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

1.1 Product identifier

Trade name ***Methyl acrylate***

Stock number: A13128
CAS Number: 96-33-3
EC number: 202-500-6
Index number: 607-034-00-0

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

Informing department: Product safety Tel + +049 (0) 7275 988687-0
1.4 Emergency telephone number: Carechem 24: +44 (o) 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


GHS02 flame

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


GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

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

Xn; Harmful
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

Xi; Irritant
R36/37/38: Irritating to eyes, respiratory system and skin.

Xi; Sensitising
R43: May cause sensitisation by skin contact.

F; Highly flammable
R11: Highly flammable.

Information concerning particular hazards for human and environment: Not applicable
Other hazards that do not result in classification Stench

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.
Hazard pictograms


GHS02 GHS07

Signal word Danger
Hazard statements
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing 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.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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: 96-33-3 Methyl acrylate

(Contd. on page 2)

Trade name *Methyl acrylate*

(Contd. of page 1)

Identification number(s):
EC number: 202-500-6
Index number: 607-034-00-0
Impurities and stabilising additives: Stabilised with:
4-Methoxyphenol (CAS# 150-76-5)

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation 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.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents CO_2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
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
Keep away from ignition sources
6.2 Environmental precautions: 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).
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 Keep containers tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires: Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
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: Refrigerate
Information about storage in one common storage facility: Store in the dark.
Protect from heat.
Store away from oxidising agents.
Further information about storage conditions: Keep container tightly sealed.
Protect from the effects of light.
Refrigerate
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:

96-33-3 Methyl acrylate (100,0%)

AGW (Germany)	Long-term value: 18 mg/m³, 5 ppm 1(I);DFG, EU, H
PEL (USA)	Long-term value: 35 mg/m³, 10 ppm Skin
REL (USA)	Long-term value: 35 mg/m³, 10 ppm Skin
TLV (USA)	Long-term value: 7 mg/m³, 2 ppm Skin; (SEN) NIC-DSEN

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.
Breathing equipment: Use breathing protection with high concentrations.

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Trade name *Methyl acrylate*

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Recommended filter device for short term use: Use a respirator with organic vapor/acid gas cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).
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 Butyl rubber, BR
Penetration time of glove material Not determined
Eye protection: Safety glasses
Face protection
Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid
Colour: Colourless
Smell: Stench
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/Melting range: -75 °C
Boiling point/Boiling range: 79-81 °C
Sublimation temperature / start: Not determined

Flash point: -3 °C
Inflammability (solid, gaseous) Not determined.
Ignition temperature: 463 °C
Decomposition temperature: Not determined
Self-inflammability: Not determined.

Danger of explosion: Product is not explosive. However, formation of explosive air/steam mixtures is possible.
Critical values for explosion:
Lower: 2,8 Vol %
Upper: 25 Vol %
Steam pressure at 20 °C: 89 hPa
Density at 20 °C 0,956 g/cm³
Relative density Not determined.
Vapour density Not determined.
Evaporation rate Not determined.
Solubility in / Miscibility with
Water at 20 °C: 52 g/l
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: No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions Reacts with strong oxidizing agents
Danger of polymerisation
10.5 Incompatible materials: Oxidising agents
Heat
Light
Ultraviolet radiation
Free radical initiators
10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide
Additional information: Avoid loss of stabilizer.
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 if inhaled.
Harmful in contact with skin.
Harmful if swallowed.
Danger by skin resorption.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral	LD50	277 mg/kg (rat)
Dermal	LD50	1243 mg/kg (rabbit)
Inhalative	LC50/4H	4,8 mg/l/4H (rat)

Skin irritation or corrosion: Causes skin irritation.
Eye irritation or corrosion: Causes serious eye irritation.
Sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
Carcinogenicity: EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.
IARC-3: Not classifiable as to carcinogenicity to humans.
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.
Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: May cause respiratory irritation.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

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Trade name *Methyl acrylate*

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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
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 product to reach ground water, water bodies or sewage system.
Water hazard class 2 (Assessment by list): hazardous for water.
Danger to drinking water if even small quantities leak into soil.
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.

SECTION 14: Transport information

UN-Number
ADR, IMDG, IATA UN1919

14.2 UN proper shipping name
ADR 1919 METHYL ACRYLATE, STABILIZED
IMDG, IATA METHYL ACRYLATE, STABILIZED

14.3 Transport hazard class(es)

ADR

Class 3 (F1) Flammable liquids.
Label 3

IMDG, IATA

Class 3 Flammable liquids.
Label 3

Packing group
ADR, IMDG, IATA II

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user Warning: Flammable liquids.
Kemler Number: 339
EMS Number: F-E,S-D

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): E2
Limited quantities (LQ) LQ4
Transport category 2
Tunnel restriction code D/E

UN "Model Regulation": UN1919, METHYL ACRYLATE, STABILIZED, 3, 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 Medicines 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 I

Water hazard class: Water hazard class 2 (Assessment by list): hazardous for water.
Other regulations, limitations and prohibitive regulations
ELINCS (European List of Notified Chemical Substances) Substance is not listed.
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. 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 SDS: Health, Safety and Environmental Department.
Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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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
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3