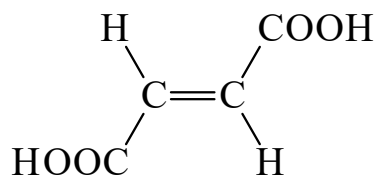




>>Entry Name: Fumaric acid, 8CI

ENTRY UNDER REVIEW

Synonym(s): (*E*)-2-Butenedioic acid, 9CI. *trans*-Ethylene-1,2-dicarboxylic acid. Paramaleic acid. Glaucic acid. Boletic acid. FEMA 2488. E297



CAS Registry Number: 110-17-8

Related CAS Registry Numbers(s): 5873-57-4 6915-18-0 17013-01-3

Extra CAS Registry Numbers(s): 7704-73-6

Molecular Formula: C₄H₄O₄

Molecular Weight: 116.073

Accurate Mass: 116.01096

Percentage Composition: C 41.39%; H 3.47%; O 55.14%

General Statement: Geometrical isomer of Maleic acid [DCG46-O](#)

Biological Source: Occurs in many plants, e.g. *Fumaria officinalis*, *Boletus scaber*, *Fomes ignarius*. Produced by *Rhizopus nigricans*. Manuf. by catalytic or thermal isomerisation of maleic anhydride or maleic acid

Use/Importance: Is essential to vegetable and animal tissue respiration. Used as di-Na salt for pptn. sepn. of Th from lanthanides. Used in systemic and topical treatment of psoriasis. Used in manuf. of unsaturated polyester resins and as acidulant and flavouring agent in foods and pharmaceutical formulations

Physical Description: Monoclinic, prismatic needles or leaflets (H₂O)

Melting Point: Mp 300-302° (sealed tube)

Solubility: Sol. EtOH; spar. sol. H₂O, Et₂O, Me₂CO; prac. insol. C₆H₆, CHCl₃

pKa Value: pK_a 4.54 (25°)

Other Data: At 230° forms maleic anhydride

Hazard & Toxicity: Skin and eye irritant. Nephrotoxic. LD₅₀ (rat, orl) 10700 mg/kg

Aldrich: W24880-0

Fluka: 47910

Sigma: F9642

Supelco: R41-2205

>>Derivative: Mono-Me ester

Synonym(s): Methyl hydrogen fumarate. Monomethyl fumarate

CAS Registry Number: 2756-87-8

Molecular Formula: C₅H₆O₄

Molecular Weight: 130.1

Accurate Mass: 130.02661

Percentage Composition: C 46.16%; H 4.65%; O 49.19%

Biological Source: Found in dwarf marigold (*Tagetes minuta*) and *Cudrania javanensis*

Physical Description: Prisms (EtOH)

Melting Point: Mp 144.5°

>>Derivative: Di-Me ester

Synonym(s): Dimethyl fumarate

CAS Registry Number: 624-49-7

Molecular Formula: C₆H₈O₄

Molecular Weight: 144.127

Accurate Mass: 144.04226

Percentage Composition: C 50.00%; H 5.59%; O 44.40%

Physical Description: Cryst.

Melting Point: Mp 102°

Boiling Point: Bp 192°. Bp₁₂ 88.5°

Solubility: Insol. H₂O; sol. Me₂CO, CHCl₃

Hazard & Toxicity: Eye and skin irritant. LD₅₀ (rat, orl) 2240 mg/kg

Aldrich: 24292-6

Fluka: 47967