

# N-METHYL PIPERAZINE

## PRODUCT IDENTIFICATION

CAS NO.	109-01-3
EINECS NO.	203-639-5
FORMULA	C <sub>5</sub> H <sub>12</sub> N <sub>2</sub>
MOL WT.	100.16
H.S. CODE	2933.59
TOXICITY	Oral rat LD50: 2830
SYNONYMS	N-Methyl piperazine; 4-Methylpiperazine;
DERIVATION	



## CLASSIFICATION

## PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Clear, Colourless liquid
MELTING POINT	-6 C
BOILING POINT	138 C
SPECIFIC GRAVITY	0.903
SOLUBILITY IN WATER	Miscible
pH	
VAPOR DENSITY	
AUTOIGNITION	
NFPA RATINGS	Health: 2; Flammability: 2; Reactivity: 0
REFRACTIVE INDEX	1.4655
FLASH POINT	42 C
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 (also 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, antihistaminic, 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. N-Methyl piperazine is used as an intermediate for antibiotics (quinolones) and pharmaceuticals (e.g antihistamines and tranquillizers). It is also used for the production of agrochemicals, surfactants, dyestuffs, pigment and other organic chemical compounds.

## SALES SPECIFICATION

APPEARANCE	Clear, Colourless liquid
PURITY	99.0% min
BOILING POINT	134 - 138 C
MOISTURE	0.5% max
INDIVIDUAL IMPURITY	0.2% max (Piperazine, Di-Methyl Piperazine and etc)

TRANSPORTATION

PACKING	180kgs in drum
HAZARD CLASS	3 (Packing group : II)
UN NO.	1993

OTHER INFORMATION