



>>Entry Name: Decanoic acid

ENTRY UNDER REVIEW

Synonym(s): Capric acid. Caprinic acid. Decylic acid. Decoic acid (obsol.). FEMA 2364

CAS Registry Number: 334-48-5

Related CAS Registry Numbers(s): 1002-62-6 13040-18-1 13747-30-3 22620-93-5 30673-38-2

$\text{H}_3\text{C}(\text{CH}_2)_8\text{COOH}$

Molecular Formula: $\text{C}_{10}\text{H}_{20}\text{O}_2$

Molecular Weight: 172.267

Accurate Mass: 172.14633

Percentage Composition: C 69.72%; H 11.70%; O 18.58%

Biological Source: Widespread in plant oils, esp. leaf oils and as glycerides in seed oils

Use/Importance: Used in corrosion inhibitors and surfactants. Simple esters have perfumery and flavour uses. Used for extraction-preconcentration of Pb. Salts (Na, K, Mg, Ca, Al) used as binders, emulsifiers and anticaking agents in food manuf.

Physical Description: Needles

Melting Point: Mp 31.5°

Boiling Point: Bp 268-270°. Bp₁₁ 148-150°

Solubility: Sol. EtOH, Et₂O, Me₂CO, C₆H₆, CHCl₃, alkalis; BERDY SOL: Sol. MeOH, Et₂O; poorly sol. H₂O

Density: d₄₀⁴ 0.8858

Refractive Index: n_D⁴⁰ 1.4288

Hazard & Toxicity: Fl. p. >66°. Skin irritant. LD₅₀ (mus, ivn) 129 mg/kg

Aldrich: 15376-1

Fluka: 21410

Sigma: C1875

>>Derivative: Me ester

CAS Registry Number: 110-42-9

Molecular Formula: $\text{C}_{11}\text{H}_{22}\text{O}_2$

Molecular Weight: 186.294

Accurate Mass: 186.16198

Percentage Composition: C 70.92%; H 11.90%; O 17.18%

Biological Source: Constit. of many plants

Physical Description: Liq.

Boiling Point: Bp 224°. Bp₁₅ 114°

Aldrich: W50550-1

Fluka: 21480

Sigma: C2125

Supelco: R42-0105

>>Derivative: Et ester

CAS Registry Number: 110-38-3

Molecular Formula: $\text{C}_{12}\text{H}_{24}\text{O}_2$

Molecular Weight: 200.32

Accurate Mass: 200.17763

Percentage Composition: C 71.95%; H 12.08%; O 15.97%

Biological Source: Constit. of many plants

Use/Importance: Flavouring agent

Physical Description: Liq. with fruity odour

Boiling Point: Bp 243-245°. Bp₁₃ 122-124°

Density: d₄¹⁵ 0.865

Refractive Index: n_D²⁰ 1.4260

Hazard & Toxicity: Fl. p. >100°. Skin irritant

Aldrich: W24320-5

Fluka: 21430

Sigma: C0760

Supelco: S48-2432