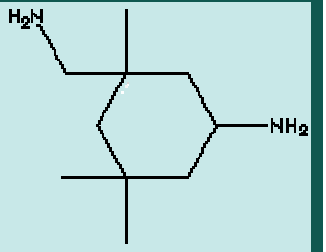
ISOPHORONE

PRODUCT IDENTIFICATION



CAS NO	2855-13-2
EINECS NO.	220-666-8
FORMULA	$C_{10}H_{22}N_2$
MOL WT.	170.30
H.S. CODE	2933.29
TOXICITY	Oral rat LD50: 1030 mg/kg
SYNONYMS	5-Amino-1,3,3-Trimethyl Cyclohexanemethanamine; 1-Amino-3-aminomethyl-3,5,5-trimethyl cyclohexane; 3-Aminomethyl-3,5,5-trimethyl cyclohexylamine;3-Aminomethyl-3,5,5-trimethylcyclohexylamin (German); 3-Aminometil-3,5,5-trimetilciclohexilamina (Spanish); 3-Aminométhyl-3,5,5-triméthyl cyclohexylamine (French);
DERIVATION CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Clear liquid
MELTING POINT	10 C
BOILING POINT	245 - 247 C
SPECIFIC GRAVITY	0.920 - 0.925
SOLUBILITY IN WATER	Miscible
pH	11.5 - 12.5 (10% Sol.)
VAPOR DENSITY	5.9
AUTOIGNITION	380 C
NFPA RATINGS	Health: 3; Flammability: 1; Reactivity: 0
REFRACTIVE INDEX	1.4877
FLASH POINT	112 C
STABILITY	Stable under ordinary conditions. Hygroscopic.

APPLICATIONS

Diamines are compounds which contain two amino groups. Both aliphatic (linear or branched from short C-2 chain to fatty length) and aromatic diamines are used as a monomer to form copolymers like nylons, polyesters and polyurethanes for characteristic properties. They can form a protein-like structure at both ends of each monomer. The chain length characteristics with recurring amide groups provide a variety physical properties and are further processed into various applications including plastics, oil-modified and moisture-area types of urethane coatings, polyamides for printing inks, dimer acids, textiles, lubricant additive as scale and corrosion inhibitor, epoxy curing agent, isocyanates, water treatment chemicals, biocides, and pharmaceutical intermediates.

Cycloaliphatic diamines are used in urethane and epoxy coatings for light-stable, weather-resistant properties. It is used in water proofing and paving concreting. It is used in manufacturing diisocyanates and polyamides. Common cycloaliphatic diamines include isophorone diamine, 1,2-diaminocyclohexane, 1,4-bis(aminocyclohexyl)methane, 1,3-bis(aminomethyl)cyclohexane, bis(aminomethyl)norbornane. They are versatile intermediate to produce leather, rubber products, plastics, pesticides, dyes, and photo sensitive polymers. It is used in manufacturing diisocyanates and polyamides. Aliphatic diamines are the most common epoxy curing agent. Members include:

- Diethylenetriamine (CAS RN: 111-40-0)
- Trientine (CAS RN: 112-24-3)

- N,N-Diethyltrimethylenediamine (CAS RN: 104-78-9)
- Menthane diamine (CAS RN: 80-52-4)
- Aminoethylpiperazine (CAS RN: 140-31-8)
- 1,3-Xylenediamine (CAS RN: 1477-55-0)
- Isophorone diamine (CAS RN: 2855-13-2)

SALES SPECIFICATION	
APPEARANCE	Clear liquid
ASSAY	99.5% min
AMINE VALUE	640 mg/kg
COLOR, APHA	20 max
TRANSPORTATION	
PACKING	200kgs in drum
HAZARD CLASS	8 (Packing group:III)
UN NO.	2289
OTHER INFORMATION	
Hazard Symbols: C, Risk Phrases: 21/22-34-43-52/53, Safety Phrases: 26-36/37/39-45-61	