

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.07.2023

Version number 1

Revision: 06.07.2023

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

- **1.1 Product identifier**
- **Trade name:** Styrene monomer
- **Article number:** 168
- **CAS Number:**
100-42-5
- **EC number:**
202-851-5
- **Index number:**
601-026-00-0
- **Registration number** 01-2119457861-32
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Industrial use
Commercial use
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Möller Chemie GmbH & Co. KG
Bürgerkamp 1
D-48565 Steinfurt
Tel.: 02551/9340-0
Fax: 02551/9340-60
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**
Poison Control Center Mainz - 24 hour emergency service - Tel.: +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

Repr. 2 H361d Suspected of damaging the unborn child.
 STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.
 Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

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

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· Hazard pictograms

GHS02 GHS07 GHS08

· Signal word *Danger***· Hazard statements**

- H226 Flammable liquid and vapour.*
- H332 Harmful if inhaled.*
- H315 Causes skin irritation.*
- H319 Causes serious eye irritation.*
- H361d Suspected of damaging the unborn child.*
- H335 May cause respiratory irritation.*
- H372 Causes damage to the hearing organs through prolonged or repeated exposure.*
- H304 May be fatal if swallowed and enters airways.*
- H412 Harmful to aquatic life with long lasting effects.*

· Precautionary statements

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.*
- P321 Specific treatment (see on this label).*
- P331 Do NOT induce vomiting.*
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.*
- P362+P364 Take off contaminated clothing and wash it before reuse.*
- P405 Store locked up.*
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

· 2.3 Other hazards

The product does not contain any substance above the legal limits included on the list for endocrine disrupting properties established under Article 59(1) of Regulation (EC) No 1907/2006 or under Commission Delegated Regulation (EU) 2017/2100 or of Commission Regulation (EU) 2018/605 has endocrine disrupting properties.

· Results of PBT and vPvB assessment**· PBT:**

The product does not contain any substances above legal limits that meet the criteria for PBT (persistent, bioaccumulative and toxic).

· vPvB:

The product does not contain any substances above legal limits that meet the criteria for vPvB (very persistent and very bioaccumulative).

SECTION 3: Composition/information on ingredients

· 3.1 Substances**· CAS No. Description**

100-42-5 Styrene monomer

· Identification number(s)**· EC number:** 202-851-5**· Index number:** 601-026-00-0

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information: *First aiders pay attention to self-protection.*

· After inhalation: *Supply fresh air, consult doctor in case of complaints.*

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- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **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:** CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide
carbon dioxide
Formaldehyde (HCHO)
Can form explosive gas-air mixtures.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Do not inhale vapors.
- **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Inform the responsible authorities if larger quantities are released.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomaceous earth, acid binder, universal binder, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **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 disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in well closed containers, cool and dry.
- **Information about storage in one common storage facility:** See section 10.5
- **Further information about storage conditions:**
Keep container tightly sealed.
Protect from heat and direct sunlight.

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Do not store at temperatures above 30°C.

· **Storage class:**

3

flammable

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**· **Ingredients with limit values that require monitoring at the workplace:** Not required.· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **Appropriate engineering controls** No further data; see item 7.· **Individual protection measures, such as personal protective equipment**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing

Avoid contact with the eyes and skin.

Do not breathe vapors or spray mist.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

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.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection**

Tightly sealed goggles

· **Body protection:** flame retardant antistatic protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Physical state**

Fluid

· **Colour:**

Colourless

· **Odour:**

Characteristic

· **Odour threshold:**

Not determined.

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· Melting point/freezing point:	-30.7 °C
· Boiling point or initial boiling point and boiling range	145.2 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	1.2 Vol %
· Upper:	8.9 Vol %
· Flash point:	31 °C
· Ignition temperature:	480 °C
· Decomposition temperature:	Not determined.
· pH (- g/l)	neutral
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 25 °C:	0.73 mPas
· Solubility	
· water at 20 °C:	0.24 g/l
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	7.1 hPa
· Density and/or relative density	
· Density at 20 °C:	0.906 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· **9.2 Other information**

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Auto-ignition temperature:	Not determined.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Molecular weight	104.15 g/mol
· Change in condition	
· Evaporation rate	Not determined.

· **Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Flammable liquid and vapour.
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Product tends to polymerise when contaminated with acids, peroxides, aluminium, copper, light, pressure and air. Reacts violently with strong oxidising agents.
- **10.4 Conditions to avoid** Avoid prolonged storage at temperatures > 30 ° C.
- **10.5 Incompatible materials:**
Aluminium, copper, peroxides.
Oxidising agents, acids.
- **10.6 Hazardous decomposition products:**
At fire, formation of carbon monoxide (CO) and carbon dioxide (CO₂).
Thermal decomposition can produce various substances, the exact composition of which depends on the decomposition conditions.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**
Harmful if inhaled.

- **LD/LC50 values relevant for classification:**

Inhalative	LC50/ 4h	24 mg/l (rat)
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- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
Suspected of damaging the unborn child.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
Causes damage to the hearing organs through prolonged or repeated exposure.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
LC50/96 h: >1-<10 mg/l (fish)
EC50/48 h: >1-<10 mg/l (water flea)
- **12.2 Persistence and degradability**
Rapid photochemical oxidation in the air.
Easily biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
- **vPvB:** The product is not considered to be persistent or very bioaccumulative (vPvB).

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- **12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Disposal according to local regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|--|--|
| · 14.1 UN number or ID number
· ADR, IMDG, IATA | UN2055 |
| · 14.2 UN proper shipping name
· ADR
· IMDG, IATA | 2055 STYRENE MONOMER, STABILIZED
STYRENE MONOMER, STABILIZED |
| · 14.3 Transport hazard class(es)
· ADR | |
|  | |
| · Class
· Label | 3 (F1) Flammable liquids.
3 |
| · IMDG, IATA | |
|  | |
| · Class
· Label | 3 Flammable liquids.
3 |
| · 14.4 Packing group
· ADR, IMDG, IATA | III |
| · 14.5 Environmental hazards:
· Marine pollutant: | No |
| · 14.6 Special precautions for user
· Hazard identification number (Kemler code):
· EMS Number:
· Stowage Category
· Stowage Code | Warning: Flammable liquids.
39
F-E,S-D
C
SW1 Protected from sources of heat. |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |

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· Transport/Additional information:**· ADR****· Limited quantities (LQ)**

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· Transport category

3

· Tunnel restriction code

D/E

· IMDG**· Limited quantities (LQ)**

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN 2055 STYRENE MONOMER, STABILIZED, 3, III

SECTION 15: Regulatory information**· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****· Directive 2012/18/EU****· Named dangerous substances - ANNEX I** Substance is not listed.**· Seveso category** P5c**· Qualifying quantity (tonnes) for the application of lower-tier requirements** 5.000 t**· Qualifying quantity (tonnes) for the application of upper-tier requirements** 50.000 t**· REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40**· 15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Product safety department**· Contact:** Mrs. Steyer**· 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 Organisation

ADR: Accord relatif au transport international 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 Harmonised 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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3