THE MERCK INDEX

AN ENCYCLOPEDIA OF
CHEMICALS, DRUGS, AND BIOLOGICALS

TWELFTH EDITION

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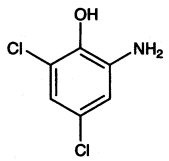
See also adrenochrome, adrenolutin, carbazochrome salicylate.

THERAP CAT: Hemostatic.

457. 2-Amino-4,6-dichlorophenol. 2,4-Dichloro-6-aminophenol; 4,6-dichloro-*o*-aminophenol. $C_6H_5Cl_2NO$; mol wt 178.02. C 40.48%, H 2.83%, Cl 39.83%, N 7.87%, O 8.99%. Prepd by reduction of the corresponding nitrophenol: F. Fischer, *Z. Chem.* [N.F.] **4,** 386 (1868); *Ann.*, suppl **vol. 7,** 189 (1870); Katz, Cohen, *J. Org. Chem.* **19,** 758 (1954). Purification: J. Meyer, *Helv. Chim. Acta* **41,** 1890 (1958).



Long needles from carbon disulfide, warts from benzene, mp 95-96°. Sublimes (0.06 torr) 70-80° (bath temp). Freely sol in benzene, somewhat less in carbon disulfide, much less in petr ether. The stability of the free base (snow-white when pure) seems to be impaired by impurities.

Hydrochloride, $C_6H_5Cl_2NO.HCl$, crystals, dec 280-285°. Very stable when pure. The commercial product may be dark brown. Sol in water, alcohol. Precipitated from aq soln by the addition of concd HCl.

USE: Important azo-dye intermediate.

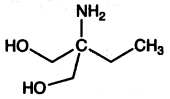
458. 1-[(2-Aminoethyl)amino]-2-propanol. *N*-(2-Hydroxypropyl)ethylenediamine; Monolene. $C_5H_{14}N_2O$; mol wt 118.18. C 50.82%, H 11.94%, N 23.70%, O 13.54%. $CH_3CH(OH)CH_2NHCH_2CH_2NH_2$. Prepn: Kitchen, Pollard, *J. Org. Chem.* **8,** 342 (1943).

Viscous liquid; mild ammoniacal odor. $bp_{3.0}$ 94°; $bp_{10.0}$ 112°. d_4^{25} 0.9837. n_D^{25} 1.4738.

Dihydrochloride, $C_5H_{16}Cl_2N_2O$, mp 184.7-185.0°.

USE: Rapid curing agent in the manuf of epoxy resins.

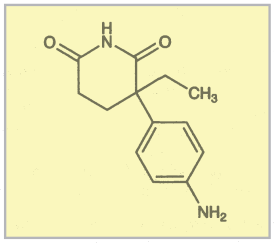
459. 2-Amino-2-ethyl-1,3-propanediol. $C_5H_{13}NO_2$; mol wt 119.16. C 50.40%, H 11.00%, N 11.75%, O 26.85%. An amino glycol prepd by reduction of cataytic hydrogenation of the corresp nitro compound: Vanderbilt, Hass, **U.S. pat. 2,174,242** (1940); Johnson, Degering, *J. Org. Chem.* **8,** 7 (1943). Manuf: McMillan, **U.S. pat. 2,485,982** (1949 to Comm. Solvents).



Crystalline mass, mp 37.5-38.5°. (The commercial product may be a viscous liquid.) d_{20}^{20} 1.099. n_D^{20} 1.490. bp_{10} 152-153°. Miscible with water. Sol in alcohols. pH of 0.1 molar aq soln 10.8.

USE: In the synthesis of surface-active agents, vulcanization accelerators, pharmaceuticals. As emulsifying agent for cosmetic creams and lotions, mineral oil and paraffin wax emulsions, leather dressings, textile specialties, polishes, cleaning compounds, so-called soluble oils. For absorbing CO_2 and H_2S from industrial gases.

460. Aminoglutethimide. *3-(4-Aminophenyl)-3-ethyl-2,6-piperidinedione; 2-(p-aminophenyl)-2-ethylglutarimide;* 3-ethyl-3-(*p*-aminophenyl)-2,6-dioxopiperidine; Cytadren; Elipten; Orimeten. $C_{13}H_{16}N_2O_2$; mol wt 232.28. C 67.22%, H 6.94%, N 12.06%, O 13.78%. Adrenocortical suppressant that also inhibits conversion of androgens to estrogens by the aromatase enzyme system. Prepn: Hoffmann, Urech, **U.S. pat. 2,848,455** (1958 to Ciba). Metabolism: Douglas, Nicholls, *J. Pharm. Pharmacol. Suppl.* **17,** 115S (1965). Mass spectrum: Ruecker, Bohn, *Arch. Pharm. (Weinheim)* **302,** 204 (1969). Resolution and abs config of antipodes: Finch *et al., Experientia* **31,** 1002 (1975). Review of its role as an inhibitor of adrenocortical steroidogenesis: Touitou *et al., Biomedicine* **18,** 185-191, 272-278 (1973). Clinical studies: Küchel, *Pharmacol. Clin.* **2,** 138 (1970). Use in treatment of Cushing's syndrome: R. I. Misbin *et al., J. Clin. Pharmacol.* **16,** 645 (1976); of metastatic breast cancer: R. F. Asbury *et al., Cancer* **47,** 1954 (1981). Comparative clinical trial with tamoxifen: I. E. Smith *et al., Brit. Med. J.* **283,** 1432 (1981). Hematologic toxicity study: A. A. Messeih *et al., Cancer Treat. Rep.* **69,** 1003 (1985). Clinical trial in advanced prostatic carcinoma: R. Murray, P. Pitt, *Eur. J. Cancer Clin. Oncol.* **21,** 453 (1985). Comprehensive guide to therapeutic use: *Pharmanual (Basel)* **vol. 2,** R. J. Santen, I. C. Henderson, Eds. (Karger, Basel, 1981) 160 pp. Reviews of mechanisms of action, endocrinological effects and clinical experience in breast cancer: R. C. Stuart-Harris, I. E. Smith, *Cancer Treat. Rev.* **11,** pp 189-204 (1984); A. L. Harris, *Exp. Cell. Biol.* **53,** pp 1-8 (1985). Comprehensive description: H. Y. Aboul-Enein in *Analytical Profiles of Drug Substances* **vol. 15,** K. Florey, Ed. (Academic Press, New York, 1986) pp 35-69.

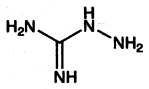


Crystals from methanol or ethyl acetate, mp 149-150°. Freely sol in most organic solvents; poorly sol in ethyl acetate, 0.1*N* HCl and absolute ethanol; readily sol in acetone and 100% acetic acid. Practically insol in water.

Hydrochloride, $C_{13}H_{17}ClN_2O_2$, mp 223-225°. Freely sol in water.

THERAP CAT: In Cushing's syndrome and other adrenal hormone disorders. Palliative treatment of breast and prostatic cancer. Formerly as anticonvulsant.

461. Aminoguanidine. *Hydrazinecarboximidamide;* guanylhydrazine; pimagedine. CH_6N_4; mol wt 74.09. C 16.21%, H 8.16%, N 75.62%. Nucleophilic hydrazine; inhibits the formation of advanced glycosylation end products (AGEs) that have been implicated in the etiology of diabetic complications. Prepn: J. Thiele, *Ann.* **270,** 1 (1892); G. B. L. Smith, E. Anzelmi, *J. Am. Chem. Soc.* **57,** 2730 (1935). Review of chemistry of aminoguanidine and related compounds: E. Lieber, G. B. L. Smith, *Chem. Rev.* **25,** 213-271 (1939); of preparative methods: F. Kurzer, L. E. A. Godfrey, *Chem. & Ind. (London)* **1962,** 1584-1595. Prevention of glucose-derived aortic collagen cross-linking in diabetic rats: M. Brownlee *et al., Science* **232,** 1629 (1986). Mechanism of action study: D. Edelstein, M. Brownlee, *Diabetes* **41,** 26 (1992). Review of therapeutic potential: B. H. R. Wolffenbuttel, M. S. P. Huijberts, *Neth. J. Med.* **42,** 205-208 (1993).

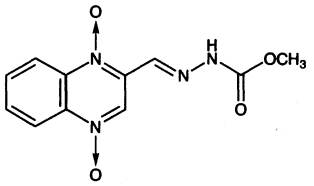


Crystals. Sol in water, alc. Practically insol in ether. Aq soln is strongly alkaline and reddens on standing in air; ammonia is evolved on heating.

Hydrochloride, $CH_6N_4.HCl$, *GER-11.* Large prisms from dil alc, mp 163°. Very sol in water; sol in alc. Practically insol in ether.

THERAP CAT: In prevention and treatment of chronic diabetic complications.

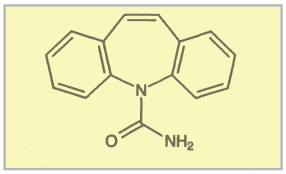
462. *p*-Aminohippuric Acid. *N-(4-Aminobenzoyl)glycine; N-*(*p*-aminobenzoyl)aminoacetic acid; PAH. $C_9H_{10}N_2O_3$; mol wt 194.19. C 55.67%, H 5.19%, N 14.43%, O 24.72%. Prepd by reduction of *p*-nitrohippuric acid: Shimizu, Okano, *J. Pharm. Soc. Japan* **73,** 523 (1953).



Minute yellow crystals, mp 239.5-240°. uv max (water): 236, 251, 303, 366, 373 nm (ε 11000, 10900, 36400, 16100, 16200). Practically insol in water.

THERAP CAT (VET): Antimicrobial.

1826. Carbamazepine. *5H-Dibenz[b,f]azepine-5-carboxamide;* 5-carbamoyl-5*H*-dibenz[*b,f*]azepine; G-32883; Biston; Calepsin; Carbelan; Epitol; Finlepsin; Sirtal; Stazepine; Tegretal; Tegretol; Telesmin; Timonil. $C_{15}H_{12}N_2O$; mol wt 236.27. C 76.25%, H 5.12%, N 11.86%, O 6.77%. Prepn: Schindler, **U.S. pat. 2,948,718** (1960 to Geigy). Metabolism: P. L. Morselli, A. Frigerio, *Drug Metab. Rev.* **4,** 97 (1975). Review of pharmacokinetics in man: L. Bertilsson, *Clin. Pharmacokinet.* **3,** 128-143 (1978); S. Pynnönen, *Ther. Drug Monit.* **1,** 409-431 (1979). Toxicity: E. G. Stenger, F. C. Roulet, *Med. Exp.* **11,** 191 (1964). Comprehensive description: H. Y. Aboul-Enein, A. A. Al-Badr in *Analytical Profiles of Drug Substances* **vol. 9,** K. Florey, Ed. (Academic Press, New York, 1980) pp 87-106.



Crystals from abs ethanol + benzene, mp 190-193°. Sol in alcohol, acetone, propylene glycol. Practically insol in water. LD_{50} orally in mice, rats: 3750, 4025 mg/kg (Stenger, Roulet).

THERAP CAT: Analgesic; anticonvulsant.

1827. Carbamyl Chloride. *Carbamic chloride;* chloroformamide. CH_2ClNO; mol wt 79.49. C 15.11%, H 2.54%, Cl 44.60%, N 17.62%, O 20.13%. H_2NCOCl. Prepd by passing HCl gas over heated cyanuric acid: Gattermann, Rossolymo, *Ber.* **23,** 1190 (1890); Gattermann, *Ber.* **32,** 1117 (1899). From ammonia and phosgene at 400°: Rupe, Labhard, *Ber.* **33,** 236 (1900), *cf.* Gattermann, *Ann.* **244,** 30 (1888).

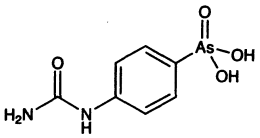
Liquid. Acrid, offensive odor. Has been obtained cryst, mp about 50°, bp 61-62° (decompn). Reacts violently on contact with water, forming ammonium chloride and carbon dioxide. During storage it gives off HCl and slowly changes to cyanuric acid.

1828. Carbanilic Acid. *Phenylcarbamic acid; N*-carboxyaniline. $C_7H_7NO_2$; mol wt 137.14. $C_6H_5NHCOOH$. Known only by its derivatives (esters, etc.).

1829. Carbanilide. *N,N'-Diphenylurea;* diphenylcarbamide; 1,3-diphenylurea; *sym*-diphenylurea. $C_{13}H_{12}N_2O$; mol wt 212.25. C 73.57%, H 5.70%, N 13.20%, O 7.54%. $C_6H_5NHCONHC_6H_5$. Obtained during the preparation of phenylurea from aniline hydrochloride and urea: Davis, Blanchard, *Org. Syn.* **coll. vol. I,** 453 (2nd ed., 1941). Crystal structure: W. Dannecker *et al., Cryst. Struct. Commun.* **8,** 429 (1979).

Orthorhombic prisms from alc. d 1.239. mp 238°. bp 260° (decompn). Sublimes in current of hydrogen at 220°. Sol in ether, glacial acetic acid. Sparingly sol in water (0.15 g/l), acetone, alcohol, chloroform. Moderately sol in pyridine (69.0 g/l).

1830. Carbarsone. *[4-[(Aminocarbonyl)amino]phenyl]-arsonic acid; N-carbamoylarsanilic acid; p*-ureidobenzenearsonic acid; *N*-carbamylarsanilic acid; *p*-carbamidobenzenearsonic acid; 4-ureido-1-phenylarsonic acid; 4-carbamylaminophenylarsonic acid; *p*-arsonophenylurea; Amabevan; Ameban; Amibiarson; Arsambide; Carb-O-Sep; Histocarb; Fenarsone; Leucarsone; Aminarsone; Amebarsone. $C_7H_9AsN_2O_4$; mol wt 260.08. C 32.33%, H 3.49%, As 28.81%, N 10.77%, O 24.61%. Prepd from the sodium salt of arsanilic acid by treatment with potassium cyanate or cyanogen bromide: **Ger. pat. 213,155;** Stickings, *J. Chem. Soc.* **1928,** 3131; from arsanilic acid by treatment with phosgene: Nakatsu, Kawase, *Ann. Rept. Takamine Lab.* **8,** 44-47 (1956); **Japan. pat. 4418('58)** (to Sankyo).

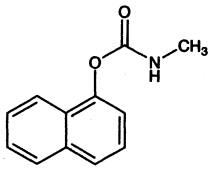


White powder. mp 174°. Slightly sol in water, alcohol; sol in solns of alkali hydroxides and carbonates. The satd aq soln is acid to litmus. Nearly insol in ether or chloroform. LD_{50} orally in rats: 510 mg/kg.

THERAP CAT: Antiamebic.

THERAP CAT (VET): Antihistomonad in turkeys.

1831. Carbaryl. *1-Naphthalenol methylcarbamate; methyl carbamic acid 1-naphthyl ester;* 1-naphthyl *N*-methylcarbamate; ENT-23969; OMS-29; UC-7744; Arylam; Carylderm; Clinicide; Derbac; Dicarbam; Ravyon; Seffein; Sevin. $C_{12}H_{11}NO_2$; mol wt 201.22. C 71.63%, H 5.51%, N 6.96%, O 15.90%. Prepn and description: Haynes *et al., Contrib. Boyce Thompson Inst.* **18,** 507 (1957); Lambrech, **U.S. pat. 2,903,478** (1959 to Union Carbide). Metabolism: W. E. Whitehurst *et al., J. Agr. Food Chem.* **11,** 167 (1963); J. B. Houston *et al., Xenobiotica* **5,** 637 (1975). Degradation: D. G. Crosby *et al., J. Agr. Food Chem.* **13,** 204 (1965); D. L. Heywood, *Environ. Qual. Saf.* **4,** 128 (1975). Toxicology: I. Nisbet, D. Miner, *Environment* **13,** 10 (1971). Toxicity: M. Vandekar *et al., Bull. World Health Org.* **44,** 241 (1971). Clinical trial in pediculosis: J. W. Maunder, *Clin. Exp. Dermatol.* **6,** 605 (1981). *Review: Carbamate Insecticides: Chemistry, Biochemistry and Toxicology,* R. J. Kuhr, H. W. Dorough, Eds. (CRC Press, Cleveland, 1976) 301 pp.



Crystals, mp 142°. d_{20}^{20} 1.232. Moderately sol in DMF, acetone, isophorone, cyclohexanone. Soly in water at 30°: 120 mg/l. Vapor pressure at 25°: $< 4 \times 10^{-5}$ mm Hg. Stable to heat, light, acids; hydrolyzed in alkalies; noncorrosive. LD_{50} orally in rats: 250 mg/kg (Vandekar).

Caution: Nausea, vomiting, diarrhea, bronchoconstriction, blurring vision, excessive salivation, muscle twitching, cyanosis, convulsions, coma, respiratory failure, *Clinical Toxicology of Commercial Products,* R. E. Gosselin *et al.,* Eds. (Williams & Wilkins, Baltimore, 4th ed., 1976) Section III, pp 79-82.

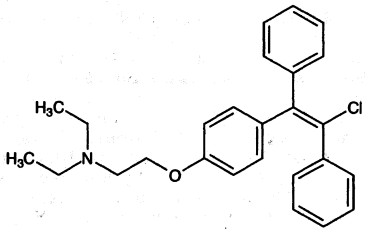
USE: Contact insecticide.

THERAP CAT: Ectoparasiticide.

THERAP CAT (VET): Ectoparasiticide.

1832. Carbazochrome Salicylate. *2-Hydroxybenzoic acid monosodium salt compd with 2-(1,2,3,6-tetrahydro-3-hydroxy-1-methyl-6-oxo-5H-indol-5-ylidene)hydrazinecarboxamide (1:1); 3-hydroxy-1-methyl-1,5,6-indolinedione semicarbazone compd with sodium salicylate;* adrenochrome semicarbazone compd with sodium salicylate; adrenochrome monosemicarbazone sodium salicylate complex; Adenogen; Adrenosem; Adrestat-F; Statimo. $C_{17}H_{17}N_4NaO_6$; mol wt 396.34. C 51.52%, H 4.32%, N 14.14%, Na 5.80%, O 24.22%. $C_{10}H_{12}N_4O_3 \cdot C_7H_5NaO_3$. Prepd by refluxing adrenochrome semicarbazone and Na salicylate in 30% methanol: Iwao *et al.,* **Japan. pat. 57 546** (1957 to Tanabe), *C.A.* **52,** 4693 (1958).

phenylvinyl)phenoxy]triethylamine; 2-[*p*-(β-chloro-α-phenylstyryl)phenoxy]triethylamine; 1-[*p*-(β-diethylaminoethoxy)phenyl]-1,2-diphenylchloroethylene; clomifene; chloramiphene; MRL-41. $C_{26}H_{28}ClNO$; mol wt 405.97. C 76.92%, H 6.95%, Cl 8.73%, N 3.45%, O 3.94%. Synthetic estrogen agonist-antagonist. Prepn: Allen *et al.*, U.S. pat. **2,914,563** (1959 to Merrell). Stereochemistry of the geometric isomers: Ernst *et al., J. Pharm. Sci.* **65,** 148 (1976). Induction of ovulation: R. B. Greenblatt, *Fertil. Steril.* **12,** 402 (1961). Clinical trial in anovulatory women: J. Garcia *et al., ibid.* **28,** 707 (1977). Use in male infertility: P. J. Sorbie, R. Perez-Marrero, *J. Urol.* **131,** 425 (1984). HPLC determn of isomers in human plasma: C. L. Baustian, T. J. Mikkelson, *J. Pharm. Biomed. Anal.* **4,** 237 (1986).



Enclomiphene

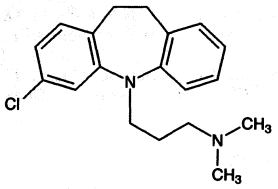
Citrate, $C_{26}H_{28}ClNO.C_6H_8O_7$, ***Clomid, Clomphid, Clomivid, Clostilbegyt, Dyneric, Ikaclomine, Pergotime, Serophene.*** Crystals, mp 116.5-118°. Slightly sol in water, chloroform; freely sol in methanol; sparingly sol in alcohol. Insol in ether.

cis-Form, *zuclomiphene.*

trans-Form, *enclomiphene.*

THERAP CAT: Gonad-stimulating principle.

2447. Clomipramine. *3-Chloro-10,11-dihydro-N,N-dimethyl-5H-dibenz[b,f]azepine-5-propanamine; 3-chloro-5-[3-(dimethylamino)propyl]-10,11-dihydro-5H-dibenz[b,f]azepine;* 3-chloro-10,11-dihydro-5-(3-dimethylaminopropyl)-5*H*-dibenz[*b,f*]azepine; 5-(γ-dimethylaminopropyl)-3-chloroiminodibenzyl; chlorimipramine; G-34586. $C_{19}H_{23}ClN_2$; mol wt 314.86. C 72.48%, H 7.36%, Cl 11.26%, N 8.90%. Prepn: P. N. Craig *et al., J. Org. Chem.* **26,** 135 (1961); W. Schindler, H. Dietrich, **Swiss.** pat. **371,799;** *eidem,* **U.S.** pat. **3,467,650** (1963, 1969 both to Geigy). Crystal and molecular structure of the hydrochloride: M. L. Post, A. S. Horn, *Acta Crystallogr.* **33B,** 2590 (1977). Clinical trial in obsessive-compulsive disorder: J. DeVeaugh-Geiss *et al., Psychopharmacol. Bull.* **25,** 36 (1989).

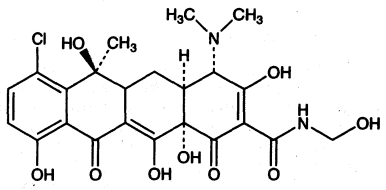


$bp_{0.3}$ 160-170°.

Hydrochloride, $C_{19}H_{23}ClN_2.HCl$, ***Anafranil.*** Crystals from acetone-ether/methanol-ether, mp 189-190° (Craig); also reported as crystals from acetone, mp 191.5°-192° (Schindler, Dietrich).

THERAP CAT: Antidepressant.

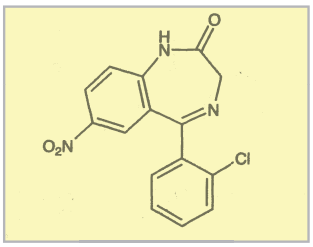
2448. Clomocycline. *7-Chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-N-(hydroxymethyl)-6-methyl-1,11-dioxo-2-naphthacenecarboxamide;* chlormethylenecycline; N^2-(hydroxymethyl)chlortetracycline; *N*-methylol-7-chlortetracycline; Megaclor. $C_{23}H_{25}ClN_2O_9$; mol wt 508.91. C 54.28%, H 4.95%, Cl 6.97%, N 5.50%, O 28.29%. Semi-synthetic broad spectrum antibiotic related to tetracycline, *q.v.* Prepn: Banci, Tubaro, *Boll. Chim. Farm.* **102,** 471 (1963); **Belg.** pat. **628,142** (1963 to AB Leo), *C.A.* **60,** 15805f (1964).



Yellow material. Dec 145-170°. Sensitive to light and air. pH of 2% aq soln 6.3-6.5. Sol in citrate-phosphate buffer, pH 6-8.

THERAP CAT: Antibacterial.

2449. Clonazepam. *5-(2-Chlorophenyl)-1,3-dihydro-7-nitro-2H-1,4-benzodiazepin-2-one;* 7-nitro-5-(2-chlorophenyl)-3*H*-1,4-benzodiazepin-2(1*H*)-one; Ro-5-4023; Clonopin; Iktorivil; Klonopin; Landsen; Rivotril. $C_{15}H_{10}ClN_3O_3$; mol wt 315.72. C 57.07%, H 3.19%, Cl 11.23%, N 13.31%, O 15.20%. Antiepileptic agent with anxiolytic and antimanic properties. Prepn: L. H. Sternbach *et al., J. Med. Chem.* **6,** 261 (1963); O. Keller *et al.*, U.S. pat. **3,121,076** (1964 to Hoffmann-La Roche). Prepd but not claimed: J. Kariss, H. L. Newmark, U.S. pat. **3,116,203** (1963 to Hoffmann-La Roche). Alternate process: A. Focella, A. I. Rachlin, U.S. pat. **3,335,181** (1967 to Hoffmann-La Roche). Pharmacology: Guerrero-Figueroa *et al., Curr. Ther. Res. Clin. Exp.* **11,** 40 (1969); Lechat *et al., Therapie* **25,** 893 (1970); D'Armagnac *et al., ibid.* **26,** 439 (1971). Toxicology: Blum *et al., Arzneimittel-Forsch.* **23,** 377 (1973). Determn of clonazepam and its main metabolites: S. Ebel, H. Schütz, *ibid.* **27,** 325 (1977). Clinical efficacy in acute mania: G. Chouinard, *Psychosomatics* **26**(12), Suppl., 7 (1985); in panic disorders and agitation: R. Fontaine, *ibid.* 13. Comprehensive description: W. C. Winslow, *Anal. Profiles Drug Subs.* **6,** 61-81 (1977).



White crystals from ethanol-methylene chloride, mp 236.5-238.5°. uv max (7.5% methanol in isopropanol): 248, 310 nm (ε 14500, 11600). Soly in mg/ml at 25°: acetone 31; chloroform 15; methanol 8.6; ether 0.7; benzene 0.5; water <0.1. pK_1 1.5, pK_2 10.5. LD_{50} orally in mice: >4000 mg/kg (Blum).

Note: This is a controlled substance (depressant) listed in the U.S. Code of Federal Regulations, Title 21 Part 1308.14 (1995).

THERAP CAT: Anticonvulsant.

2450. Clonidine. *N-(2,6-Dichlorophenyl)-4,5-dihydro-1H-imidazol-2-amine; 2-(2,6-dichloroanilino)-2-imidazoline;* 2,6-dichloro-*N*-2-imidazolidinylidenebenzenamine; 2-(2,6-dichloroanilino)-1,3-diazacyclopentene-(2); 2-[(2,6-dichlorophenyl)imino]-2-imidazoline. $C_9H_9Cl_2N_3$; mol wt 230.10. C 46.98%, H 3.94%, Cl 30.82%, N 18.26%. α_2-Adrenergic agonist. Prepn: Zeile *et al.*, U.S. pat. **3,202,660** (1965 to Boehringer, Ing.). Use in shaving soap formulations: *eidem,* U.S. pat. **3,190,802** (1965 to Boehringer, Ing.). Pharmacology: Bolme, Fuxe, *Eur. J. Pharmacol.* **13,** 168 (1971). Revised structure: L. M. Jackman, T. Jen, *J. Am. Chem. Soc.* **97,** 2811 (1975). GC determn in plasma: P. O. Edlund, *J. Chromatog.* **187,** 161 (1980). Preliminary studies on potential antidepressant activity: D. C. Jimerson *et al., Biol. Psychiatry* **15,** 45 (1980); J. B. Malick, *Prog. Clin. Biol. Res.* **71,** 165 (1981). Exptl use in drug rehabilitation: M. S. Gold, A. C. Pottash, *Ann. N.Y. Acad. Sci.* **362,** 191-202 (1981). Activity as α-adrenoceptor agonist: A. G. Roach *et al., J. Pharmacol. Exp. Ther.* **227,** 421 (1983). Symposium

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