SAFETY DATA SHEET
STYRENE MONOMER, STABILISED

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

1.1. Product identifier

Product name	STYRENE MONOMER, STABILISED
Product number	11444
Synonyms; trade names	STYROL MONOMER,VINYL BENZENE,STYRENE MONOMER
REACH registration number	01-2119457861-32
CAS number	100-42-5
EC number	202-851-5

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

Identified uses	Chemicals used in the synthesis and / or formulation of industrial products Production of Rubber Polyester resin.
Uses advised against	Restricted to professional users.

1.3. Details of the supplier of the safety data sheet

Supplier

Univar
Aquarius House
6 Mid Point Business Park
Bradford
BD3 7AY
+44 1274 267300
sds@univar.com
+44 1274 267306

1.4. Emergency telephone number

Emergency Contact Number (Outside Office Hours)	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	11444

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Repr. 2 - H361d STOT SE 3 - H335 STOT RE 1 - H372 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 3 - H412
Classification (67/548/EEC or 1999/45/EC)	T; R48/23/24/25. Xn; R65, R20. Xi; R36/37/38. R52/53, R10

2.2. Label elements

STYRENE MONOMER, STABILISED

EC number 202-851-5

Pictogram

Signal word Danger

Hazard statements

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

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 Take precautionary measures against static discharge.
P260 Do not breathe vapour/ spray.
P303+P361+P353 IF ON SKIN (or hair): 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.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/ container in accordance with national regulations.
P201 Obtain special instructions before use.
P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.

Supplemental label information RCH002a Restricted to professional users.

Contains STYRENE

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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STYRENE	>98
CAS number: 100-42-5	EC number: 202-851-5

Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 3 - H226 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Repr. 2 - H361d STOT SE 3 - H335 STOT RE 1 - H372 Asp. Tox. 1 - H304 Aquatic Chronic 3 - H412	T; R48/23/24/25. Xn; R65, R20. Xi; R36/37/38. R52/53, R10

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Development of symptoms may be delayed for 24 to 48 hours.

Inhalation Move affected person to fresh air at once. Place unconscious person on their side in the recovery position and ensure breathing can take place. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.

Ingestion Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention immediately.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

General information Suspected of damaging the unborn child. Causes damage to organs (Hearing organs) through prolonged or repeated exposure.

Inhalation Harmful if inhaled. May cause respiratory irritation. In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects.

Ingestion May cause stomach pain or vomiting. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Skin contact Irritating to skin. Prolonged skin contact may cause redness and irritation.

Eye contact Irritation of eyes and mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use foam, carbon dioxide, dry powder or water fog to extinguish.

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Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Flammable liquid and vapour. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. PAH (polycyclic aromatic hydrocarbons). Aldehydes. Ketones.

5.3. Advice for firefighters

Protective actions during firefighting Containers close to fire should be removed or cooled with water.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Take precautionary measures against static discharges.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses. Eliminate all sources of ignition. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling, skin and eye contact. Avoid inhalation of vapours. Avoid heat, flames and other sources of ignition. Take precautionary measures against static discharges. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid heat, flames and other sources of ignition. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Earth container and transfer equipment to eliminate sparks from static electricity. Take precautionary measures against static discharge. Avoid contact with acids and alkalis. Avoid contact with oxidising agents.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

STYRENE

Long-term exposure limit (8-hour TWA): WEL 100 ppm(Sk) 430 mg/m3(Sk)
Short-term exposure limit (15-minute): WEL 250 ppm(Sk) 1080 mg/m3(Sk)
WEL = Workplace Exposure Limit

Ingredient comments WEL = Workplace Exposure Limits

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DNEL
Workers - Inhalation; Short term systemic effects: 289 mg/m³
Workers - Inhalation; Short term local effects: 306 mg/m³
Workers - Inhalation; Long term systemic effects: 85 mg/m³
Consumer - Inhalation; Short term systemic effects: 174.25 mg/m³
Consumer - Inhalation; Short term local effects: 182.75 mg/m³
Consumer - Inhalation; Long term systemic effects: 10.2 mg/m³

PNEC
- Marine water; 0.014 mg/l
- Intermittent release; 0.04 mg/l
- Sediment (Freshwater); 0.614 mg/kg
- Fresh water; 0.028 mg/l
- Sediment (Marinewater); 0.307 mg/kg
- Soil; 0.2 mg/kg
- STP; 5 mg/l

8.2. Exposure controls

Protective equipment

Appropriate engineering controls As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Provide adequate general and local exhaust ventilation.

Eye/face protection Wear approved safety goggles.

Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Neoprene. Nitrile rubber. Viton rubber (fluoro rubber). EN 374

Other skin and body protection Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures Provide eyewash station. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Do not smoke in work area.

Respiratory protection If ventilation is inadequate, suitable respiratory protection must be worn. Organic vapour filter. Gas filter, type A2. EN 136/140/145/143/149

SECTION 9: Physical and Chemical Properties

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9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	Aromatic.
pH	Data lacking.
Melting point	- 31°C
Initial boiling point and range	145°C @
Flash point	31°C
Evaporation rate	12.4 (nBuAc=1)
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 1.1 % Upper flammable/explosive limit: 6.1 %
Vapour pressure	6 hPa @ 20°C
Vapour density	3.6
Relative density	0.903-0.909
Bulk density	906 kg/m³
Solubility(ies)	0.24 g/l water @ 20°C
Partition coefficient	: 2.95
Auto-ignition temperature	490°C
Viscosity	0.73 mPa s @ 25°C
Oxidising properties	There are no chemical groups present in the product that are associated with oxidising properties.

9.2. Other information

Molecular weight	104.15

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Avoid contact with strong oxidising agents.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions May polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products

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Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. PAH (polycyclic aromatic hydrocarbons). Aldehydes. Ketones.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	5,000.0
Species	Rat
ATE oral (mg/kg)	5,000.0

Acute toxicity - dermal

Notes (dermal LD_{50})	Data lacking.

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	24.0
Species	Rat
ATE inhalation (vapours mg/l)	11.0

Skin corrosion/irritation

Skin corrosion/irritation	Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation	Irritating.

Respiratory sensitisation

Respiratory sensitisation	Data lacking.

Skin sensitisation

Skin sensitisation	Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity	Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility	Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

STOT - single exposure	Irritating to respiratory system.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Prolonged or repeated exposure may cause the following adverse effects: Causes damage to organs (hearing organs) through prolonged or repeated exposure.

Aspiration hazard

Aspiration hazard	Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

General information	Suspected of damaging the unborn child. Causes damage to organs (Hearing organs) through prolonged or repeated exposure.

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Inhalation In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Harmful if swallowed. May cause respiratory system irritation.

Ingestion May cause stomach pain or vomiting. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Skin contact Irritating to skin. Prolonged skin contact may cause redness and irritation.

Eye contact Irritation of eyes and mucous membranes.

SECTION 12: Ecological Information

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity

Ecological information on ingredients.

STYRENE

Acute toxicity - fish	LC_{50}, 96 hours: >1 - <=10 mg/l, Fish
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: >1 - <=10 mg/l,
Acute toxicity - aquatic plants	EC_{50}, : >1 - <=10 mg/l,

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient : 2.95

12.4. Mobility in soil

Mobility The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 2055

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UN No. (IMDG)	2055
UN No. (ICAO)	2055

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	STYRENE MONOMER, STABILIZED
Proper shipping name (IMDG)	STYRENE MONOMER, STABILIZED
Proper shipping name (ICAO)	STYRENE MONOMER, STABILIZED
Proper shipping name (ADN)	STYRENE MONOMER, STABILIZED

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID label	3
IMDG class	3
ICAO class/division	3

Transport labels

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-E, S-D
Emergency Action Code	3Y
Hazard Identification Number (ADR/RID)	39
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information required.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	EH40/2005 Workplace exposure limits.

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EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). This product may impact SEVESO storage regulations.
Water hazard classification	WGK 2
Inventory Information	EINECS AICS DSL TSCA KECL PICCS IECS ENCS NZIOC

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	04/02/2016
Revision	10
Supersedes date	22/05/2015
SDS number	11444
SDS status	Approved.
Risk phrases in full	R10 Flammable. R20 Harmful by inhalation. R36/37/38 Irritating to eyes, respiratory system and skin. R48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed.
Signature	J Spenceley
Hazard statements in full	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H361d Suspected of damaging the unborn child. H372 Causes damage to organs (hearing organs) through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.