



SIGMA-ALDRICH

3050 Spruce Street  
Saint Louis, Missouri 63103 USA  
Telephone 800-325-5832 • (314) 771-5765  
Fax (314) 286-7828  
email: techserv@sial.com  
sigma-aldrich.com

## Product Information

### Succinic acid ACS Reagent

Product Number **39,805-5**  
Store at Room Temperature

Exact replacement for Product Number S 0141

#### Product Description

Molecular Formula:  $C_4H_6O_4$   
Molecular Weight: 118.1  
CAS Number: 110-15-6  
Melting point: 185-187 °C<sup>1</sup>  
Boiling point: 235 °C (with partial decomposition into the anhydride)<sup>1</sup>  
pK<sub>a</sub>: 4.21, 5.72 (25 °C)<sup>2</sup>  
Synonyms: butanedioic acid, dicarboxylic acid C<sub>4</sub>, ethylenesuccinic acid<sup>1</sup>

This product is designated as ACS Reagent grade, and meets the specifications of the American Chemical Society (ACS) for reagent chemicals.

Succinic acid is a dicarboxylic acid that occurs in nature in such organisms as fungi and lichens.<sup>1</sup> In eukaryotes, succinate, the anion of succinic acid, is an intermediate in the citric acid cycle, being formed from succinyl CoA and being converted to fumarate. Bacteria and plants can produce succinate from acetate or acetyl CoA, in the glyoxylate cycle.<sup>3</sup>

Succinic acid has been used in large scale applications including the manufacture of lacquers, dyes, and esters for perfumes.<sup>1</sup> In polymer research, succinic acid has been utilized to prepare biocompatible hybrid dendritic-linear polyester-ethers.<sup>4</sup> A study of the co-crystallization of cis-itraconazole with various 1,4-dicarboxylic acids, including succinic acid, has been reported.<sup>5</sup>

Succinic acid has been used as a matrix in infrared (IR) MALDI analytical methods.<sup>6,7,8</sup> An analytical study of various low molecular weight organic acids, including succinic acid, using capillary zone electrophoresis-electrospray ionization mass spectrometry has been published.<sup>9</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution. It is also soluble in alcohol (54 mg/ml), methanol (158 mg/ml), acetone (27 mg/ml), glycerol (50 mg/ml), and ether (8.8 mg/ml). It is essentially insoluble in benzene, carbon disulfide, and petroleum ether.<sup>1</sup>

#### References

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8. Feldhaus, D., et al., Influence of the laser fluence in infrared matrix-assisted laser desorption/ionization with a 2.94  $\mu\text{m}$  Er:YAG laser and a flat-top beam profile. *J. Mass Spectrom.*, **35(11)**, 1320-1328 (2000).
9. Hagberg, J., Analysis of low-molecular-mass organic acids using capillary zone electrophoresis-electrospray ionization mass spectrometry. *J. Chromatogr. A*, **988(1)**, 127-133 (2003).

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