



## **Adipic Acid**

### **Adipic Acid**

**Catalog Nr.** Q022

**Definition** Adipic acid is the organic compound with the formula  $(CH_2)_4(CO_2H)_2$ . From the industrial perspective, it is the most important dicarboxylic acid: About 2.5 billion kilograms of this white crystalline powder are produced annually, mainly as a precursor for the production of nylon. Adipic acid otherwise rarely occurs in nature.

**CAS Number** 124-04-9

**Application** Polyurethanes.

By far the majority of the 2.5 billion kg of adipic acid produced annually is used as monomer for the production of nylon by a polycondensation reaction with hexamethylene diamine forming 6,6-nylon. Other major applications also involve polymers: it is a monomer for production of Polyurethane and its esters are plasticizers, especially in PVC.

In foods

Small but significant amounts of adipic acid are used as a food ingredient as a flavorant and gelling aid. It is ironically used in some calcium carbonate antacids to make them tart.

#### **Technical Data**

Appearance	White crystals
Density	1.36 g/cm <sup>3</sup>
Melting point	152 °C (425 K)
Boiling point	337 °C (610 K)
Solubility in water	fairly soluble[1]
Acidity (pKa)	4.43, 5.41
Flash point	232 °C
Related dicarboxylic acids	glutaric acid, pimelic acid
Related compounds	hexanoic acid

**Packaging & Handling** 500 - 1000 kg Big Bags

<b>UN Number</b>	<b>Class</b>	<b>Packaging Group</b>
------------------	--------------	------------------------

#### **Remarks**