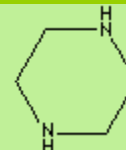


PIPERAZINE

PRODUCT IDENTIFICATION

CAS NO.	110-85-0
EINECS NO.	203-808-3
FORMULA	NHCH ₂ CH ₂ NHCH ₂ CH ₂
MOL WT.	86.14



H.S. CODE

TOXICITY Oral, rat LD50: 1900 mg/kg

SYNONYMS Diethylenediamine; Diethyleneimine; Dispermine;

Antiren; Hexahydropyrazine; Piperazidine; Pipersol; Pyrazine hexahydride; Uvilon; 1,4-Diazacyclohexane; 1,4-Piperazine; 1,4-Diethylenediamine; Piperazin (German); N,N-Diethylenediamine; Hexahydro-1,4-diazine; Piperazidine; Pyrazine hexahydrate; Piperazin (German); Piperazina (Spanish); Pipérazine (French);

DERIVATION

CLASSIFICATION

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	White flake Ammonia like odor
MELTING POINT	108 C
BOILING POINT	145 - 146 C
SPECIFIC GRAVITY	1.1
SOLUBILITY IN WATER	practically insoluble
pH	
VAPOR DENSITY	3.0
AUTOIGNITION	340 C
NFPA RATINGS	Health: 2 ; Flammability: 2 ; Reactivity: 0
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions

GENERAL DESCRIPTION & APPLICATIONS

Piperazine is a heterocyclic compound containing four carbon atoms and two of nitrogen at 1,4 position (als called 1,4-hexahydropyrazine). It is a deliquescent crystalline compound melting at 105 C; soluble in water, alcohol, glycerol, and glycols. It is used as a main ingredient of anthelmintics used to treat intestinal roundworms (ascariasis) infection in human and poultry and to treat pinworms (enterobiasis; oxyuriasis) by altering cell membrane permeability and causing hyperpolarization of the membrane. Piperazine is a main moiety in psychoactive drugs. Certain piperazine derivatives are suspected of ecstasy substitutes. Benzylpiperazine is banned in many countries. Benzylpiperazine has been used as an anthelmintic (antiparasitic effect). Nitrogen in piperazine ring plays an important role in biological research and drug manufacturing industry including the preparation of anthelmintic, antiallergenic, antibacterial, antihistamic, antiemetic and antimigraine agents. The piperazine ring and piperazine derivatives are important cyclic components in industrial field as raw materials for hardener of epoxy resins, corrosion inhibitors, insecticides, accelerators for rubber, urethane catalysts and antioxidants.

SALES SPECIFICATION

APPEARANCE	White flake
PURITY	99.5% min
WATER	0.5% max

INDIVIDUAL IMPURITY	0.5% max
TRANSPORTATION	
PACKING	25kgs in bag
HAZARD CLASS	8
UN NO.	2579
OTHER INFORMATION	
Hazard Symbols: C, Risk Phrases: 34-42/43-52/53, Safety Phrases: 22-26-36/37/39-45-61	