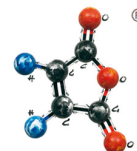


PRODUCT INFORMATION

MALEIC ANHYDRIDE (MA)

Chemical Name: 2,5-Furandione
CAS-No.: 108-31-6
Index-No: 607-096-00-9
EWG-No: 203-571-6
Molecular Formula: C₄H₂O₃
Relative Molecular Mass: 98.06



Owing to its high reactivity, maleic anhydride has become an important raw material and intermediate for a large number of applications. For example, tetrahydrophthalic anhydride is accessible by Diels-Alder reaction. Alkenyl succinic anhydrides are formed by ene reactions. Semi- or diesters are obtained by reaction with alcohols, while reactions with amines will yield amides or imides. Sulfosuccinic acid derivatives are produced by sulfonation. Maleic anhydride is thus widely used as a starting material for the production of adhesives, surfactants, insecticides, herbicides, fungicides, and as a cross-linking component for many applications.

Molten maleic anhydride is supplied in tank trucks or containers.

Solid maleic anhydride is supplied in 25 kg PE bags (antistatic), 40 bags on one pallet (CP1), shrunken in foil.

Test statistic	min.	max.	Dimension	Test Method
Purity (liquid form)	99.7		%	M 612*
Purity (solid form)	99.5		%	M 612*
Colour (Hazen/APHA) at 60 °C		20		ASTM D 3366
Solidification point	52.5		°C	ASTM D 1493

* In-house test method; will be provided on request.

The sales specifications stated herein are regularly checked, documented and filed. The additional characteristics given for your information are not routinely checked. In principle, conformity with our sales specification will also mean compliance with the other product characteristics specified herein.

Huntsman Products GmbH
Roemerstrasse 733, 47443 Moers
Phone: +49 (0) 2841 49 2518 Fax: +49 (0) 2841 49 2509
Huntsman-Products@huntsman.com

Additional Characteristics	Test Method
Free acid as maleic acid (liquid form)	max 0.3 % ASTM D 2930
Free acid as maleic acid (solid form)	max 0.5 % ASTM D 2930
Ash content	max 0.001 % ASTM D 482
Iron content	max 1 mg/kg ASTM D 1068
Characteristics	
Boiling point	200 °C
Explosion limits in air	1.4 – 7.1 Vol-%
Flash point	100 – 110 °C (MA molten)
Evaporation enthalpy (54.9°C)	157.2 kJ/kmol
Heat capacity (cP) at constant pressure (25°C)	196.8 kJ/kmol.K
Surface tension (52.9°C)	39.9 mN/m (MA molten)
Vapour pressure (52.9 °C)	2.8 hPa
Dynamic viscosity (60 °C)	1.61 mPa·s
Ignition temperature	475 °C
Melting point	53 - 58 °C
Safety	
Signal word:	Danger
Hazard statements:	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H372 Causes damage to organs (respiratory tract) through prolonged or repeated exposure if inhaled. H373 May cause damage to organs (Kidney) through prolonged or repeated exposure. EUH071 Corrosive to the respiratory tract.
Precautionary Statements:	P260 Do not breath dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective clothing/ eye protection/ face protection. P301 + P330 + P331 IF SWALLOWED rinse mouth. Do not induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTRE/doctor. P342 +P311 If experiencing respiratory symptoms: Call a POISON CENTRE/ doctor/ physician.
TLV	0.02 ppm = 0.081 mg/m ³
LD50 (oral, rat)	1090 mg/kg
For more detailed information on product safety, please refer to material safety data sheet.	

The data contained herein are given to the best of our current knowledge and experience. However, in view of the great variety of possible applications any particular properties of our products or their suitability for any particular use cannot be guaranteed by the information given herein. Within the limits of our General Business Conditions, the quality of our products is warranted. Due account has to be taken of any existing industrial property rights.