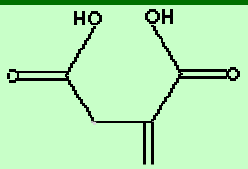
ITACONIC ACID



PRODUCT IDENTIFICATION

CAS NO.	97-65-4
EINECS NO.	202-599-6
FORMULA	$HOOCCH_2C(=CH_2)COOH$
MOL WT.	131.10
H.S. CODE	2917.19
TOXICITY	
SYNONYMS	Methylenesuccinic acid; Methylene Butanedioic acid; Propylenedicarboxylic acid; 2-Propene-1,2-dicarboxylic acid;
DERIVATION	
CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	white crystalline powder
MELTING POINT	165 - 169 C
BOILING POINT	
SPECIFIC GRAVITY	1.5 - 1.6
SOLUBILITY IN WATER	8 - 9.5 %
SOLVENT SOLUBILITY	Soluble in alcohol. slightly soluble in organic solvents
pH	
VAPOR DENSITY	
REFRACTIVE INDEX	
NFPA RATINGS	
FLASH POINT	
STABILITY	Stable under ordinary conditions. Hygroscopic

GENERAL DESCRIPTION & APPLICATIONS

Itaconic Acid (also called Methylene Succinic Acid) is a white crystalline carboxylic acid obtained by the fermentation of carbohydrates. It is soluble in water, ethanol and acetone. Unsaturated solid bond makes a conjugated system with carbonly group. It is used in the field of;

- Co-monomer to prepare acrylic fibers and rubbers, reinforced glass fiber, artificial diamonds and lens
- Additive in fibers and ion exchange resins to increases abrasion, waterproofing, physical resistance, dying affinity and better duration
- Water treatment system to prevent contamination by metallic alkali
- As binder and sizing agent in non-weaving fibers, paper and concrete paint.

The end applications of itaconic acid and its esters include in the field of co-polymerizations, plasticizers, lubricant oil, paper coating. carpets for better duration, adhesives, coatings, paints, thickener, emulsifier, surface active agents, pharmaceuticals and printing chemicals.

SALES SPECIFICATION

APPEARANCE	white crystalline powder
PURITY	99.5% min
MELTING POINT	165 - 169 C
LOSS ON DRYING	0.3% max
RESIDUE ON IGNITION	0.03% max
IRON (as Fe)	10ppm max
CHLORIDE (as Cl)	10ppm max
SULPHATE (as SO4)	50ppm max
HEAVY METALS (as Pb)	10ppm max

TRANSPORTATION

PACKING	25kgs in bag
HAZARD CLASS	Not regulated
UN NO.	

OTHER INFORMATION

Hazard Symbols: XI, Risk Phrases: 33/36/37/38, Safety Phrases: 24/25

GENERAL DESCRIPTION OF DICARBOXYLIC ACID

Dicarboxylic acid is a compound containing two carboxylic acid, -COOH, groups. Examples are shown in table. In substitutive nomenclature their names are formed by adding 'dioic' as a suffix to the name of the parent

compound. They can yield two kinds of salts, as they contain two carboxyl groups in its molecules.

Structure & Length	Common Name	Formula	Melting Point
Straight C2	Oxalic Acid (Ethanedioic Acid)	HOOCCOOH	187 C
Straight C3	Malonic Acid (Propanedioic Acid)	$HOOCCH_2COOH$	136 C
Straight C4	Succinic Acid (Butanedioic Acid)	$HOOC(CH_2)_2COOH$	190 C
Straight C5	Glutaric Acid (Pentanedioic Acid)	$HOOC(CH_2)_3COOH$	99 C
Straight C6	Adipic Acid (Hexanedioic Acid)	$HOOC(CH_2)_4COOH$	152 C
Straight C7	Pimelic Acid (Heptanedioic Acid)	$HOOC(CH_2)_5COOH$	106 C
Straight C8	Suberic Acid (Octanedioic Acid)	$HOOC(CH_2)_6COOH$	143 C
Straight C9	Azelaic Acid (Nonanedioic Acid)	$HOOC(CH_2)_7COOH$	106 C
Straight C10	Sebacic Acid (Decanedioic Acid)	$HOOC(CH_2)_8COOH$	134 C

There are almost infinite esters obtained from thousands of potential starting materials. Esters are formed by removal of water from an acid and an alcohol, e.g., carboxylic acid esters, phosphoric acid esters, and sulfonic acid esters. Carboxylic acid esters are used as in a variety of direct and indirect applications. Lower chain esters are used as flavouring base materials, plasticizers, solvent carriers and coupling agents. Higher chain compounds are used as components in metalworking fluids, surfactants, lubricants, detergents, oiling agents, emulsifiers, wetting agents textile treatments and emollients, They are also used as intermediates for the manufacture of a variety of target compounds. The almost infinite esters provide a wide range of viscosity, specific gravity, vapor pressure, boiling point, and other physical and chemical properties for the proper application selections.