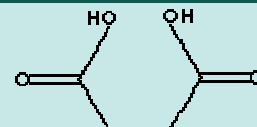


SUCCINIC ACID

PRODUCT IDENTIFICATION

CAS NO.	110-15-6
EINECS NO.	203-740-4
FORMULA	HOOCCH ₂ CH ₂ COOH
MOL WT.	118.09
H.S. CODE	2917.19
TOXICITY	Oral rat LD50: 2260 mg/kg
SYNONYMS	Butanedionic acid; Amber acid; Butanedioic acid; Dihydrofumaric acid; asuccin; 1,2-ethanedicarboxylic acid; wormwood; wormwood acid; katasuccin; Asuccin; Bernsteinsaure (German); Kyselina Jantarova (Czech);



RAW MATERIALS

CLASSIFICATION

GENERAL DESCRIPTION

Succinic Acid (Butanedioic Acid) is a dicarboxylic acid of four carbon atoms. It occurs naturally in plant and animal tissues. It plays a significant role in intermediary metabolism (Krebs cycle) in the body. Krebs cycle (also called citric acid cycle; tricarboxylic acid cycle) is a sequence process of enzymatic reaction which a two-carbon acetyl unit is oxidized to carbon dioxide and water to provide energy in the form of high-energy phosphate bonds. Succinic acid is a colourless crystalline solid with a melting point of 185 -187 C; soluble in water; slightly dissolved in ethanol, ether, acetone and glycerine; not dissolved in benzene, carbon sulfide, carbon tetrachloride and oil ether. The common method of synthesis of succinic acid is the catalytic hydrogenation of maleic acid or its anhydride. Carboxylic acid can yield acyl halides, anhydrides, esters, amides, and nitriles for the application of drug, agriculture, and food products, and other industrial uses.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Odorless white crystals
MELTING POINT	187 - 189 C
BOILING POINT	235 C
SPECIFIC GRAVITY	1.552
SOLUBILITY IN WATER	moderately soluble
pH	
VAPOR DENSITY	3.04
AUTOIGNITION	630 C
NFPA RATINGS	Health: 2; Flammability: 1; Reactivity: 0
REFRACTIVE INDEX	1.405
FLASH POINT	206 C
STABILITY	Stable under ordinary conditions

APPLICATIONS

Flavoring agent for food and beverages; Producing five heterocyclic compounds, Intermediate for dyes, perfumes, lacquers, photographic chemicals, alkyd resins, plasticizer, Metal treatment chemical, vehicle water cooling systems and coatings. Medicines of sedative, antispasmer, antiplegm, antiphogistic, anrhoter, contraception and cancer-curing.

SALES SPECIFICATION

APPEARANCE	Colorless to white crystalline power
PURITY	99.50% min
FUMARIC & MALEIC ACID	0.1% max
MOISTURE	0.5% max

MELTING POINT	185 - 189 C
CHLORIDE (Cl)	0.002% max
IRON (Fe)	0.002% max
SULFATE (SO ₄)	0.002% max
ARSENIC (As)	3ppm max
HEAVY METAL (As Pb)	10ppm max
TRANSPORTATION	
PACKING	25kgs in bag
HAZARD CLASS	
UN NO.	
GENERAL DESCRIPTION OF DICARBOXYLIC ACID	
<p>Dicarboxylic acid is a compound containing two carboxylic acid, -COOH, groups. Straight chain examples are shown in table. The general formula is $\text{HOOC}(\text{CH}_2)_n\text{COOH}$, where oxalic acid's n is 0, n=1 for malonic acid, n=2 for succinic acid, n=3 for glutaric acid, and etc. 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. The range of carbon chain lengths is from 2, but the longer than C 24 is very rare. The term long chain refers to C 12 up to C 24 commonly. Carboxylic acids have industrial application directly or indirectly through acid halides, esters, salts, and anhydride forms, polymerization, and etc. Dicarboxylic acids can yield two kinds of salts or esters, as they contain two carboxyl groups in one molecule. It is useful in a variety of industrial applications include;</p> <ul style="list-style-type: none"> • Plasticizer for polymers • Biodegradable solvents and lubricants • Engineering plastics • Epoxy curing agent • Adhesive and powder coating • Corrosion inhibitor • Perfumery and pharmaceutical • Electrolyte <p>There are almost infinite esters obtained from carboxylic acids. Esters are formed by removal of water from an acid and an alcohol. 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.</p>	