

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 10.01.2012

Printing date 02.07.2013

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name

Methacryloyl chloride

Stock number:

L14511, B24590

CAS Number:

920-46-7

EC number:

213-058-9

1.2 Relevant identified uses of the substance or mixture and uses advised against.

Identified use:

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

Informing department:

1.4 Emergency telephone number:

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 1 H330 Fatal if inhaled.



GHS05 corrosion

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



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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



T+; Very toxic

R26: Very toxic by inhalation.



C; Corrosive

R34: Causes burns.



Xn; Harmful

R22: Harmful if swallowed.



F; Highly flammable

R11: Highly flammable.

Information concerning particular hazards for human and environment:

Other hazards that do not result in classification

Not applicable

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.

GHS02, GHS05, GHS06

Danger

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H314 Causes severe skin burns and eye damage.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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.

P320 Specific treatment is urgent (see on this label).

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:

920-46-7 Methacryloyl chloride

Identification number(s):

213-058-9

EC number:

Stabilised with:

4-Methoxyphenol (CAS# 150-76-5)

Impurities and stabilising additives:

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Instantly remove any clothing soiled by the product.
 Remove breathing apparatus only after soiled clothing has been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

(Contd. on page 2)
DE/E

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

Printing date 02.07.2013

Revision: 10.01.2012

Trade name **Methacryloyl chloride**

(Contd. of page 1)

After inhalation	Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
After skin contact	Seek immediate medical advice. Instantly wash with water and soap and rinse thoroughly.
After eye contact	Seek immediate medical advice.
After swallowing	Rinse opened eye for several minutes under running water. Then consult doctor.
4.2 Most important symptoms and effects, both acute and delayed	Seek medical treatment.
4.3 Indication of any immediate medical attention and special treatment needed	No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable extinguishing agents	In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
5.2 Special hazards arising from the substance or mixture	If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Hydrogen chloride (HCl)
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 Keep away from ignition sources
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:	Keep away from ignition sources. 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. Open and handle container with care.
Information about protection against explosions and fires:	Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture.
7.2 Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and containers: Information about storage in one common storage facility:	Refrigerate Store away from oxidizing agents. Store away from alcohols. Store away from strong bases. Protect from heat. Store away from water.
Further information about storage conditions:	Store under dry inert gas. This product is moisture sensitive. Keep container tightly sealed. Protect from humidity and keep away from water. Store in a locked cabinet or with access restricted to technical experts or their assistants.
7.3 Specific end use(s)	Refrigerate 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: Additional information:	Not required. 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. Store protective clothing separately. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Use self-contained respiratory protective device in emergency situations. 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: Protection of hands:	Impervious gloves Not determined Tightly sealed safety glasses. Full face protection
Material of gloves Penetration time of glove material Eye protection:	

(Contd. on page 3)
DE/E

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.07.2013

Revision: 10.01.2012

Trade name **Methacryloyl chloride**

Body protection: Protective work clothing.

(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 to yellow
 Smell: Acrid
 Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: -60 °C
 Boiling point/Boiling range: 95-96 °C
 Sublimation temperature / start: Not determined

Flash point: 2 °C
 Inflammability (solid, gaseous): Not applicable.
 Ignition temperature: Not determined
 Decomposition temperature: Not determined
 Self-inflammability: Not determined.

Critical values for explosion:

Lower: Not determined
 Upper: Not determined

Steam pressure at 20 °C:

62,65 hPa
 Density at 20 °C: 1,07 g/cm³
 Relative density: Not determined.
 Vapour density: Not determined.
 Evaporation rate: Not determined.

Solubility in / Miscibility with

Water: Reacts
 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****10.2 Chemical stability****Thermal decomposition / conditions to be avoided:****10.3 Possibility of hazardous reactions****10.5 Incompatible materials:**

No information known.
 Stable under recommended storage conditions.
 No decomposition if used and stored according to specifications.
 No dangerous reactions known
 Oxidizing agents
 Bases
 Alcohols
 Amines
 Water/moisture
 Heat
 Carbon monoxide and carbon dioxide
 Avoid loss of stabilizer.

10.6 Hazardous decomposition products:**Additional information:****SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:****LD/LC50 values that are relevant for classification:****Skin irritation or corrosion:****Eye irritation or corrosion:****Sensitization:****Germ cell mutagenicity:****Carcinogenicity:****Reproductive toxicity:****Specific target organ system toxicity - repeated exposure:****Specific target organ system toxicity - single exposure:****Aspiration hazard:****Additional toxicological information:**

Harmful if swallowed.
 Fatal if inhaled.
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
 No data
 Causes severe skin burns.
 Causes serious eye damage.
 No sensitizing effect known.
 No effects known.
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
 No effects known.
 No effects known.
 No effects known.
 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****Aquatic toxicity:****12.2 Persistence and degradability****12.3 Bioaccumulative potential****12.4 Mobility in soil****Additional ecological information:****General notes:**

No further relevant information available.
 No further relevant information available.
 No further relevant information available.
 No further relevant information available.
 Do not allow product to reach ground water, water bodies or sewage system.
 Do not allow material to be released to the environment without proper governmental permits.
 Water hazard class 1 (Self-assessment): slightly hazardous for water.
 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:****vPvB:****12.6 Other adverse effects**

Not applicable.
 Not applicable.
 No further relevant information available.

DE/E

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.07.2013

Revision: 10.01.2012

Trade name **Methacryloyl chloride**

(Contd. of page 3)

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.

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

UN3383

**14.2 UN proper shipping name
ADR**

3383 TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (Methacryloyl chloride)

**IMDG
IATA**TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (Methacryloyl chloride)
TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.**14.3 Transport hazard class(es)
ADR****Class
Label
IMDG, IATA**6.1 (TF1) Toxic substances.
6.1+3**Class
Label**6.1 Toxic substances.
6.1+3**Packing group
ADR, IMDG, IATA**

I

14.5 Environmental hazards:

Not applicable.

**14.6 Special precautions for user
Kemler Number:**Warning: Toxic substances.
663**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**E5
0
1
C/D**UN "Model Regulation":**

UN3383, TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S. (Methacryloyl chloride), 6.1 (3), I

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 not 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.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

Substance is not listed.

**Substances of very high concern (SVHC)
according to REACH, Article 57**

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

15.2 Chemical safety assessment:

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:
Abbreviations and acronyms:**

Health, Safety and Environmental Department.
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

DE/E