



Univar USA Inc Safety Data Sheet

SDS No:

Version No:

Order No:

3075 Highland Pkwy, Ste 200, Downers Grove, IL 60515
(425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call
Chemtrec - (800) 424-9300



Univar
3075 Highland Pkwy STE 200
Downers Grove, IL 60515
425-889-3400

SAFETY DATA SHEET

1. Identification

Product identifier: STYRENE MONOMER

Other means of identification

SDS number: 000100000471

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Emergency telephone number:For emergency assistance Involving chemicals

call CHEMTREC day or night at: 1-800-424-9300. CHEMTREC INTERNATIONAL Tel# 703-527-3887

2. Hazard(s) identification

Hazard classification

Physical hazards

Flammable liquids Category 3

Health hazards

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Carcinogenicity Category 1B

Environmental hazardsAcute hazards to the aquatic environment Category 2

Label elements

Hazard symbol

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Signal word

Danger

Hazard statement

Flammable liquid and vapor.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
Toxic to aquatic life.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Take off contaminated clothing and wash before reuse. In case of fire: Use ... to extinguish.

Storage

Keep container tightly closed. Store in well-ventilated place. Store locked

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Disposal

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

| Chemical identity | Common name and synonyms | CAS number | Content in percent (%)* |
|---|--------------------------|------------|-------------------------|
| Benzene, ethenyl- | | 100-42-5 | >=99.8% |
| 1,2-Benzenediol, 4-(1,1-dimethylethyl)- | | 98-29-3 | <=0.06% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Ingestion: If swallowed, do NOT induce vomiting. Give a glass of water. Never give liquid to an unconscious person. Get medical attention.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Perform artificial respiration if breathing has stopped.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Eye contact: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

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Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General fire hazards: No data available.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use: Carbon dioxide or dry powder. Water Spray or Fog. Do not use water jet as an extinguisher, as this will spread the fire.

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: No data available.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: No data available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: All equipment used when handling the product must be grounded. Eliminate sources of ignition. Absorb spillage with non-combustible, absorbent material. Dike for later disposal. Prevent runoff from entering drains, sewers, or streams.

7. Handling and storage

Precautions for safe handling: Flammable/combustible - Keep away from oxidizers, heat and flames. Use personal protective equipment as required. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities: No data available.

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8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Chemical identity | Type | Exposure Limit values | Source |
|-------------------|-----------|------------------------|---|
| Benzene, ethenyl- | TWA | 20 ppm | US. ACGIH Threshold Limit Values (03 2013) |
| | STEL | 40 ppm | US. ACGIH Threshold Limit Values (03 2013) |
| | STEL | 100 ppm 425 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | REL | 50 ppm 215 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | TWA | 50 ppm 215 mg/m3 | US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |
| | STEL | 100 ppm 425 mg/m3 | US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |
| | Ceiling | 200 ppm | US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006) |
| | MAX. CONC | 600 ppm | US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006) |
| | TWA | 100 ppm | US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006) |
| | TWA | 50 ppm 215 mg/m3 | US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008) |
| | STEL | 100 ppm 425 mg/m3 | US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008) |
| | ST ESL | 110 µg/m3 | US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013) |
| | AN ESL | 140 µg/m3 | US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013) |
| | ST ESL | 25 ppb | US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013) |
| | AN ESL | 33 ppb | US. Texas. Effects Screening Levels (Texas Commission on Environmental |

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|--|---------|---------------------------|--|
| | | | Quality) (02 2013) |
| | TWA PEL | 50 ppm 215 mg/m3 | US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012) |
| | Ceiling | 500 ppm | US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012) |
| | STEL | 100 ppm 425 mg/m3 | US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012) |

Biological limit values

| Chemical identity | Exposure Limit values | Source |
|---|--------------------------------|---------------------|
| Benzene, ethenyl- (styrene: Sampling time: End of shift.) | 0.2 mg/l (Venous blood) | ACGIH BEL (03 2013) |
| Benzene, ethenyl- (Mandelic acid plus phenylglyoxylic acid: Sampling time: End of shift.) | 400 mg/g (Creatinine in urine) | ACGIH BEL (03 2013) |

Appropriate engineering controls No data available.

Individual protection measures, such as personal protective equipment

General information: No data available.

Eye/face protection: No data available.

Skin protection

Hand protection: No data available.

Other: No data available.

Respiratory protection: No data available.

Hygiene measures: No data available.

9. Physical and chemical properties

Physical state: Liquid

Form: No data available.

Color: No data available.

Odor: No data available.

Odor threshold: No data available.

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| | |
|--|--------------------|
| pH: | No data available. |
| Melting point/freezing point: | -31 °C |
| Initial boiling point and boiling range: | 146 °C |
| Flash Point: | 32 °C |
| Evaporation rate: | No data available. |
| Flammability (solid, gas): | No data available. |
| Upper/lower limit on flammability or explosive limits | |
| Flammability limit - upper (%): | No data available. |
| Flammability limit - lower (%): | No data available. |
| Explosive limit - upper (%): | No data available. |
| Explosive limit - lower (%): | No data available. |
| Vapor pressure: | No data available. |
| Vapor density: | No data available. |
| Relative density: | No data available. |
| Solubility(ies) | |
| Solubility in water: | No data available. |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Auto-ignition temperature: | No data available. |
| Decomposition temperature: | No data available. |
| Viscosity: | No data available. |

10. Stability and reactivity

| | |
|--|--------------------|
| Reactivity: | No data available. |
| Chemical stability: | No data available. |
| Possibility of hazardous reactions: | No data available. |
| Conditions to avoid: | No data available. |
| Incompatible materials: | No data available. |
| Hazardous decomposition products: | No data available. |

11. Toxicological information

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Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No data available.
Inhalation: No data available.
Skin contact: No data available.
Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat): 5,000 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: No data available.

Specified substance(s):

Benzene, ethenyl- LC 50 (Mouse, 2 h): 4,940 mg/l LC 50 (Rat, 4 h): 2,770 mg/l LC 50 (Rat, 4 h):
24 mg/l LC 50 (Guinea pig,): > 5.11 mg/l (, No) 2 (reliable with restrictions)
LC 50 (Mouse,): 21 mg/l (, No) 4 (not assignable)

Repeated dose toxicity

Product: No data available.

Skin corrosion/irritation

Product: No data available.

Serious eye damage/eye irritation

Product: No data available.

Specified substance(s):

Benzene, ethenyl- Concentration of styrene above 200 ppm

Respiratory or skin sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Benzene, ethenyl- Overall evaluation: 2B. Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Benzene, ethenyl- Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific target organ toxicity - single exposure

Product: No data available.

Specific target organ toxicity - repeated exposure

Product: No data available.

Aspiration hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Benzene, ethenyl- LC 50 (Fathead minnow (Pimephales promelas), 1 h): 100 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 1 h): 40 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 24 h): 11 - 14 mg/l Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 24 h): 1.8 - 3.4 mg/l Mortality LC 50 (Goldfish (Carassius auratus), 24 h): 25 mg/l Mortality

Aquatic invertebrates

Product: No data available.

Specified substance(s):

Benzene, ethenyl- EC 50 (Water flea (Daphnia magna), 24 h): 3.3 - 7.4 mg/l Mortality EC 50

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(Water flea (Daphnia magna), 48 h): 3.3 - 7.4 mg/l Mortality LC 50 (Water flea (Daphnia magna), 24 h): 255 mg/l Mortality LC 50 (Water flea (Daphnia magna), 24 h): 20 - 35 mg/l Mortality LC 50 (Brine shrimp (Artemia salina), 24 h): 68 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: No data available.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Benzene, ethenyl- Log Kow: 2.95

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Styrene No data available.

4-tert-Butylpyrocatechol No data available.

13. Disposal considerations

Disposal instructions: No data available.

Contaminated packaging: No data available.

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14. Transport information

DOT

UN number: UN 2055
UN proper shipping name: STYRENE MONOMER, STABILIZED
Transport hazard class(es)
Class: 3
Label(s): 3
Packing group: III
Marine Pollutant: Not regulated.
Special precautions for user: -

IATA

UN number: UN 2055
Proper Shipping Name: STYRENE MONOMER, STABILIZED
Transport hazard class(es):
Class: 3
Label(s): 3
Packing group: III
Environmental hazards: Not regulated.
Special precautions for user: -
Other information
Passenger and cargo aircraft: Allowed.
Cargo aircraft only: Allowed.

15. Regulatory information

US federal regulations US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Benzene, ethenyl- Reportable quantity: 1000 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Not listed.

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SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

| <u>Chemical identity</u> | <u>RQ</u> |
|--------------------------|-----------|
| Benzene, ethenyl- | 1000 lbs. |

SARA 311/312 Hazardous chemical

| <u>Chemical identity</u> | <u>Threshold Planning Quantity</u> |
|--------------------------|------------------------------------|
| Benzene, ethenyl- | 500 lbs |

SARA 313 (TRI reporting)

| <u>Chemical identity</u> | <u>Reporting threshold for other users</u> | <u>Reporting threshold for manufacturing and processing</u> |
|--------------------------|--|---|
| Benzene, ethenyl- | 10000 lbs | 25000 lbs. |

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Benzene, ethenyl- Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Benzene, ethenyl- Listed

US. Massachusetts RTK - Substance List

Benzene, ethenyl- Listed

US. Pennsylvania RTK - Hazardous Substances

Benzene, ethenyl- Listed

US. Rhode Island RTK

Benzene, ethenyl- Listed

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| | |
|--|--|
| Inventory Status: Australia AICS: | Not in compliance with the inventory. |
| Canada DSL Inventory List: | Not in compliance with the inventory. |
| EU EINECS List: | Not in compliance with the inventory. |
| EU ELINCS List: | Not in compliance with the inventory. |
| Japan (ENCS) List: | Not in compliance with the inventory. |
| EU No Longer Polymers List: | Not in compliance with the inventory. |
| China Inv. Existing Chemical Substances: | Not in compliance with the inventory. |
| Korea Existing Chemicals Inv. (KECI): | Not in compliance with the inventory. |
| Canada NDSL Inventory: | Not in compliance with the inventory. |
| Philippines PICCS: | Not in compliance with the inventory. |
| US TSCA Inventory: | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals: | Not in compliance with the inventory. |
| Japan ISHL Listing: | Not in compliance with the inventory. |
| Japan Pharmacopoeia Listing: | Not in compliance with the inventory. |

16. Other information, including date of preparation or last revision

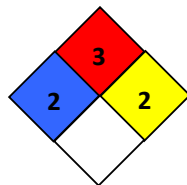
HMIS Hazard ID

| | | |
|----------------------------|---|---|
| Health | * | 1 |
| Flammability | 3 | |
| Physical hazards | 1 | |
| PERSONAL PROTECTION | | K |

K - Hood, Gloves, Protective Suit & Boots

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; *Chronic health effect

NFPA Hazard ID



| | |
|--|-----------------|
| | Flammability |
| | Health |
| | Reactivity |
| | Special hazard. |

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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Revision date: No data available.
Version #: 1.1
Further information: No data available.

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Revision date: 04/28/2015



Univar USA Inc Safety Data Sheet

For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

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