


PROPYLENE OXIDE

PRODUCT IDENTIFICATION

CAS NO.	75-56-9	
EINECS NO.	200-879-2	
FORMULA	C ₃ H ₆ O	
MOL WT.	58.0414	
H.S. CODE	2910.20	
TOXICITY	Oral rat LD50: 380 mg/kg	
SYNONYMS	2-Methyl oxirane; Epoxy Propane; 2,3-Epoxypropane; Methyl Oxirane; Epoxypropane; Methyloxirane; 1,2-Epoxypropane; Propene oxide; Propylene epoxide; 1,2-Epoxypropane; 1,2-Propylene oxide; 3-Methyl-1,2-epoxypropane; 2-Methyloxiran; Methylethylene oxide; AD 6; Methyl Ethylene oxide; Oxyde de propylene;	

DERIVATION

CLASSIFICATION

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	clear liquid
MELTING POINT	-112 C
BOILING POINT	34 C
SPECIFIC GRAVITY	0.83
SOLUBILITY IN WATER	Soluble
pH	8.1
VAPOR DENSITY	2
AUTOIGNITION	
NFPA RATINGS	Health: 3; Flammability: 4; Reactivity: 2
REFRACTIVE INDEX	
FLASH POINT	70 C
STABILITY	May polymerize when exposed to heat or flame with the influence of bases, acids and metallic chlorides.

GENERAL DESCRIPTION AND APPLICATIONS

Propylene oxide is a clear, flammable, very volatile liquid, with ether like aroma. It is soluble in water, alcohol, and ether. It may violently polymerize when exposed to heat or acids, chlorine, ammonia, oleum, hydrogen fluoride and strong oxidants. This substance is used as an intermediate in the production of polyols. Polyols are main raw materials in the production of polyurethane foams, coatings, and adhesives. Propylene oxide is used in manufacturing propylene glycols and their ethers having wide range of applications including industrial solvents, paint and coating solvents, polyester and alkyd resins, antifreeze coolants, heat transfer fluids, deicing fluids, plasticizers, surfactants, bactericide and pharmaceuticals. Propylene oxide is used in manufacturing isopropanolamines (used as an emulsifying agent and for dry-cleaning soaps, wax polishes, paint strippers, plasticizers, and insecticides. It is also used as an amine component for anionic surfactants and foam stabilizers. End applications include cosmetic cleaners, paper softeners and detergents)

SALES SPECIFICATION

APPEARANCE	clear liquid
SPECIFIC GRAVITY	0.83 ± 0.01
COLOR, APHA	10 max
FREE ACID	30ppm max
ALDEHYDE	30ppm max
MOISTURE	0.002% max

NON-VOLATILES	0.002% max
TRANSPORTATION	
PACKING	
HAZARD CLASS	3 (Packing Group: I)
UN NO.	1280
OTHER INFORMATION	
Hazard Symbols: T F+, Risk Phrases: 12-20/21/22-36/37/38-45, Safety Phrases: 53-45	