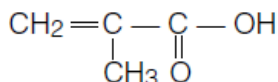




Formula: C₄H₆O₂
 Molecular Weight: 152.2
 Product Number: 008371
 CAS Registry Number: 79-41-4



Description

Glacial methacrylic acid is a clear, colorless liquid (above 16°C) with a penetrating odor.

Safety

The normal precautions relating to handling chemicals and local regulations on industrial hygiene must be observed. Measures must be taken to avoid inhalation and contact with the skin or mucous membranes.

The consequences of swallowing methacrylic acid glacial are burns in the oral mucous membranes and intestinal tract.
 LD50 oral (rats): 1600 – 2200 mg/kg

Methacrylic acid glacial causes skin burns. Consequently, all forms of skin contact must be avoided with the product and its solutions, e.g. protective gloves must be worn. Clothing splashed with methacrylic acid must be immediately changed, and splashes on the skin must be removed with copious water. Methacrylic acid glacial involves the risk of absorption through the skin and causes contact dermatitis.

Product Specifications	Value	Test Method
Assay, % minimum	99.5	G.C., ex works
Water, % maximum	0.2	Karl Fischer
Color, APHA maximum	20	Pt/Co, ex works
Stabilizer ± 20 ppm MEHQ	200	

Physical Properties	
Freezing point, °C (approx.)	16
Boiling point, °C	161
Density @ 20°C, g/cm ³	1.02
Flash point, °C, Abel-Pensky	73
Ignition temperature, °C	365
Refractive index, n _D @ 20°C	1.431
Specific heat (liquid; 20°C), kJ/kg K	1.95
Viscosity @ 20°C, mPa•s	1.4
@ 40°C, mPa•s	1.0
@ 80°C, mPa•s	0.6
Latent heat of evaporation @ 90°C, kJ/kg	456
Heat of polymerization, kJ/kg	768
Caloric value @ 25°C, kJ/kg	22,340
Heat of neutralization, kJ/kg (approx.)	650
Dissociation constant @ 25°C	3.7 x 10 ⁻⁵
Vapor pressure @ 20°C, mbar	0.8
@ 40°C, mbar	3.5
@ 60°C, mbar	13.0
@ 100°C, mbar	101
@ 120°C, mbar	234
Explosion limits, % volume @ 65°C, lower	1.6
Explosion limits, % volume @ 65°C, upper	8.1
Permitted temperature range for use in electrical equipment	T2

Methacrylic acid glacial causes mucous membrane and eye burns, and safety precautions must be adopted to avoid this, e.g. safety goggles should be worn. If splashes enter the eyes, the eyelids must be spread wide apart, and the eyes must be thoroughly irrigated with water for 15 minutes. Afterwards an ophthalmologist should be consulted.

Methacrylic acid vapor causes burns in the respiratory tract to an extent that depends on the amount and concentration, and steps must therefore be taken to avoid its inhalation. Fresh air breathing equipment should be worn if necessary.

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on safety.

Applications

Methacrylic acid, glacial can be readily polymerized, its presence in copolymers reduces the softening temperature and the hardness and improves the adhesion of surface coatings and adhesives. Since it is a carboxylic acid, it can be converted by conventional methods into

(continued on reverse side)