>>**Entry Name: Propanedioic acid,** 9CI
ENTRY UNDER REVIEW
Synonym(s): Malonic acid, 8CI. Methanedicarboxylic acid

CAS Registry Number: 141-82-2
Related CAS Registry Numbers(s): 141-95-7 156-80-9 813-56-9 6148-64-7 18424-76-5 36148-03-5 38330-80-2

$HOOCCH_2COOH$

Molecular Formula: $C_3H_4O_4$
Molecular Weight: 104.062
Accurate Mass: 104.01096
Percentage Composition: C 34.63%; H 3.87%; O 61.50%
Biological Source: Widespread in plants in small amts.
Use/Importance: Used as aq. soln. for extraction-separation of U; as an eluant in ion-exchange sepn. of Sn(*IV*); alkalimetric standard; complexing agent. Monomer for polyamides and polyesters
Physical Description: Cryst.
Melting Point: Mp 135.6°
Solubility: Sol. H_2O, EtOH, Et_2O; mod. sol. Py.; BERDY SOL: Sol. H_2O
pKa Value: pK_{a1} 2.77; pK_{a2} 5.7 (25°,H_2O)
Other Data: Sublimes *in vacuo*
Hazard & Toxicity: Skin and eye irritant. LD_{50} (rat, orl) 1310 mg/kg

Aldrich: M129-6
Fluka: 63301
Sigma: M1750
Supelco: 4-6938

>>**Derivative:** Mono-Me ester
Synonym(s): Monomethyl malonate. **Methyl malonate‡**

CAS Registry Number: 16695-14-0
Molecular Formula: $C_4H_6O_4$
Molecular Weight: 118.089
Accurate Mass: 118.02661
Percentage Composition: C 40.68%; H 5.12%; O 54.19%
Boiling Point: Bp_6 130°. $Bp_{0.5}$ 90°

>>**Derivative:** Di-Me ester
Synonym(s): Dimethyl malonate

CAS Registry Number: 108-59-8
Molecular Formula: $C_5H_8O_4$
Molecular Weight: 132.116
Accurate Mass: 132.04226
Percentage Composition: C 45.46%; H 6.10%; O 48.44%
Melting Point: Mp –62°
Boiling Point: Bp 181°
Solubility: Sl. sol. H_2O; sol. oxygenated solvs.
Hazard & Toxicity: Reacts violently with methyl azide in presence of base, low oral tox.

Aldrich: 13644-1
Fluka: 63380
Sigma: M7253

>>**Derivative:** Me-*tert*-butyl ester

CAS Registry Number: 42726-73-8
Molecular Formula: $C_8H_{14}O_4$
Molecular Weight: 174.196
Accurate Mass: 174.08921
Percentage Composition: C 55.16%; H 8.10%; O 36.74%
Boiling Point: Bp_{11} 80°
Refractive Index: n_D^{20} 1.4160
Aldrich: 36001-5
Fluka: 63310