

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Revision: 21.03.2013

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

<b>Trade name</b>	<b>Methacrylic acid</b>
<b>Stock number:</b>	A11543
<b>CAS Number:</b>	79-41-4
<b>EC number:</b>	201-204-4
<b>Index number:</b>	607-088-00-5

**1.2 Relevant identified uses of the substance****or mixture and uses advised against.****Identified use:**

No further relevant information available.  
SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Alfa Aesar GmbH & Co.KG  
A Johnson Matthey Company  
Zeppelinstr. 7b  
76185 Karlsruhe / Germany  
Tel: +49 (0) 721 84007 280  
Fax: +49 (0) 721 84007 300  
Email: tech@alfa.com  
www.alfa.com

**Informing department:**

Product safety Tel + +049 (0) 7275 988687-0

**1.4 Emergency telephone number:**

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

C; Corrosive

R35: Causes severe burns.



Xn; Harmful

R21/22: Harmful in contact with skin and if swallowed.

**Information concerning particular hazards****for human and environment:**

Not applicable

**Other hazards that do not result in classification**

No information known.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008****Hazard pictograms****Signal word****Hazard statements**

The substance is classified and labelled according to the CLP regulation.

GHS05, GHS07

Danger

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405

Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Precautionary statements****2.3 Other hazards****Results of PBT and vPvB assessment****PBT:**

Not applicable.

**vPvB:**

Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances****CAS# Designation:**

79-41-4 Methacrylic acid

**Identification number(s):****EC number:**

201-204-4

**Index number:**

607-088-00-5

**Impurities and stabilising additives:**

Stabilised with:

Hydroquinone (CAS# 123-31-9) or 4-Methoxyphenol (CAS# 150-76-5)

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information****After inhalation**

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

**After skin contact**

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult doctor.

**After swallowing**

Seek medical treatment.

**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

Trade name **Methacrylic acid**

(Contd. of page 1)

**SECTION 5: Firefighting measures**

- 5.1 Extinguishing media**  
**Suitable extinguishing agents** Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.
- 5.2 Special hazards arising from the substance or mixture** Danger of containers bursting upon heating.  
If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide
- 5.3 Advice for firefighters**  
**Protective equipment:** Wear self-contained breathing apparatus.  
Wear full protective suit.

**SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- 6.2 Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.  
Do not allow product to reach sewage system or water bodies.  
Do not allow to enter the ground/soil.
- 6.3 Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- Prevention of secondary hazards:** Keep away from ignition sources.
- 6.4 Reference to other sections** See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

**SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling** Handle under dry protective gas.  
Keep containers tightly sealed.  
Ensure good ventilation/exhaustion at the workplace.
- Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- 7.2 Conditions for safe storage, including any incompatibilities**  
**Storage**  
**Requirements to be met by storerooms and containers:** No special requirements.  
**Information about storage in one common storage facility:** Store away from oxidizing agents.  
Store away from strong bases.  
Store in the dark.  
Protect from heat.  
Store away from water.
- Further information about storage conditions:** Store under dry inert gas.  
This product is moisture sensitive.  
Freezing temperatures should be avoided as inhibitor separates from the product.  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Protect from humidity and keep away from water.  
Protect from the effects of light.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.
- Maximum storage temperature:** 25°C (77°F)  
**Minimum storage temperature:** 18°C (65°F)
- 7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- Additional information about design of technical systems:** Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**8.1 Control parameters****Components with critical values that require monitoring at the workplace:****79-41-4 Methacrylic acid (100,0%)**

MAK (Germany)	18 mg/m <sup>3</sup> , 5 ppm
REL (USA)	70 mg/m <sup>3</sup> , 20 ppm Skin
TLV (USA)	70 mg/m <sup>3</sup> , 20 ppm

**Additional information:** No data**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures**

- The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.  
Maintain an ergonomically appropriate working environment.  
Use breathing protection with high concentrations.  
Check protective gloves prior to each use for their proper condition.  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- Breathing equipment:** Use breathing protection with high concentrations.
- Protection of hands:** Check protective gloves prior to each use for their proper condition.  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- Material of gloves** Impervious gloves  
**Penetration time of glove material** Not determined
- Eye protection:** Tightly sealed safety glasses.  
Full face protection
- Body protection:** Protective work clothing.

Trade name **Methacrylic acid**

(Contd. of page 2)

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

**Form:** Liquid  
**Colour:** Colourless  
**Smell:** Acrid  
**Odour threshold:** Not determined.

**pH-value:** Not determined.

**Change in condition**

**Melting point/Melting range:** 16 °C  
**Boiling point/Boiling range:** 163 °C  
**Sublimation temperature / start:** Not determined

**Flash point:** 65 °C  
**Inflammability (solid, gaseous):** Not applicable.  
**Ignition temperature:** Not determined  
**Decomposition temperature:** Not determined  
**Self-inflammability:** Not determined.

**Critical values for explosion:**

**Lower:** 1,6 Vol %  
**Upper:** 8,7 Vol %  
**Steam pressure at 20 °C:** 0,87 hPa  
**Density at 20 °C:** 1,015 g/cm<sup>3</sup>  
**Relative density:** Not determined.  
**Vapour density:** Not determined.  
**Evaporation rate:** Not determined.

**Solubility in / Miscibility with**

**Water at 20 °C:** 9,8 g/l  
 Fully miscible

**Partition coefficient (n-octanol/water):**

Not determined.

**Viscosity:**

**dynamic:** Not determined.

**kinematic:** Not determined.

**9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No information known.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:**

Danger of containers bursting upon heating.

**Stable until:**

Depletion of inhibitor.

**10.3 Possibility of hazardous reactions**

Danger of polymerisation

**10.5 Incompatible materials:**

Oxidizing agents

Bases

Water/moisture

Heat

Light

Ultraviolet radiation

Free radical initiators

**10.6 Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

**Additional information:**

Unless inhibited, the product can polymerize resulting in a temperature and pressure increase that may rupture the container.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

Harmful in contact with skin.

Harmful if swallowed.

Danger by skin resorption.

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

**LD/LC50 values that are relevant for classification:**

Oral	LD50	1250 mg/kg (mouse)
		1060 mg/kg (rat)
		1200 mg/kg (rabbit)
Dermal	LD50	1 gm/kg (guinea pig)
		500 mg/kg (rabbit)

**Skin irritation or corrosion:**

Causes severe skin burns.

**Eye irritation or corrosion:**

Causes serious eye damage.

**Sensitization:**

No sensitizing effect known.

**Germ cell mutagenicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.

**Carcinogenicity:**

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:**

No effects known.

**Specific target organ system toxicity -****repeated exposure:**

No effects known.

**Specific target organ system toxicity - single****exposure:**

No effects known.

**Aspiration hazard:**

No effects known.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**SECTION 12: Ecological information****12.1 Toxicity**

No further relevant information available.

**Aquatic toxicity:**

No further relevant information available.

**12.2 Persistence and degradability**

No further relevant information available.

**12.3 Bioaccumulative potential**

No further relevant information available.

**12.4 Mobility in soil**

No further relevant information available.

**Additional ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits.

Water hazard class 1 (Assessment by list): slightly hazardous for water.

(Contd. on page 4)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Revision: 21.03.2013

Printing date 02.07.2013

Trade name **Methacrylic acid**

(Contd. of page 3)

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.  
Avoid transfer into the environment.

**12.5 Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:****Recommendation:**

Disposal must be made according to official regulations.

**Recommended cleaning agent:**

Water, if necessary with cleaning agent.

**SECTION 14: Transport information****UN-Number****ADR, IMDG, IATA**

UN2531

**14.2 UN proper shipping name****ADR****IMDG, IATA**2531 METHACRYLIC ACID, STABILIZED  
METHACRYLIC ACID, STABILIZED**14.3 Transport hazard class(es)****ADR****Class****Label****IMDG, IATA**8 (C3) Corrosive substances.  
8**Class****Label**8 Corrosive substances.  
8**Packing group****ADR, IMDG, IATA**

II

**14.5 Environmental hazards:**

Not applicable.

**14.6 Special precautions for user****Kemler Number:****EMS Number:****Segregation groups**

Warning: Corrosive substances.  
89  
F-A,S-B  
Acids

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC****Code**

Not applicable.

**Transport/Additional information:****ADR****Excepted quantities (EQ):****Limited quantities (LQ)****Transport category****Tunnel restriction code**

E2

1L

2

E

**UN "Model Regulation":**

UN2531, METHACRYLIC ACID, STABILIZED, 8, II

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical****Substances**

Substance is listed.

**Standard for the Uniform Scheduling of****Drugs and Poisons**

Substance is not listed.

**National regulations****Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

**Classification according to VbF:**

A III

**Water hazard class:**

Water hazard class 1 (Assessment by list): slightly hazardous for water.

**Other regulations, limitations and prohibitive****regulations****ELINCS (European List of Notified Chemical****Substances)**

Substance is not listed.

**Substances of very high concern (SVHC)****according to REACH, Article 57****REACH - Pre-registered substances**

Substance is not listed.

**15.2 Chemical safety assessment:**Substance is listed.  
A Chemical Safety Assessment has not been carried out.**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing data specification sheet:**

Health, Safety and Environmental Department.

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent