

THE MERCK INDEX

ELEVENTH EDITION

THE MERCK INDEX

AN ENCYCLOPEDIA OF
CHEMICALS, DRUGS, AND BIOLOGICALS

ELEVENTH EDITION

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TABLE OF CONTENTS

Periodic chart	inside front cover.
Editor's preface	v
Acknowledgments	vi
Explanatory notes	viii
Abbreviations	xiii
MONOGRAPHS	1-1606
MISCELLANEOUS TABLES.	MISC-1-MISC-129
Alphabetical list of tables	MISC-1
Cancer chemotherapy drug regimens	MISC-2
Abbreviated terms used by the U.S. Adopted Names (USAN) Council for pharmacologically inactive radicals	MISC-3
International non-proprietary names for radicals and groups proposed by the World Health Organization (WHO)	MISC-4
Code letters used by companies for experimental substances	MISC-5
Company register	MISC-9
Greek and Russian alphabets	MISC-27
Roman numerals	MISC-27
Numerical prefixes commonly used in forming chemical names	MISC-28
Alchemical symbols used in biology and botany	MISC-28
Prescription notation	MISC-28
Latin terms	MISC-29
Table of radioactive isotopes	MISC-31
Radioactive isotopes used in medical therapy and diagnosis	MISC-46
Maximum allowable concentration of air contaminants	MISC-53
Boiling points of solvents	MISC-63
Molar volumes of frequently used laboratory chemicals	MISC-69
Weight of liquids	MISC-72
Specific gravity comparisons	MISC-75
Percentage solution tables	MISC-77
Concentration of acids and bases	MISC-78
Isotonic solutions	MISC-79
Saturated solutions	MISC-104
Cooling mixtures	MISC-109
Constant-humidity solutions	MISC-109
Indicators	MISC-110
Standard buffers for calibration of pH meters	MISC-113
pH values of standard solutions	MISC-113
Thermometric equivalents	MISC-114
International system of units (SI)	MISC-119
Universal conversion factors	MISC-120
CHEMICAL ABSTRACTS REGISTRY NUMBERS for title compounds and selected derivatives	
Alphabetic order by compound name	REG-1-REG-47
CAS Registry Number order	REG-48-REG-103
THERAPEUTIC CATEGORY AND BIOLOGICAL ACTIVITY INDEX	THER-1-THER-29
FORMULA INDEX	FI-1-FI-80
CROSS INDEX OF NAMES	CI-1-CI-349
Titles of deleted ninth and tenth edition monographs	CI-350-CI-353
APPENDIX	APP-1-APP-3
Atomic weights	inside back cover

Slightly sol in cold water; sol in hot water (yellowish-red soln). Violet-red in conc H_2SO_4 , turning blue on addn of boric acid. Violet in aq NaOH.

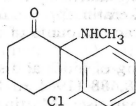
USE: As brilliant scarlet dye.

5173. Kerosene. Kerosine. A mixture of petroleum hydrocarbons, chiefly of the methane series having from 10 to 16 carbon atoms per molecule. It constitutes the fifth fraction in the distillation of petroleum (after the petr ethers and before the oils). A typical analysis of the kerosene fraction from Midcontinent crude includes *n*-dodecane, three alkyl derivatives of benzene, naphthalene, 1- and 2-methyl-5,6,7,8-tetrahydronaphthalene.

Pale yellow or water-white, mobile, oily liquid. Characteristic, not altogether disagreeable odor. d_{40}^{20} about 0.80. bp 175–325°. Flash pt 150–185°F. (65–85°C). Insol in water. Misc with other petroleum solvents. A water-white, deodorized form of kerosene is marketed under the trade name *Deobase*. Kerosene is deodorized and decolorized by washing (fuming) sulfuric acid, followed by sodium plumbite soln and sulfur (Doctor sweetening). LD₅₀ orally in rabbits: 28 ml/kg, W. B. Deichmann *et al.*, *Ann. Int. Med.* **21**, 803 (1944).

USE: In kerosene lamps, flares, and stoves; as degreaser and cleaner; *Deobase* formerly used as a solvent in cosmetics and in fly spray. **Human Toxicity:** Defatting action on skin can lead to irritation, infection. Inhalation of high concs causes headache, drowsiness, coma. Swallowing causes G.I. irritation with vomiting, diarrhea. Aspiration of vomitus causes serious pneumonitis. Toxicological studies and recommended treatment of kerosene poisoning: H. W. Gerarde, *Toxicol. Appl. Pharmacol.* **1**, 462 (1959). **Caution:** Induction of vomiting following ingestion is contraindicated.

5174. Ketamine. (±)-2-(2-Chlorophenyl)-2-(methylamino)cyclohexanone; 2-(2-chlorophenyl)-2-(2-chlorophenyl)-cyclohexanone. $\text{C}_{15}\text{H}_{16}\text{Cl}_2\text{NO}$; mol wt 237.74. C 65.68%, H 6.78%, Cl 14.92%, N 5.89%, O 6.73%. Prepn: Stevens, Belg. pat. 634,208 (1963) corresp to U.S. pat. 3,254,124 (1966 to Parke, Davis). Prepn and characterization of T-labelled compd: Blackburn, Ober, *J. Label. Compounds* **3**, 38 (1967). Isoln of optical isomers: Hudyma *et al.*, Ger. pat. 2,062,620 (1971 to Bristol-Myers), C.A. 75, 118119x (1971). Pharmacology: Domino *et al.*, *Clin. Pharmacol. Ther.* **6**, 279 (1966); Chen *et al.*, *J. Pharmacol. Exp. Ther.* **152**, 332 (1966). Toxicity: E. J. Goldenthal, *Toxicol. Appl. Pharmacol.* **18**, 185 (1971). Comprehensive description: W. C. Sass, S. A. Fuszari in *Analytical Profiles of Drug Substances* vol. 6, K. Florey, Ed. (Academic Press, New York, 1977) pp 297–322.



Crystals from pentane-ether, mp 92–93°. uv max (0.01N NaOH in 95% methanol): 301, 276, 268, 261 nm ($A_{1\text{cm}}^{1\%}$ 5.0, 7.0, 9.8, 10.5). pKa 7.5.

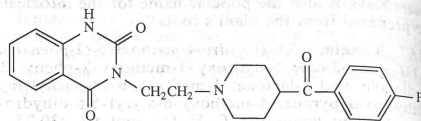
Hydrochloride, $\text{C}_{15}\text{H}_{17}\text{Cl}_2\text{NO}$, CI-581, *Ketaject*, *Ketalar*, *Ketanest*, *Ketaset*, *Ketavet*, *Vetalar*. White crystals, mp 262–263°. Soly in water: 20 g/100 ml. LD₅₀ in adult mice, rats (mg/kg): 224 ± 4, 229 ± 5 i.p. (Goldenthal).

THERAP CAT: Anesthetic (intravenous).

THERAP CAT (VET): Anesthetic.

5175. Ketanserin. 3-[2-[4-(4-Fluorobenzoyl)-1-piperidinyl]ethyl]-2,4[1H,3H]-quinazolinedione; R 41468; Ket; Sereflex; Serepress; Sufrexal. $\text{C}_{27}\text{H}_{27}\text{FN}_3\text{O}_2$; mol wt 395.43. C 66.82%, H 5.61%, F 4.80%, N 10.63%, O 12.14%. Specific serotonin S_2 -receptor antagonist with hypotensive properties. Prepn: J. Vandenbeck *et al.*, Eur. pat. Appl. 13,612; eidem, U.S. pat. 4,335,127 (1980, 1982 both to Janssen). X-ray structure: O. M. Peeters *et al.*, *Cryst. Struct. Commun.* **11**, 375 (1982). Receptor binding profile, physical properties: J. E. Laysen *et al.*, *Life Sci.* **28**, 1015 (1981). Antihypertensive properties: J. M. Van Neuten *et al.*, *J. Pharmacol. Exp. Ther.* **218**, 217 (1981). Use in treatment of cardiac failure: J.-C. Demoulin *et al.*, *Lancet* **1**, 1186 (1981). HPLC determ in plasma: A. T. Kacprowicz *et al.*, *J. Chro-*

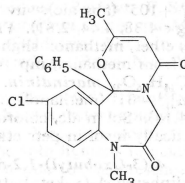
matog. **272**, 417 (1983); C. L. Davies, *ibid.* **275**, 232 (1983). Efficacy in treatment of intermittent claudication: J. De Cree *et al.*, *Lancet* **2**, 775 (1984). Long term treatment of hypertensive patients: A. Amery *et al.*, *J. Cardiovasc. Pharmacol.* **6**, 182 (1984). In treatment of Raynaud's phenomenon: E. Stranden *et al.*, *Brit. Med. J.* **285**, 1069 (1982); J. R. Seibold, A. H. M. Jagneau, *Arthritis Rheum.* **27**, 139 (1984). Review of antihypertensive properties: P. M. Vanhoutte *et al.*, *Fed. Proc.* **42**, 182–185 (1983); of pharmacology: J. M. Van Neuten, P. M. Vanhoutte, *Bibl. Cardiol.* **38**, 222–233 (1984). Series of articles on cardiovascular effects: *J. Cardiovasc. Pharmacol.* **7**, Suppl. 7, S1–S182 (1985); on pharmacokinetics and metabolism in animals and man: *Arzneimittel-Forsch.* **38**, 775–800 (1988).



Crystals from 4-methyl-2-pentanone, mp 227–235°. Soly (g/100 ml): 0.001 in water; 0.038 in ethanol; 2.34 in DMF. pKa 7.5.

THERAP CAT: Antihypertensive.

5176. Ketazolam. 11-Chloro-8,12b-dihydro-2,8-dimethyl-12b-phenyl-4H-[1,3]oxazino[3,2-d][1,4]benzodiazepine-4,7(6H)-dione; U-28,774; Anseren; Ansieten; Anxon; Contamex; Loftran; Unakalm. $\text{C}_{29}\text{H}_{27}\text{ClN}_3\text{O}_2$; mol wt 368.82. C 65.13%, H 4.65%, Cl 9.61%, N 7.59%, O 10.01%. Prepn: J. Szmuszkovicz, Ger. pat. 1,947,226 corresp to U.S. pat. 3,573,282 (1970, 1971 both to Upjohn); U.S. pat. 3,575,965 (1971 to Upjohn). Synthesis and structure: J. Szmuszkovicz *et al.*, *Tetrahedron Letters* **1971**, 3665. Analysis by HPLC: D. J. Weber, *J. Pharm. Sci.* **61**, 1797 (1972). Pharmacology: V. H. Sethy, *Arch. Exp. Pathol. Pharmacol.* **301**, 157 (1978). Clinical studies: L. F. Fabre, *J. Int. Med. Res.* **4**, 50 (1976); L. A. Gottschalk, J. B. Cohn, *Psychopharmacol. Bull.* **14**, 39 (1978).



Colorless prisms from chloroform/ether, mp 182–183.5° (sinters at 170°). uv max (ethanol): 202, 241 nm (ϵ 40600; 18400).

Note: This is a controlled substance (depressant) listed in the U.S. Code of Federal Regulations, Title 21 Part 1308.14 (1987).

THERAP CAT: Anxiolytic.

5177. Ketene. Ethenone; carbomethene. $\text{C}_2\text{H}_2\text{O}$; mol wt 42.04. C 57.14%, H 4.80%, O 38.06%. $\text{CH}_2=\text{C}=\text{O}$. Prep by the thermal decompn of acetone, diketene or acetic anhydride: Hurd, *Org. Syn. coll. vol. I*, 330 (2nd ed., 1941); S. Andreades, H. D. Carlson, *ibid. coll. vol. V*, 679 (1973). Structure of ketene dimer as 3-buten- β -lactone: Blomquist, Baldwin, *J. Am. Chem. Soc.* **70**, 29 (1948); Hurd, Blanchard, *ibid.* **72**, 1461 (1950); Katz, Lipscomb, *J. Org. Chem.* **17**, 515 (1953). Toxicology: J. F. Treon *et al.*, *J. Ind. Hyg. Toxicol.* **31**, 209 (1949). Review on the prepn of stable ketenes: R. S. Ward in *The Chemistry of Ketenes, Allenes and Related Compounds*, Part 1, S. Patai, Ed. (Wiley, New York, 1980) pp 223–277; on synthetic uses of ketenes: W. T. Brady, *ibid.* pp 279–308.

Gas. Penetrating odor. mp –150°. bp –56°. Electron diffraction pictures: Beach, Stevenson, *J. Chem. Physics* **6**, 75 (1938). Fairly sol in acetone.

Human Toxicity: Poisonous gas of the same order of tox-

