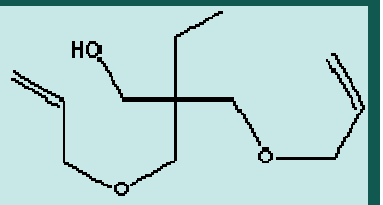
TRIMETHYLOLPROPANE



PRODUCT IDENTIFICATION

CAS NO.	682-09-7
EINECS NO.	211-661-1
FORMULA	$C_{12}H_{22}O_3$
MOL WT.	214.30
H.S. CODE	2909.49
TOXICITY	Oral rat LD50: 5000 mg/kg
SYNONYMS	2,2-Bis((2-propenyloxy)methyl)-1-butanol; 2,2-Bis(allyloxymethyl)butan-1-ol; 2-Ethyl-2-(hydroxymethyl)-1,3-propanediol Diallyl ether; 2,2-Bis(aliloximetil)butan-1-ol (Spanish); 2,2-Bis(allyloxyméthyl)butane-1-ol (French);
DERIVATION	
CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Clear liquid
MELTING POINT	- 80 C
BOILING POINT	135 C
SPECIFIC GRAVITY	0.95 - 0.96
SOLUBILITY IN WATER	3 g/l (soluble in alcohol, acetone)
pH	
VAPOR DENSITY	
AUTOIGNITION	
NFPA RATINGS	
REFRACTIVE INDEX	
FLASH POINT	127 C
STABILITY	Stable under ordinary conditions. Hygroscopic

APPLICATIONS

Allyl- is the prefix for the univalent organic group, $-CH_2=CHCH_2$. Allyl alcohol is an example, $CH_2=CHCH_2OH$, clear, pungent liquid, boiling at 96 C; soluble in water. It is prepared from allyl chloride by hydrolysis. Allyl compound, an alkene hydrocarbon, has a vinyl group, $CH_2=CH-$, attached to a methylene $-CH_2$. Because of the highly reactive solid bond, allyl can undergo free radical addition to solid bond which readily combine with themselves or other monomers to form homopolymers or co-polymers which are used in the production of coatings, adhesives and elastomers. In addition to free radical addition, allyl compounds can participate in a wide variety of reactions including electrophilic additions, allylic substitution and oxidation. Allyl, an unsaturated bond, imparts a characteristic odor in some compounds. An example is allyl isothiocyanate which is the main ingredient of black mustards. (white mustard consists principally of p-hydroxybenzyl isothiocyanate). Allyl isothiocyanate is called mustard oil. Allyl esters are involved in fragrance, flavor, or odor.

Trimethylolpropane diallylether, containing one hydroxyl group and two allyl bonds in a quaternary mole structure, is a clear liquid. It is applied in unsaturated polyesters and resins (epoxy, ion-exchange and polyurethane and polyacrylate resins) to improves heat resistance, color stability, balance between toughness and flexibility. Allyl group functionality gives the advantage to inhibit oxygenation from surface tackiness in curing resins. It is also used in lubricating oils and plasticizers.

SALES SPECIFICATION

APPEARANCE	clear liquid
DIALLY ETHER	75.0 - 85.0%

MONOALLYL ETHER	7.0 - 15.0%
TRIALLYL ETHER	5.0 - 10.0%
FREE OXYGEN	6 ppm max
COLOR, APHA	10 max
TRANSPORTATION	
PACKING	200KGS in drum
HAZARD CLASS	Not regulated
UN NO.	
OTHER INFORMATION	
Hazard Symbols: XI, Risk Phrases: 36/37/38, Safety Phrases: 26-28	