |               |                     | IM - intramuscular   | diphtheria & tetanus toxoids & Pertussis Vaccine    | Tri-Immunol                                    | Lederle Laboratories               | Suspension(aft | multidose vials   |
| sodium phosphate | 0.026 - 0.26  | ~7.4                | SC - subcutaneous    | somatropin (rDNA origin) for injection              | Nutropin®                                      | Genentech, Inc.                    | Lyophilized    | vials             |
| sodium phosphate | ~0.09         |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)            | Varivax  | Merck & Company                    | Lyophilized    | single-dose vial  |
| sodium phosphate |               |                     | IM - intramuscular   | combination of refined diphtheria & tetanus toxoids | Diphtheria & Tetanus Toxoids Adsorbed,         | Lederle Laboratories               | Suspension(aft | vial              |
| sodium phosphate | 0.032 - 0.32  | ~7.8                | IM - intramuscular   | somatrem for injection                              | Protropin®                                     | Genentech, Inc.                    | Lyophilized    | vial              |
| sodium phosphate | 0.23          |                     | IL - intralesional   | interferon alfa-2b, recombinant                     | Intron A                                       | Schering Corporation               | Powder         | vial              |
| sodium phosphate | 0.23          |                     | IM - intramuscular   | interferon alfa-2b, recombinant                     | Intron A (solution)                            | Schering Corporation               | Solution       | vials             |
| sodium phosphate |               |                     | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Pertussis          | Tetramune, (DTP-HbOC)                          | Lederle Laboratories               | Suspension(aft | vial              |
| sodium phosphate | 0.163         | 4.0                 | IV - intravenous     | vecuronium bromide                                  | Norcuron®                                      | Organon                            | Freeze-dried   | vials             |
| sodium phosphate | 0.498         | 8.1 - 8.3           | IV - intravenous     | warfarin sodium                                     | Coumadin                                       | Dupont Pharma                      | Lyophilized    | vial              |
| sodium phosphate |               |                     | IM - intramuscular   | combination of refined tetanus & diphtheria toxoids | Tetanus & Diphtheria Toxoids Adsorbed (Adult)  | Lederle Laboratories               | Suspension     | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient         | Conc. %W/V   | pH where applicable | Administration Route    | Drug Name   | Brand Name                              | Manufacturer                       | Dosage Form    | Storage Container |
|-------------------|--------------|---------------------|-------------------------|---|---|------------------------------------|----------------|-------------------|
| sodium phosphate  |              |                     | IM - intramuscular      | refined tetanus toxoid                              | Tetanus Toxoid Adsorbed, aluminum       | Lederle Laboratories               | Suspension     | vial              |
| sodium phosphate  |              |                     | IM - intramuscular      | diphtheria & tetanus toxoids & Pertussis Vaccine    | Tri-Immunol                             | Lederle Laboratories               | Suspension(aft | multidose vials   |
| sodium phosphate  | 0.008 - 0.08 | ~7.4                | SC - subcutaneous       | somatropin (rDNA origin) for injection              | Nutropin ®                              | Genentech, Inc.                    | Lyophilized    | vials             |
| sodium phosphate  | trace        |                     | SC - subcutaneous       | Varicella Virus Vaccine Live (Oka/Merck)            | Varivax                                 | Merck & Company                    | Lyophilized    | single-dose vial  |
| sodium phosphate  |              |                     | IM - intramuscular      | combination of refined diphtheria & tetanus toxoids | Diphtheria & Tetanus Toxoids Adsorbed,  | Lederle Laboratories               | Suspension(aft | vial              |
| sodium phosphate  | 0.002 - 0.02 | ~7.8                | IM - intramuscular      | somatrem for injection                              | Protropin ®                             | Genentech, Inc.                    | Lyophilized    | vial              |
| sodium phosphate  | 0.055        |                     | IL - intralesional      | interferon alfa-2b, recombinant                     | Intron A                                | Schering Corporation               | Powder         | vial              |
| sodium phosphate  | 0.055        |                     | IM - intramuscular      | interferon alfa-2b, recombinant                     | Intron A (solution)                     | Schering Corporation               | Solution       | vials             |
| sodium phosphate  |              |                     | IM - intramuscular      | Diphtheria & Tetanus Toxoids and Pertussis          | Tetramune, (DTP-HbOC)                   | Lederle Laboratories               | Suspension(aft | vial              |
| sodium phosphate  | 0.0194       | 8.1 - 8.3           | IV - intravenous        | warfarin sodium                                     | Coumadin                                | Dupont Pharma                      | Lyophilized    | vial              |
| sodium phosphates | 20.2mg       | 4.2 (see            | IV - intravenous        | amphotericin B for injection                        | Fungizone Intravenous                   | Apothecon/Bristol-Myers Squibb     | Lyophilized    | vial              |
| sodium saccharin  | 0.09         |                     | IM - intramuscular      | prochlorperazine as the edisylate                   | Compazine                               | SmithKline Beecham Pharmaceuticals | Solution       | vials             |
| sodium saccharin  | 0.03         |                     | IM - intramuscular      | trifluoperazine hydrochloride                       | Stelazine                               | SmithKline Beecham Pharmaceuticals | Solution       | multidose vial    |
| sodium succinate  | 0.072        |                     | SC - subcutaneous       | interferon gamma 1b                                 | Actimmune ®                             | Genentech, Inc.                    | Solution       | single dose vial  |
| sodium sulfate    | 1.1          |                     | IM - intramuscular      | medroxyprogesterone acetate                         | Depo-provera Sterile Aqueous Suspension | The Upjohn Company                 | Suspension     | vials             |
| sodium sulfite    | 0.2          | ~ 5.4               | IV - intravenous        | edrophonium chloride                                | Tensilon                                | ICN Pharmaceuticals                | Solution       | multidose vials   |
| sodium sulfite    | 0.08         | 3.5 - 6.0           | IM - intramuscular      | netilmicin sulfate, USP                             | Netromycin Injection                    | Schering Biochem. Corporation      | Solution       | vials             |
| sodium sulfite    | 0.1          |                     | IM - intramuscular (see | chlorpromazine hydrochloride                        | Thorazine-ampule                        | SmithKline Beecham                 | Solution       | ampule            |
| sodium sulfite    | 0.1          |                     | IM - intramuscular (see | chlorpromazine hydrochloride                        | Thorazine                               | SmithKline Beecham                 | Solution       | multidose vials   |
| sodium sulfite,   | 0.05         |                     | IM - intramuscular      | imipramine hydrochloride USP                        | Tofranil                                | CibaGeneva Corporation             | Solution       | ampuls            |
| sodium tartrate   | 1.2          |                     | IM - intramuscular      | prochlorperazine as the edisylate                   | Compazine                               | SmithKline Beecham Pharmaceuticals | Solution       | vials             |
| sodium tartrate   | 0.475        |                     | IM - intramuscular      | trifluoperazine hydrochloride                       | Stelazine                               | SmithKline Beecham Pharmaceuticals | Solution       | multidose vial    |
| sorbitol          | 0.698        |                     | IV - intravenous        | hemin for injection                                 | Panhematin                              | Abbott Laboratories                | Lyophilized    | single dose vial  |
| sorbitol          | 1.88         |                     | IV - intravenous        | digoxin immune Fab (Ovine)                          | Digibind                                | Glaxo Wellcome                     | Lyophilized    | vials             |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient             | Conc. %W/V | pH where applicable | Administration Route | Drug Name  | Brand Name                     | Manufacturer                       | Dosage Form    | Storage Container  |
|-----------------------|------------|---------------------|----------------------|--|--------------------------------|------------------------------------|----------------|--------------------|
| sorbitol              |            |                     | SC - subcutaneous    | measles virus vaccine live, MSD                  | Attenuvax                      | Merck & Company                    | Lyophilized    | single dose vial   |
| sorbitol              |            |                     | SC - subcutaneous    | rubella and mumps virus vaccine live, MSD        | Biavax II                      | Merck & Company                    | Lyophilized    | single dose vial   |
| sorbitol              |            |                     | SC - subcutaneous    | Measles, Mumps, and Rubella Virus Vaccine Live,  | M-M-R II                       | Merck & Company                    | Lyophilized    | single dose vial   |
| sorbitol              |            |                     | SC - subcutaneous    | Measles and Rubella Virus Vaccine Live           | M-R-VAX II                     | Merck & Company                    | Lyophilized    | single dose vial   |
| sorbitol              |            |                     | SC - subcutaneous    | Rubella Virus Vaccine Live, MSD                  | Menavax II                     | Merck & Company                    | Lyophilized    | single dose vial   |
| sorbitol              |            |                     | SC - subcutaneous    | Mumps Virus Vaccine Live, MSD                    | Mumpsvax                       | Merck & Company                    | Lyophilized    | single dose vial   |
| sorbitol NF           | 4.8        | 3.5                 | IV - intravenous     | nicardipine HCl                                  | Cardene                        | Wyeth-Ayerst                       | Solution       | ampuls             |
| sorbitol NF           | 2.0        |                     | IM - intramuscular   | thiethylperazine malate USP                      | Torecan ®                      | Roxane Laboratories, Inc.          | Solution       | ampul              |
| sorbitol solution     | 50.0       | 4.5 - 6.5           | IAR - intraarticular | triamcinolone hexacetonide                       | Aristospan Suspension 20 mg/ml | Fujisawa                           | Micronized     | vials              |
| sorbitol solution     | 50.0       | 4.5 - 6.5           | IL - intralesional   | triamcinolone hexacetonide suspension            | Aristospan Suspension 5 mg/ml  | Fujisawa USA, Inc.                 | Suspension     | vial               |
| sorbitol solution USP | 7.14       | 3.7 - 4.1           | IV - intravenous     | diltiazem hydrochloride                          | Cardizem                       | Marion Merrell Dow Inc.            | Solution       | vial               |
| soybean oil           | 10.0       | 7.0 - 8.5           | IV - intravenous     | propofol   | Diprivan ® Injection 1%        | Zeneca Pharmaceuticals             | Emulsion       | ampules            |
| ster water            |            |                     | IM - intramuscular   | ketorolac tromethamine                           | Toradol                        | Syntex Laboratories                | Solution       | Tubex cartridge    |
| sterile               |            | ~ 7.4               | IM-intramuscular     | Diphtheria & Tetanus Toxoids and Acellular       | Tripedia™                      | Connaught Laboratories, Inc.       | Solution/Suspe | vial               |
| sterile water         |            |                     | IV - intravenous     | gonadorelin hydrochloride                        | Factrel                        | Wyeth-Ayerst                       | Lyophilized    | single dose Secule |
| sterile water for     |            |                     | SC - subcutaneous    | interferon gamma 1b                              | Actimmune®                     | Genentech, Inc.                    | Solution       | single dose vial   |
| sterile water for     |            | 7.0 ± 0.3           | IM - intramuscular   | typhoid Vi polysaccharide vaccine                | Typhim Vi™                     | Connaught Laboratories             | Solution       | syringe            |
| streptomycin          | 0.00004    |                     | SC - subcutaneous    | combination of type 1 (Mahoney), type2 (MEF-1).  | Ipol™                          | Connaught Laboratories             | Suspension     | syringe            |
| sucrose               | ~5.0       |                     | SC - subcutaneous    | Varicella Virus Vaccine Live (Oka/Merck)         | Varivax                        | Merck & Company                    | Lyophilized    | single-dose vial   |
| sucrose               | 8.5        |                     | IM - intramuscular   | Haemophilus b Conjugate Vaccine (tetanus toxoid) | Act HIB®                       | Connaught Laboratories             | Lyophilized    | vial               |
| sucrose               | ≤ 0.1      | 6.6 - 7.4           | IV - intravenous     | alpha1-proteinase inhibitor (human)              | Prolastin®                     | Bayer Corporation-Biologi          | Lyophilized    | single dose vials  |
| sucrose               | 5.0        | 6.8 ± 0.4           | IV - intravenous     | immune globulin IV (human) primarily IgG         | Gammar®-IV                     | Armour Pharmaceutical              | Lyophilized    | single dose vials  |
| sucrose               | 5.0        |                     | IV - intravenous     | cytomegalovirus immune globulin intravenous      | CytoGam®                       | Medimmune, Inc.                    | Sterile Liquid | single dose vial   |
| sucrose               | 8.5        |                     | IM - intramuscular   | haemophilus b conjugate vaccine (tetanus toxoid) | OmniHIB™                       | SmithKline Beecham Pharmaceuticals | Lyophilized    | vials              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V          | pH where applicable | Administration Route | Drug Name   | Brand Name                                    | Manufacturer                       | Dosage Form    | Storage Container |
|----------------------|---------------------|---------------------|----------------------|---|---|------------------------------------|----------------|-------------------|
| sucrose              | 5.01 - 20.1         | 6.6 ± 0.2           | IV - intravenous     | immune globulin intravenous (human)                 | Sandoglobulin ®                               | Sandoz Pharmaceuticals             | Lyophilized    | vial              |
| sucrose, NF          | 1.0                 | 7.4 ± 0.3           | IV - intravenous     | sargramostim  | Leukine ®                                     | Immunex Corporation                | Lyophilized    | single use vial   |
| sulfuric acid        |                     | 3.5 - 5.5           | IM - intramuscular   | amikacin sulfate                                    | Amikacin Sulfate Injection, USP               | Elkins-Sinn                        | Solution       | vials             |
| sulfuric acid        |                     | 4.5                 | IM - intramuscular   | amikacin sulfate injection                          | Amikin ®                                      | Apothecon/Bristol-Myers Squibb     | Solution       | vials             |
| sulfuric acid        |                     |                     | IM - intramuscular   | tobramycin sulfate injection                        | Nebein ®                                      | Eli Lilly & Company                | Solution       | multidose vials   |
| sulfuric acid        |                     |                     | IV - intravenous     | protamine sulfate                                   | Protamine Sulfate Injection, USP              | Eli Lilly & Company                | Solution       | vial              |
| sulfuric acid/sodium |                     | 3.0 - 6.5           | IM - intramuscular   | tobramycin sulfate                                  | Tobramycin Sulfate Injection, USP             | Elkins-Sinn                        | Solution       | multidose vials   |
| tartaric acid ACS    | 0.65                |                     | IV - intravenous     | tolazoline hydrochloride USP                        | Priscoline                                    | CibaGeneva Corporation             | Solution       | ampuls            |
| tartaric acid NF     | 0.025               |                     | IM - intramuscular   | methylephedrine maleate                             | Methergine ®                                  | Sandoz Pharmaceuticals             | Solution       | ampuls            |
| thimerosal           | 0.01                | ~ 7.4               | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Acellular          | Tripedia™                                     | Connaught Laboratories, Inc.       | Solution/Suspe | vial              |
| thimerosal           | 0.01                |                     | IM - intramuscular   | combination of refined tetanus & diphtheria toxoids | Tetanus & Diphtheria Toxoids Adsorbed (Adult) | Lederle Laboratories               | Suspension     | vial              |
| thimerosal           | 0.01                |                     | IM - intramuscular   | refined tetanus toxoid                              | Tetanus Toxoid Adsorbed, aluminum             | Lederle Laboratories               | Suspension     | vial              |
| thimerosal           | 0.01                |                     | IM - intramuscular   | diphtheria & tetanus toxoids & Pertussis Vaccine    | Tri-Immunol                                   | Lederle Laboratories               | Suspension(aft | multidose vials   |
| thimerosal           | 0.01                |                     | ID - intradermal     | Mumps Skin Test Antigen (suspension killed)         | MSTA™   | Connaught Laboratories, Inc.       | Suspension     | vial              |
| thimerosal           | 0.01                |                     | IM - intramuscular   | combination of purified tetanus & diphtheria        | Diphtheria & Tetanus Toxoids & Pertussis      | SmithKline Beecham Pharmaceuticals | Suspension     | vials             |
| thimerosal           | 0.01                |                     | IM - intramuscular   | combines diphtheria & tetanus toxoids               | Diphtheria & Tetanus Toxoids & Pertussis      | Connaught Laboratories, Inc.       | Turbid Liquid  | vial              |
| thimerosal           | 0.01                |                     | IM - intramuscular   | combination of refined diphtheria & tetanus toxoids | Diphtheria & Tetanus Toxoids Adsorbed,        | Lederle Laboratories               | Suspension(aft | vial              |
| thimerosal           | 0.002               |                     | IV - intravenous     | chlorothiazide sodium                               | Intravenous Sodium Diuril                     | Merck & Company                    | Lyophilized    | vial              |
| thimerosal           | 0.01                |                     | IM - intramuscular   | Diphtheria & Tetanus Toxoids and Pertussis          | Tetramune, (DTP-HbOC)                         | Lederle Laboratories               | Suspension(aft | vial              |
| thimerosal           | 0.0002              |                     | IV - intravenous     | ethacrynate sodium                                  | Intravenous Sodium Edecrin                    | Merck & Company                    | Freeze-dried   | vial              |
| thimerosal           | 0.01 (see comments) |                     | IM - intramuscular   | Haemophilus b Conjugate Vaccine (tetanus toxoid)    | Act HIB ®                                     | Connaught Laboratories             | Lyophilized    | vial              |
| thimerosal           | 0.01                | ~6.8                | IV - intravenous     | horse gamma globulin                                | Atgam Sterile Solution                        | The Upjohn Company                 | Solution       | ampoules          |
| thimerosal           | 0.01                | 6.8 ± 0.4           | IV - intravenous     | immune globulin (human) primarily IgG               | Gammar ®                                      | Amour Pharmaceutical               | Solution       | vials             |
| thimerosal           | 0.01                |                     | IM - intramuscular   | Rho (D) immune globulin human                       | Gamulin ® Rh                                  | Amour Pharmaceutical               | Solution       | vial              |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient             | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                                       | Brand Name                               | Manufacturer                       | Dosage Form    | Storage Container  |
|-----------------------|---------------|---------------------|----------------------|---|--|------------------------------------|----------------|--------------------|
| thimerosal            | 0.01          |                     | IM - intramuscular   | Rho(D) immune globulin (human)                  | Mini-gamulin™ Rh                         | Amour Pharmaceutical               | Solution       | single dose vial   |
| thimerosal            | 0.01          |                     | IM - intramuscular   | pneumococcal vaccine polyvalent                 | Pnu-Imune 23                             | Lederle Laboratories               | Solution       | vial               |
| thimerosal            | 0.01          | 6.8 ± 0.4           | IM - intramuscular   | hepatitis B immune globulin (human), MSD        | Hep-B-Gammagee                           | Merck & Company                    | Solution       | vials              |
| thimerosal            | 0.005         |                     | IM - intramuscular   | haemophilus b conjugate vaccine (meningococcal) | PedvaxHIB                                | Merck & Company                    | Lyophilized    | single dose vials  |
| thimerosal            | 0.01          |                     | IM - intramuscular   | inactivated CVS Kissling/MDPH rabies virus      | Rabies Vaccine Adsorbed                  | SmithKline Beecham Pharmaceuticals | Suspension     | vial               |
| thimerosal            | 0.005         |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)               | Recombivax HB                            | Merck & Company                    | Suspension     | single dose vial   |
| thimerosal            | 0.01          |                     | SC - subcutaneous    | meningococcal polysaccharide vaccine, groups A, | Menomune®                                | Connaught Laboratories             | Freeze-dried   | vial               |
| thimerosal            | 0.008 - 0.12  | 6.4 - 7.2           | IM - intramuscular   | tetanus immune globulin (human) primarily IgG   | Hyper-Tet®                               | Bayer Corporation-Biologi          | Solution       | prefilled          |
| thimerosal            | 0.008 - 0.12  | 6.4 - 7.2           | IM - intramuscular   | rabies immune globulin (human)                  | Hyperab®                                 | Bayer Corporation-Biologi          | Solution       | vial               |
| thimerosal            | 0.008 - 0.012 | 6.4 - 7.2           | IM - intramuscular   | hepatitis B immune globulin (human)             | HyperHep®                                | Bayer Corporation-Biologi          | Solution       | single dose        |
| thimerosal            | 0.008 - 0.012 |                     | IM - intramuscular   | Rho(D) immune globulin (human)                  | HypRho®-D                                | Bayer Corporation-Biologi          | Solution       | single dose vial   |
| thimerosal            | 0.008 - 0.012 |                     | IM - intramuscular   | Rho(D) immune globulin (human)                  | HypRho®-D Mini-Dose                      | Bayer Corporation-Biologi          | Solution       | single dose        |
| thimerosal            | 0.01          | 6.860.4             | IM - intramuscular   | rabies immune globulin (human)                  | Imogam® Rabies                           | Connaught Laboratories             | Solution       | vial               |
| thimerosal            | 0.007         |                     | SC - subcutaneous    | Japanese encephalitis virus vaccine             | Je-Vax™                                  | Connaught Laboratories, Inc.       | Lyophilized    | vial               |
| thimerosal            | 0.005         |                     | IM - intramuscular   | hepatitis B vaccine (recombinant)               | Engerix-B                                | SmithKline Beecham Pharmaceuticals | Suspension     | single dose vial   |
| thimerosal (mercury)  | 0.003         |                     | IM - intramuscular   | IgG anti-Rho(D)                                 | MICRhoGAM Rho(D) Immune Globulin (human) | Ortho Diagnostic                   | Solution       | pre-filled single  |
| thimerosal (mercury)  | 0.003         |                     | IM - intramuscular   | IgG anti-Rho(D)                                 | RhoGAM Rho(D) Immune Globulin (human)    | Ortho Diagnostic Systems Inc.      | Solution       | prefilled single   |
| thimerosal (mercury)  | 0.01          |                     | IM - intramuscular   | influenza virus vaccine, trivalent, types A & B | FluShield®                               | Wyeth-Ayerst                       | Solution       | vial               |
| thimerosal (see)      | 0.0 - 0.01    |                     | IM - intramuscular   | haemophilus b conjugate vaccine and diphtheria  | HibTITER                                 | Lederle Laboratories               | Solution       | multidose vial     |
| thimerosal            | 0.01          |                     | IM - intramuscular   | Diphtheria and Tetanus Toxoids and Acellular    | Acel-Imune                               | Lederle Laboratories               | Suspension(aft | multidose vial     |
| thioglycolic acid     | 0.66          |                     | SC - subcutaneous    | Epinephrine                                     | Sus-phrine®                              | Forest Pharmaceuticals Inc.        | Suspension     | ampul              |
| tri(n-butyl)          | ≤0.0001       | 6.8 ± 0.4           | IV - intravenous     | Immune Globulin Intravenous (human) (IGIV)      | Gammagard® S/D                           | Baxter Healthcare Corporation      | Lyophilized    | single use bottles |
| tri-n-butyl phosphate | ≤0.0005       |                     | IV - intravenous     | antithemophilic factor (Human)                  | Koate®-HP                                | Bayer Corporation-Biologi          | Lyophilized    | single dose bottle |
| triacetin             | 110.0         |                     | ICV - intracervical  | dinoprostone                                    | Prepidil Gel                             | The Upjohn Company                 | Viscous Gel    | syringe            |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V  | pH where applicable | Administration Route | Drug Name                                    | Brand Name                                  | Manufacturer                       | Dosage Form | Storage Container |
|---------------------|-------------|---------------------|----------------------|--|---|------------------------------------|-------------|-------------------|
| tribasic sodium     | 0.014       |                     | IM - intramuscular   | Levothyroxine sodium USP                     | Synthroid Injection                         | Knoll Laboratories                 | Lyophilized | single dose vials |
| trisodium citrate   | 0.98        | ~6.1                | IV - intravenous     | imiglucerase                                 | Cerezyme™                                   | Genzyme Corporation                | Lyophilized | vial              |
| tromethamine        | 0.12        | 7.4 ± 0.3           | IV - intravenous     | sargramostim                                 | Leukine®                                    | Immunex Corporation                | Lyophilized | single use vial   |
| tromethamine USP    |             |                     | IV - intravenous     | torsemide                                    | Demadox                                     | Burroughs Wellcome Co.             | Solution    | ampuls            |
| water               |             |                     | IM - intramuscular   | combination of purified tetanus & diphtheria | Diphtheria & Tetanus Toxoids & Pertussis    | SmithKline Beecham Pharmaceuticals | Suspension  | vials             |
| water               | 16.8 - 18.8 |                     | IM - intramuscular   | oxytetracycline                              | Terramycin-ampule                           | Roerig                             | Solution    | ampule            |
| water               | 18.5        |                     | IM - intramuscular   | oxytetracycline                              | Terramycin                                  | Roerig                             | Solution    | multidose vial    |
| water               |             |                     | IV - intravenous     | perphenazine                                 | Trilafon Injection                          | Schering Corporation               | Solution    | ampul             |
| water for injection |             | 5.5                 | IM-intramuscular     | Loxapine Hydrochloride                       | Loxitane®                                   | Lederle Parenterals Inc.           | Solution    | multidose vial    |
| water for injection |             | 5.0 - 7.0           | IM-intramuscular     | Cortisone Acetate                            | Cortone Acetate                             | Merck & Company                    | Suspension  | vials             |
| water for injection |             | 5.0 - 7.5           | IM-intramuscular     | dexamethasone acetate                        | Decadron-LA                                 | Merck & Company                    | Suspension  | vials             |
| water for injection |             | 7.5 - 8.0           | IV - intravenous     | Dexamethasone sodium phosphate . USP         | Decadron Phosphate Injection                | Merck & Company                    | Solution    | vials             |
| water for injection |             | 6.5 - 6.9           | LI - local injection | dexamethasone sodium phosphate-lidocai       | Decadron Phosphate with Xylocaine Injection | Merck & Company                    | Solution    | vials             |
| water for injection |             | 6.0 - 8.0           | IAR - intraarticular | Prednisolone Tebutate                        | Hydeltra T. B. A.                           | Merck & Company                    | Suspension  | vials             |
| water for injection |             | 5.0 - 7.0           | IAR - intraarticular | Hydrocortisone acetate                       | Hydrocortone Acetate                        | Merck & Company                    | Suspension  | vials             |
| water for injection |             | 7.0 ± 0.5           | IV - intravenous     | muromonab-CD3 biochemically purified IgG2a   | Orthoclone OKT3                             | Ortho Biotech Inc.                 | Solution    | ampule            |
| water for injection |             |                     | IM - intramuscular   | leuprolide acetate                           | Lupron Depot 3.75                           | TAP Pharmaceuticals                | Lyophilized | single dose vial  |
| water for injection |             |                     | IM - intramuscular   | leuprolide acetate                           | Lupron Depot-Ped                            | TAP Pharmaceuticals                | Lyophilized | single dose vial  |
| water for injection |             |                     | IM - intramuscular   | medroxyprogesterone acetate                  | Depo-Provera Contraceptive injection        | The Upjohn Company                 | Aqueous     | vials             |
| water for injection |             | ~6.0                | IM - intramuscular   | triamcinolone diacetate                      | Aristocort Forte (P)                        | Fujisawa                           | Micronized  | vial              |
| water for injection |             | 4.5 - 6.5           | IAR - intraarticular | triamcinolone hexacetate                     | Aristospan Suspension 20 mg/ml              | Fujisawa                           | Micronized  | vials             |
| water for injection |             | ~6.0                | IL - intralesional   | triamcinolone diacetate                      | Aristocort                                  | Fujisawa USA, Inc.                 | Micronized  | vial              |
| water for injection |             | 4.5 - 6.5           | IL - intralesional   | triamcinolone hexacetate suspension          | Aristospan Suspension 5 mg/ml               | Fujisawa USA, Inc.                 | Suspension  | vial              |
| water for injection |             | 7.2                 | IV - intravenous     | Fab fragment of the chimeric human-murine    | Abciximab, ReoPro™                          | Centocor B. V./Eli Lilly & Company | Solution    | single use vial   |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V | pH where applicable | Administration Route | Drug Name   | Brand Name                           | Manufacturer                  | Dosage Form | Storage Container |
|---------------------|------------|---------------------|----------------------|---|--------------------------------------|-------------------------------|-------------|-------------------|
| water for injection |            |                     | IV - intravenous     | amiodarone Hcl  | Cordarone Intravenous (Cordarone IV) | Wyeth-Ayerst                  | Solution    | ampuls            |
| water for injection |            | 5.0 - 7.5           | IM-intramuscular     | Dexamethasone Acetate Suspension                      | Dalalone D.P. ®                      | Forest Pharmaceuticals        | Suspension  | vials             |
| water for injection |            |                     | IV - intravenous     | Enalaprilat   | Vasotec I.V.                         | Merck & Company               | Solution    | vial              |
| water for injection |            | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                   | Talwin Injection (ampuls)            | Sanofi Winthrop               | Solution    | ampuls            |
| water for injection |            | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                   | Talwin Injection (cartridge needle)  | Sanofi Winthrop               | Solution    | cartridge needle  |
| water for injection |            | 4.0 - 5.0           | IM - intramuscular   | pentazocine lactate                                   | Talwin injection (multidose vial)    | Sanofi Winthrop               | Solution    | multidose vials   |
| water for injection |            | ~6.5                | IV - intravenous     | protirelin  | Thyrel ® TRH                         | Ferring Laboratories, Inc.    | Solution    | ampuls            |
| water for injection |            |                     | IM - intramuscular   | leuprolide acetate                                    | Lupron Depot-3 month, 22.5           | TAP Pharmaceuticals           | Lyophilized | vial              |
| water for injection |            | 3.0 - 6.5           | IM - intramuscular   | tobramycin sulfate                                    | Tobramycin Sulfate Injection, USP    | Elkins-Sinn                   | Solution    | multidose vials   |
| water for injection |            | 4.5 - 6.5           | IV - intravenous     | aprotinin injection                                   | Trasylol ®                           | Bayer Corporation-Pharma      | Solution    | vials             |
| water for injection |            | 3.5 - 5.0           | IV - intravenous     | mivacurium chloride                                   | Mivacron Injection                   | Glaxo Wellcome                | Solution    | single dose vials |
| water for injection |            | ~3.5                | IV - intravenous     | vinorelbine tartrate                                  | Navelbine Injection                  | Burroughs Wellcome Co.        | Solution    | single use vial   |
| water for injection | 95.0       | 6.0 - 7.0           | IV - intravenous     | Provides Rose's recommended daily intake of essential | 5.4% Neph/Amine ®                    | R&D Laboratories Inc.         | Solution    | glass containers  |
| water for injection |            | 3.5 - 6.0           | IM - intramuscular   | netilmicin sulfate, USP                               | Netromycin Injection                 | Schering Biochem. Corporation | Solution    | vials             |
| water for injection |            |                     | IM - intramuscular   | orphenadrine citrate                                  | Norflex Injection                    | 3M Pharmaceuticals            | Solution    | ampul             |
| water for injection |            | 3.9 - 5.0           | IV - intravenous     | doxacurium chloride                                   | Nuromax                              | Glaxo Wellcome                | Solution    | multidose vial    |
| water for injection |            | neutral             | SC - subcutaneous    | bethanechol chloride                                  | Urecholine                           | Merck & Company               | Solution    | vials             |
| water for injection |            | ~8.0                | IV - intravenous     | diazepam emulsified injection                         | Dizac                                | Ohmeda PPD, Inc.              | Emulsion    | single dose vial  |
| water for injection |            |                     | IV - intravenous     | ritodrine hydrochloride                               | Yutopar                              | Astra USA, Inc.               | Solution    | vial              |
| water for injection |            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole                     | Septra I.V. Infusion                 | Glaxo Wellcome                | Solution    | multidose vials   |
| water for injection |            | 4.0 ± 0.3           | IM - intramuscular   | oxytocin  | Syntocinon ®                         | Sandoz                        | Solution    | ampul             |
| water for injection |            | ~7.5                | IM - intramuscular   | somatropin rDNA origin for injection                  | Humatrope ®                          | Eli Lilly & Company           | Lyophilized | vials             |
| water for injection |            | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate                            | D.H.E. 45 ®                          | Sandoz                        | Solution    | ampuls            |
| water for injection |            | 5.0 - 7.0           | IT - intrathecal     | baclofen injection                                    | Lioresal Intrathecal                 | Medtronic, Inc.               | Solution    | ampule            |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                 | Brand Name                          | Manufacturer                      | Dosage Form | Storage Container  |
|---------------------|------------|---------------------|----------------------|---|-------------------------------------|-----------------------------------|-------------|--------------------|
| water for injection |            | 5.5 - 7.5           | SC - subcutaneous    | enoxaparin sodium                         | Lovenox Injection                   | Rhone-Poulenc Rorer               | Solution    | prefilled syringes |
| water for injection |            |                     | SC - subcutaneous    | leuprolide acetate                        | Lupron Injection                    | TAP Pharmaceuticals               | Solution    | multidose vial     |
| water for injection |            | 3.5 - 5.0           | IV - intravenous     | doxapram hydrochloride injection USP      | Dopram Injectable                   | A. H. Robins Company              | Solution    | multidose vials    |
| water for injection |            | 3.0                 | IV - intravenous     | doxorubicin hydrochloride                 | Doxorubicin Hydrochloride Injection | Astra USA, Inc.                   | Solution    | single dose vials  |
| water for injection |            | 2.5 - 6.5           | IV - intravenous     | morphine sulfate injection USP            | Duramorph®                          | Elkins-Sinn, Inc.                 | Solution    | ampuls             |
| water for injection |            |                     | IM - intramuscular   | amitriptyline HCl                         | Elavil                              | Zeneca Pharmaceuticals            | Solution    | vials              |
| water for injection |            | 3.0 - 5.0           | SC - subcutaneous    | terbutaline sulfate USP                   | Bricanyl                            | Marion Merrell Dow Inc.           | Solution    | ampul              |
| water for injection |            |                     | IM - intramuscular   | buprenorphine hydrochloride               | Buprenex                            | Reckitt & Colman Pharmaceuticals, | Solution    | glass snap-ampuls  |
| water for injection |            |                     | IM - intramuscular   | edetate calcium disodium injection, USP   | Calcium Disodium Versenate          | 3M Pharmaceuticals                | Solution    | ampul              |
| water for injection |            | 4.5 - 6.8           | various              | mepivacaine hydrochloride                 | Carbocaine Hydrochloride-single     | Sanofi Winthrop                   | Solution    | single dose vials  |
| water for injection |            | 5.5 - 7.5           | IV - intravenous     | adenosine                                 | Adenocard®                          | Fujisawa USA, Inc.                | Solution    | flip-top vials     |
| water for injection |            | 4.5 - 7.5           | IV - intravenous     | adenosine                                 | Adenoscan                           | Fujisawa USA, Inc.                | Solution    | vial               |
| water for injection |            | 3.0                 | IV - intravenous     | doxorubicin hydrochloride injection USP   | Adriamycin PFS®                     | Pharmacia Inc.                    | Solution    | single dose vials  |
| water for injection |            | 8.0 - 9.8           | IV - intravenous     | fluorescein injection                     | Ak-Fluor®                           | Akorn Inc.                        | Solution    | single dose vials  |
| water for injection |            |                     | IV - intravenous     | methyldopate HCl                          | Aldomet Ester Hydrochloride         | Merck & Company                   | Solution    | vials              |
| water for injection |            | ~6.8                | IV - intravenous     | aminocaproic acid                         | Amicar Injection, USP               | Immunex Corporation               | Solution    | vial               |
| water for injection |            | 3.5 - 5.5           | IM - intramuscular   | amikacin sulfate                          | Amikacin Sulfate Injection, USP     | Elkins-Sinn                       | Solution    | vials              |
| water for injection |            | 6.7 - 7.6           | IV - intravenous     | aminohippurate sodium                     | Aminohippurate sodium Injection     | Merck & Company                   | Solution    | vials              |
| water for injection |            | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                        | Amo® Vitrax®                        | Allergan Inc.                     | Solution    | disposable glass   |
| water for injection | q. s.      |                     | ITO - intraocular    | sodium hyaluronate                        | Amvisc® Plus                        | Chiron Vision                     | Solution    | disposable glass   |
| water for injection |            |                     | IM - intramuscular   | physostigmine salicylate                  | Antilirium                          | Forest                            | Solution    | ampuls             |
| water for injection |            |                     | IM - intramuscular   | metaraminol bitartrate                    | Aramine                             | Merck & Company                   | Solution    | vials              |
| water for injection |            | 3.6 ± 0.4           | IM - intramuscular   | dihydroergotamine mesylate injection, USP | D.H.E. 45® or Dyhdergot®            | Sandoz                            | Solution    | ampuls             |
| water for injection |            |                     | IM - intramuscular   | benztropine mesylate                      | Cogentin                            | Merck & Company                   | Solution    | ampuls             |
| water for injection |            | 6.5 - 7.5           | IV - intravenous     | tranexamic acid                           | Cyklokapron Injection®              | Pharmacia AB                      | Solution    | ampules            |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                | Brand Name                | Manufacturer                | Dosage Form | Storage Container |
|---------------------|------------|---------------------|----------------------|--|---------------------------|-----------------------------|-------------|-------------------|
| water for injection |            | 3.5                 | IV - intravenous     | nicardipine HCl                          | Cardene                   | Wyeth-Ayerst                | Solution    | ampuls            |
| water for injection |            |                     | IV - intravenous     | propranolol hydrochloride                | Inderal                   | Wyeth-Ayerst                | Solution    | ampuls            |
| water for injection |            |                     | SC - subcutaneous    | pentagastrin                             | Peptavlon                 | Wyeth-Ayerst                | Solution    | ampules           |
| water for injection |            | -9.5                | IM - intramuscular   | pentobarbital sodium injection           | Nembutal Sodium Solution  | Abbott Laboratories         | Solution    | ampul             |
| water for injection |            | 4.0                 | IM - intramuscular   | dezocine                                 | Dalgan                    | Astra USA, Inc.             | Solution    | single dose vials |
| water for injection |            |                     | IM - intramuscular   | dicyclomine hydrochloride USP            | Bentyl Injection-ampul    | Merrell Dow Pharmaceuticals | Solution    | ampul             |
| water for injection |            |                     | IM - intramuscular   | dicyclomine hydrochloride                | Bentyl Injection          | Merrell Dow Pharmaceuticals | Solution    | multidose vial    |
| water for injection |            | 12.0                | IV - intravenous     | phenytoin sodium injection, USP          | Dilantin                  | Parke-Davis                 | Solution    | steri-vials       |
| water for injection |            | 3.7 - 4.1           | IV - intravenous     | diltiazem hydrochloride                  | Cardizem                  | Marion Merrell Dow Inc.     | Solution    | vial              |
| water for injection |            |                     | IM - intramuscular   | thiethylperazine malate USP              | Torecan ®                 | Roxane Laboratories, Inc.   | Solution    | ampul             |
| water for injection |            |                     | IM - intramuscular   | hyoscyamine sulfate USP                  | Levsin ® Injection        | Schwarz                     | Solution    | ampuls            |
| water for injection |            |                     | IV - intravenous     | torsemide                                | Demadox                   | Burroughs Wellcome Co.      | Solution    | ampuls            |
| water for injection |            | 7.2 - 7.4           | IM - intramuscular   | pegademase bovine                        | Adagen ®                  | Enzon                       | Solution    | single dose vials |
| water for injection |            |                     | IV - intravenous     | methocarbamol                            | Robaxin Injectable        | A. H. Robins Company        | Solution    | single dose vial  |
| water for injection |            | 7.3                 | IM - intramuscular   | pegaspargase                             | Oncaspar ®                | Rhone-Poulenc Rorer         | Solution    | single dose vials |
| water for injection |            | 6.9 ± 0.3           | IV - intravenous     | epoetin alfa (recombinant human)         | Epogen ®                  | Amgen, Inc.                 | Solution    | single dose vial  |
| water for injection |            | 6.1 ± 0.3           | IV - intravenous     | epoetin alfa (recombinant human)         | Epogen ® - multidose      | Amgen, Inc.                 | Solution    | multidose vial    |
| water for injection |            | 4.0                 | IV - intravenous     | filgrastim (recombinant methionyl human) | Neupogen ®                | Amgen, Inc.                 | Solution    | single dose vial  |
| water for injection |            | 2.5 - 6.5           | IV - intravenous     | morphine sulfate injection USP           | Astramorph/PF             | Astra USA, Inc.             | Solution    | ampule            |
| water for injection |            |                     | IM - intramuscular   | mesoridazine besylate USP                | Serentil ®                | Boehringer Ingelheim        | Solution    | ampuls            |
| water for injection |            |                     | IV - intravenous     | dobutamine hydrochloride injection       | Dobutrex ®                | Eli Lilly & Company         | Solution    | vials             |
| water for injection |            | 3.5 - 5.5           | IV - intravenous     | vincristine sulfate, USP                 | Oncovin ®                 | Eli Lilly & Company         | Solution    | vials             |
| water for injection |            | 5.7 - 6.4           | IV - intravenous     | famotidine                               | Pepcid Injection Premixed | Merck & Company             | Premixed    | single dose       |
| water for injection |            |                     | IV - intravenous     | famotidine                               | Pepcid Injection          | Merck & Company             | Solution    | multidose vial    |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient           | Conc. %W/V | pH where applicable | Administration Route | Drug Name                                 | Brand Name                       | Manufacturer               | Dosage Form | Storage Container |
|---------------------|------------|---------------------|----------------------|---|----------------------------------|----------------------------|-------------|-------------------|
| water for injection |            | 4.5 - 6.5           | IM - intramuscular   | metoclopramide injection, USP             | Reglan Injectable                | A. H. Robins Company       | Solution    | single dose vials |
| water for injection |            | 5.0 - 7.0           | IM - intramuscular   | phytonadione (vitamin K1)                 | AquaMephyton                     | Merck & Company            | Aqueous     | ampuls            |
| water for injection |            |                     | IM - intramuscular   | tobramycin sulfate injection              | Nebcin ®                         | Eli Lilly & Company        | Solution    | multidose vials   |
| water for injection |            | 7.2 ± 0.4           | ITO - intraocular    | purified hydroxypropylmethylcellulose     | Ocucoat                          | Storz Ophthalmics          | Solution    | syringes          |
| water for injection |            | ~5.0                | IV - intravenous     | pentastarch                               | Pentaspán                        | DuPont Pharmaceuticals     | Solution    | bottles           |
| water for injection |            |                     | IM - intramuscular   | chorionic gonadotropin for injection, USP | Pregnyl ®                        | Organon                    | Powder      | multidose vials   |
| water for injection |            | 3.2 - 4.0           | IV - intravenous     | milrinone lactate injection               | Primacor                         | Sanofi Winthrop            | Solution    | single dose vials |
| water for injection |            | 5.8 - 7.2           | IV - intravenous     | epoetin alfa                              | Procrit                          | Ortho Biotech, Inc.        | Solution    | single dose vial  |
| water for injection |            |                     | IV - intravenous     | protamine sulfate                         | Protamine Sulfate Injection, USP | Eli Lilly & Company        | Solution    | vial              |
| water for injection |            | ~5.5                | IV - intravenous     | zidovudine                                | Retrovir IV Infusion             | Glaxo Wellcome             | Solution    | single use vial   |
| water for injection |            | 2.0 - 3.0           | IM - intramuscular   | glycopyrrolate, USP                       | Robinul Injectable               | A. H. Robins Company       | Liquid      | multidose vial    |
| water for injection |            | 4.0 - 7.5           | IV - intravenous     | strontium-89 chloride                     | Metastron                        | Medi-Physics, Inc.         | Solution    | vial              |
| water for injection |            |                     | IM - intramuscular   | methylergonovine maleate                  | Methergine ®                     | Sandoz Pharmaceuticals     | Solution    | ampuls            |
| water for injection |            | ~8.5                | IA - intraarterial   | methotrexate sodium                       | Methotrexate Sodium Injection    | Immunex Corporation        | Solution    | vial              |
| water for injection |            | ~8.5                | IA - intraarterial   | methotrexate sodium                       | Methotrexate LPF ®Sodium         | Immunex Corporation        | Solution    | vial              |
| water for injection |            |                     | IM - intramuscular   | calcitonin-salmon                         | Miacalcin ®                      | Sandoz Pharmaceuticals     | Solution    | vial              |
| water for injection |            | ~4.2 - 5.3          | SC - subcutaneous    | sumatriptan succinate                     | Imitrex ®                        | Glaxo Wellcome             | Solution    | unit-of-use       |
| water for injection |            | 5.2 - 6.5           | IM - intramuscular   | iron dextran injection                    | INFeD                            | Schein Pharmaceutical Inc. | Dark-brown  | single dose amber |
| water for injection |            | 4.5                 | IT - intrathecal     | morphine sulfate                          | Infumorph ®                      | Elkins-Sinn Inc.           | Solution    | single dose amber |
| water for injection |            | 3.2 - 4.0           | IV - intravenous     | amrinone lactate                          | Inocor Lactate Injection         | Sanofi Winthrop            | Solution    | ampuls            |
| water for injection |            | 4.1 - 6.0           | IV - intravenous     | verapamil hydrochloride                   | Isoptin ®                        | Knoll Laboratories         | Solution    | single dose vial  |
| water for injection |            | 4.2 ± 0.3           | IV - intravenous     | octreotide acetate injection              | Sandostatin ®                    | Sandoz Pharmaceuticals     | Solution    | ampuls            |
| water for injection |            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole         | Septra IV Infusion               | Glaxo Wellcome             | Solution    | vial              |
| water for injection |            | ~10.0               | IV - intravenous     | trimethoprim and sulfamethoxazole         | Septra IV Infusion ADD           | Glaxo Wellcome             | Solution    | vial              |



EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient            | Conc. %W/V    | pH where applicable | Administration Route | Drug Name                                   | Brand Name                             | Manufacturer                     | Dosage Form    | Storage Container |
|----------------------|---------------|---------------------|----------------------|---|--|----------------------------------|----------------|-------------------|
| water for injection  |               | 7.9                 | IV - intravenous     | sodium tetradecyl sulfate injection         | Sotradecol ®                           | Elkins-Sinn Inc.                 | Solution       | ampul             |
| water for injection  |               | 5.0 - 8.0           | IM - intramuscular   | streptomycin sulfate                        | Streptomycin Sulfate Injection         | Pfizer Roerig                    | Solution       | ampule            |
| water for injection  |               | 6.7 - 7.3           | IV - intravenous     | ranitidine hydrochloride                    | Zantac Injection Premixed              | Glaxo Wellcome                   | Solution       | flexible plastic  |
| water for injection  |               | 3.3 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate         | Zofran ® Injection                     | Glaxo Wellcome                   | Solution       | single dose vial  |
| water for injection  |               | 3.0 - 4.0           | IV - intravenous     | ondansetron hydrochloride dihydrate         | Zofran ® Injection Premixed            | Glaxo Wellcome                   | Solution       | single dose       |
| water for injection  |               | 2.5 - 5.0           | IM - intramuscular   | epinephrine injection                       | EpiPen Auto-Injectors                  | Center Laboratories              | Solution       | auto-injectors    |
| water for injection  |               | 5.0 - 7.0           | IV - intravenous     | metronidazole                               | Flagyl IV RTU                          | SCS                              | Solution       | single dose       |
| water for injection  |               | 3.5 - 5.5           | IV - intravenous     | ofloxacin injection                         | Floxin ® IV                            | Ortho Pharmaceutical             | Solution       | single use vial   |
| water for injection  |               |                     | IV - intravenous     | fluorescein sodium                          | Fluorescite ® Injection                | Alcon Laboratories               | Solution       | prefilled syringe |
| water for injection  |               | 7.4                 | IV - intravenous     | foscarnet sodium hexahydrate                | Foscavir                               | Astra USA, Inc.                  | Solution       | glass bottle      |
| water for injection  |               | 5.0 - 7.5           | SC - subcutaneous    | dalteparin sodium injection                 | Fragmin™                               | Pharmacia, Inc.                  | Solution       | single dose       |
| water for injection  |               | ~6.7                | SC - subcutaneous    | somatropin (rDNA origin) for injection      | Genotropin™ Injection                  | Pharmacia, Inc.                  | Lyophilized    | Intra-Mix two     |
| water for injection  |               | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate                          | Healon ®                               | Pharmacia, Inc. Ophthalmics Inc. | Viscoelastic   | Disposable glass  |
| water for injection  |               | 7.0 - 7.5           | ITO - intraocular    | sodium hyaluronate 7000                     | Healon GV                              | Pharmacia Inc. Ophthalmics       | Viscoelastic   | disposable glass  |
| water for injection  |               | 5.0 - 7.5           | IV - intravenous     | heparin sodium                              | Heparin Sodium Injection USP           | Wyeth-Ayerst                     | Solution       | Tubex sterile     |
| water for injection  |               | 3.5 - 7.0           | IV - intravenous     | hetastarch                                  | Hespan                                 | DuPont Pharma                    | Solution       | Excel plastic     |
| water for injection  |               | 7.0 - 8.0           | IM - intramuscular   | prednisolone sodium phosphate               | Hydeltrasol                            | Merck & Company                  | Solution       | vial              |
| water for injection  |               | 7.5 - 8.5           | IM - intramuscular   | hydrocortisone sodium phosphate             | Hydrocortone Phosphate                 | Merck & Company                  | Solution       | multidose vial    |
| water for injection  |               |                     | IV - intravenous     | melphalan hydrochloride                     | Alkeran for Injection                  | Glaxo Wellcome                   | Freeze-dried   | single use vial   |
| water for injection  |               |                     | IM - intramuscular   | papverine hydrochloride                     | Papverine Hydrochloride Injection, USP | Eli Lilly & Company              | Solution       | multidose vials   |
| water for injection  |               |                     | IM - intramuscular   | leuprotide acetate                          | Lupron Depot 7.5                       | TAP Pharmaceuticals              | Lyophilized    | single dose vials |
| water for injection, |               | ~4.5                | IM - intramuscular   | methotrimeprazine as the hydrochloride salt | Levoprome                              | Immunex Corporation              | Solution       | vials             |
| water for intion     |               | 3.5 - 4.5           | IM - intramuscular   | isoproterenol hydrochloride injection, USP  | Isuprel                                | Sanofi Winthrop                  | Solution       | ampul             |
| zinc                 | 0.001 - 0.004 | neutral             | IV - intravenous     | insulin injection, USP, beef-porcine        | Regular Iletin I                       | Eli Lilly & Company              | Clear Solution | vials             |

EXCIPIENTS FOR PARENTERAL FORMULATIONS

| Excipient | Conc. %W/V         | pH where applicable | Administration Route | Drug Name  | Brand Name                                       | Manufacturer                 | Dosage Form      | Storage Container |
|-----------|--------------------|---------------------|----------------------|--|--|------------------------------|------------------|-------------------|
| zinc      | 0.001 - 0.004      | neutral             | IV - intravenous     | insulin injection, USP, purified pork                | Regular Iletin II                                | Eli Lilly & Company          | Solution (clear) | vials             |
| zinc      | 0.012 - 0.025      | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, beef-pork              | Lente Iletin I                                   | Eli Lilly & Company          | Suspension       | vials             |
| zinc      | 0.012 - 0.025      | neutral             | SC - subcutaneous    | insulin zinc suspension, USP, purified pork          | Lente Iletin II                                  | Eli Lilly & Company          | Suspension       | vials             |
| zinc      | 0.001 - 0.004      | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, beef-pork          | NPH Iletin I                                     | Eli Lilly & Company          | Suspension       | vials             |
| zinc      | 0.001 - 0.004      | neutral             | SC - subcutaneous    | isophane insulin suspension, USP, purified pork      | NPH Iletin II                                    | Eli Lilly & Company          | Suspension       | vials             |
| zinc      | trace quantities   | neutral             | SC - subcutaneous    | 70% NPH human insulin isophane suspension and        | Novolin ® 70/30                                  | Novo Nordisk Pharmaceuticals | Suspension       | vials             |
| zinc      | 0.015              | neutral             | SC - subcutaneous    | Lente (R) human insulin zinc suspension              | Novolin ® L                                      | Novo Nordisk Pharmaceuticals | Suspension       | vials             |
| zinc      | trace quantities   | neutral             | SC - subcutaneous    | NPH human insulin isophane suspension                | Novolin ® N, NPH                                 | Novo Nordisk Pharmaceuticals | Suspension       | vials             |
| zinc      | trace quantities   | neutral             | IM - intramuscular   | regular human insulin injection                      | Novolin ® R                                      | Novo Nordisk Pharmaceuticals | Solution (clear) | vials             |
| zinc      | 0.015              | neutral             | SC - subcutaneous    | Lente (L) Purified Pork Insulin Zinc Suspension, USP | Lente (L) Purified Pork Insulin Zinc Suspension, | Novo Nordisk Pharmaceuticals | Suspension       | vials             |
| zinc      | 0.002              | neutral             | SC - subcutaneous    | NPH (N) Purified Pork Isophane Insulin               | NPH (N) Purified Pork Isophane Insulin           | Novo Nordisk Pharmaceuticals | Suspension       | vials             |
| zinc      | 0.001 - 0.004      | neutral             | SC - subcutaneous    | 50% human insulin isophane suspension and            | Humulin 50/50                                    | Eli Lilly & Company          | Suspension       | vial              |
| zinc      | 0.001 - 0.004      | neutral             | SC - subcutaneous    | 70% human insulin isophane suspension and            | Humulin 70/30                                    | Eli Lilly & Company          | Suspension       | vial              |
| zinc      | 0.012 - 0.025      | neutral             | SC - subcutaneous    | human insulin and zinc suspension                    | Humulin L (Lente)                                | Eli Lilly & Company          | Suspension       | vial              |
| zinc      | 0.001 - 0.004      | neutral             | SC - subcutaneous    | human insulin suspension with protamine and zinc     | Humulin N (NPH)                                  | Eli Lilly & Company          | Suspension       | vial              |
| zinc      | 0.001 = 0.004      | neutral             | IV - intravenous     | zinc-human insulin                                   | Humulin R (Regular)                              | Eli Lilly & Company          | Solution (clear) | vial              |
| zinc      | 0.012 - 0.025      | neutral             | SC - subcutaneous    | crystalline suspension of human insulin and          | Humulin U (Ultralente)                           | Eli Lilly & Company          | Suspension       | vial              |
| zinc      | 0.00005 - 0.000005 |                     | IM - intramuscular   | glucagon hydrochloride                               | Glucagon   | Eli Lilly & Company          | Lyophilized      | single dose vials |
| zinc      | 0.005 - 0.02       | neutral             |                      | insulin injection purified pork                      | Regular Concentrated Iletin ® II U-500           | Eli Lilly & Company          | Solution (clear) | vials             |