

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 12.05.2009

Printing date 02.07.2013

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

Trade name

4-Methylstyrene

Stock number:

L01480

CAS Number:

622-97-9

EC number:

210-762-8

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 (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



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

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

Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

Xi; Irritant

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

R10: Flammable.

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.

GHS02, GHS07, GHS08

Danger

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H304 May be fatal if swallowed and enters airways.

P210

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

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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.

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:

622-97-9 4-Methylstyrene

Identification number(s):

210-762-8

EC number:

Stabilized with 3,5-di-tert-butylcatechol

Additional information:

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.

After skin contact

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

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.

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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**CO₂, 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 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).
Dispose of contaminated material as waste according to item 13.

Prevention of secondary hazards:**6.4 Reference to other sections**

Ensure adequate ventilation.
Keep away from ignition sources.
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.
Prevent formation of aerosols.

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 in the dark.
Protect from heat.

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.

Components with critical values that require monitoring at the workplace:

4-Methylstyrene

Denmark TWA	25 ppm
Germany MAK	100 ppm
Mexico TWA	50 ppm, 100 ppm-STEL
Switzerland MAK-W	50 ppm, 100 ppm-KZG-W

8.1 Control parameters**Components with critical values that require monitoring at the workplace:****622-97-9 4-Methylstyrene (100,0%)**MAK (Germany) 490 mg/m³, 100 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.

Impervious gloves

Not determined

Safety glasses

Face protection

Protective work clothing.

Breathing equipment:**Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:**

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

Form: Liquid
Colour: Colourless
Smell: Characteristic
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: -34 °C
Boiling point/Boiling range: 171-175 °C
Sublimation temperature / start: Not determined

Flash point: 45 °C
Inflammability (solid, gaseous): Not determined.
Ignition temperature: 494 °C
Decomposition temperature: Not determined
Self-inflammability: Not determined.

Critical values for explosion:

Lower: 1,1 Vol %
Upper: 5,2 Vol %
Steam pressure at 20 °C: 1,47 hPa
Density at 20 °C: 0,896 g/cm³
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.

Solubility in / Miscibility with

Water at 25 °C: 0,089 g/l
Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic at 25 °C: 0,54 mPas
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

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:**

No effects known.

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

No data

Skin irritation or corrosion:

Causes skin irritation.

Eye irritation or corrosion:

Causes serious eye irritation.

Sensitization:

No sensitizing effect known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

IARC-3: Not classifiable as to carcinogenicity to humans.

Reproductive toxicity:

No effects known.

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

No effects known.

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

May cause respiratory irritation.

Aspiration hazard:

May be fatal if swallowed and enters airways.

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 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:**

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.

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Trade name 4-Methylstyrene	
Uncleaned packagings: Recommendation:	<div align="right">(Contd. of page 3)</div> Disposal must be made according to official regulations.
SECTION 14: Transport information	
UN-Number ADR, IMDG, IATA	UN2618
14.2 UN proper shipping name ADR IMDG, IATA	2618 VINYL TOLUENES, STABILIZED VINYL TOLUENES, STABILIZED
14.3 Transport hazard class(es) ADR	
 Class Label IMDG, IATA	3 (F1) Flammable liquids. 3
 Class Label	3 Flammable liquids. 3
Packing group ADR, IMDG, IATA	III
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user Kemler Number:	Warning: Flammable liquids. 39
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	E1 5L 3 D/E
UN "Model Regulation":	UN2618, VINYL TOLUENES, STABILIZED, 3, III
SECTION 15: Regulatory information	
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
Australian Inventory of Chemical Substances	
Standard for the Uniform Scheduling of Drugs and Poisons	Substance is listed.
National regulations	Substance is not listed.
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 regulations	
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:	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) IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) 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

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