

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.¹ 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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¹ If discrepancies are found, e-mail them to 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 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	Sandostatín ®	Sandoz Pharmaceuticals	Solution	ampuls

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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

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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

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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

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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 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™	Armour Pharmaceutical	Lyophilized	single dose
chloride	0.213 - 0.638	6.6 - 7.4	IV - intravenous	alpha 1-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	Apothecoon/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-lidocaine	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	Diflucan 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 hydrouse	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	methylodopate 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 0.025		IM - intramuscular	menotropins for injection	Humegon™	Organon Inc.	Lyophilized	vial
monothioglycerol	0.20		IV - intravenous	methylodpate 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), type2 (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	mephalan 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	Gammar ®-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	ceftazidime 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 hexacetonide	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 hexacetonide 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 &	chlorprocaine hydrochloride	Nesacaine Injection	Astra USA, Inc.	Solution	multidose vials
sodium hydroxide		2.7 - 4.0	IF - infiltration &	chlorprocaine 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	methylodopate 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	Pentaspan	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	glycopyrrolate, 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% NephroAmine®	R&D Laboratories Inc.	Solution	glass containers
sodium hydroxide NF		~4.5	IM - intramuscular	methotrimetrazine 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	Inocor 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	Serenal ®	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