

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Product Name: STYRENE MONOMER
Datasheet Number: STYRENE MONOMER
REACH Registration No.: 01-2119457861-32-XXXX
CAS No.: 100-42-5
EC No.: 202-851-5

Relevant identified uses of the substance or mixture and uses advised against:

Intermediate, Formulation, Polymers, Other consumer uses.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Flam. Liq. 3
Acute toxicity category
Skin Irrit. 2
Eye Irrit. 2
Asp. Tox. 1

Label elements:



Signal Word: Danger

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Hazard phrases:

H226- Flammable liquid and vapour
H332- Harmful if inhaled.
H315- Causes skin irritation.
Causes serious eye irritation.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure by inhalation

Precautionary Phrases:

P210- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapours/spray.
IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310- Immediately call a POISON CENTER or doctor/physician.

Risk Phrases:

Flammable
Harmful by inhalation
Harmful: may cause lung damage if swallowed
Harmful: danger of serious damage to health by prolonged exposure through inhalation
Irritating to eyes, respiratory system and skin

Safety Phrases:

Keep away from sources of ignition - No Smoking
If swallowed seek medical advice immediately and show this container or label
Wear suitable protective clothing
Do not empty into drains

Other hazards: PBT - Not Applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures: Styrene
Concentration: >99%
CAS Number: 100-42-5
EC Number: 202-851-5
R/H Phrases: H226, H332, H319, H315,
R10, R20, R36/38
Symbols: GHS02, GHS07, Xn

4. FIRST AID MEASURES

Description of first aid measures:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water (S27/28).

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IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes and get medical attention.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Give 200-300mls (half pint) water to drink

Most important symptoms and effects, both acute and delayed:

Harmful if swallowed

Harmful by Inhalation

Aspiration hazard

Indication of any immediate medical attention and special treatment needed:

5. FIRE-FIGHTING MEASURES

Extinguishing media: In case of fire use water spray or fog, alcohol resistant foam, dry chemical or carbon dioxide
Unsuitable extinguishing media - High Volume Water Jet

Special hazards arising from the substance or mixture:

Flammable and Harmful

Vapours may ignite

May auto polymerise if heated or involved in a fire. This will have two potential effects:-

Heat generation and the possibility of vapour polymerising and plugging pressure relief devices causing potential explosion.

Advice for firefighters: Use water spray to keep fire exposed containers cool and disperse vapours.

Wear protective clothing (helmet, goggles, fire resistant gloves and boots) and protect respiratory organs (self-contained breathing apparatus).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective clothing.

Evacuate the area and keep personnel upwind.

Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.

Ensure adequate ventilation.

Avoid Sparks. Extinguish naked flames. Take precautionary measures against static discharge.

Prevent the spilled product coming into contact with sources of flame.

Environmental Precautions: Do not allow to penetrate the ground/soil.

Do not allow to enter public sewers and watercourses.

If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities.

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Methods and material for containment and cleaning up: Absorb spillage in earth or sand

Dispose of the collected material according to regulations.

Reference to other sections: See Section 7 for information on safe handling.

See Section 8 for information on personal protective equipment.

7. HANDLING AND STORAGE

Precautions for safe handling: Proper chemicals handling procedures should be adopted

Equipment should be of flameproof design

Avoid contact with oxidising substances

Avoid contact with skin and eyes

Do not breathe vapour

Ensure adequate ventilation

Equipment should be earthed

Eyewash bottles should be available

Conditions for safe storage, including any incompatibilities:

Keep only in the original container in a cool, well ventilated place away from heat

Keep away from oxidisers, heat, flames or ignition sources

Keep in highly flammable materials store

Specific end use(s): See Section 1

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters: WEL (short term) 250 ppm

WEL (long term) 100 ppm

DNEL (inhalational) 85 mg/m³

Note - DNEL values are for Workers only not consumers

PNEC 0.028 mg/l freshwater

PNEC 0.0028 mg/l seawater

PNEC 0.614 mg/kg freshwater

Styrene

WEL (short term) 300 ppm

WEL (long term) 100 ppm

Exposure controls: Engineering controls should be provided which maintain airborne concentrations below the

relevant guidelines.

Use explosion-proof ventilating and lighting equipment.

Chemical gloves, goggles and appropriate skin protection should be worn when handling.

Occupational exposure controls: In case of insufficient ventilation, wear suitable respiratory equipment.

Wear goggles giving complete eye protection.

Wear plastic gloves specified as compatible by the manufacturer.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Odour:	Aromatic odour
Appearance:	Colourless to light yellow liquid
Boiling point:	145 °C
Vapour pressure:	6.67 hPa at 20 °C
Vapour density (air = 1):	3.6
Melting point minus:	31 °C
Water solubility:	320 g/l
Flash point:	31 °C
Lower flammability limit:	1.1% (in air)
Upper flammability limit:	6.1% (in air)
Auto-ignition temperature:	490 °C
Log Pow:	2.96
Evaporation rate:	(Butyl acetate = 1)
Viscosity:	0.696 mPa.s at 25 °C
Other information:	

10. STABILITY AND REACTIVITY

Reactivity:	This product contains inhibitor at 10 ppm and the liquid can be considered stable at room temperature.
Chemical stability:	Stable at normal temperature conditions and recommended use. May form peroxides on exposure to air which if then concentrated by distillation may explode. This material is a monomer and in the right conditions polymerisation can be initiated.
Possibility of hazardous reactions: Incompatible with strong oxidizing substances. Vapours may ignite.	
Conditions to avoid:	Avoid contact with oxidising substances. Avoid contact with organic peroxides. Avoid contact with acids and alkalis. Avoid contact with copper. Keep away from air and light. Keep away from heat and sources of ignition.
Incompatible materials:	Incompatible with oxidizing substances. Incompatible with acids and alkalis. Incompatible with organic peroxides.

Hazardous Decomposition Products: Decomposition products may include carbon oxides.

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11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

LD50 (oral, rat) 5000 mg/kg
LD50 (dermal): >2000 mg/kg
LC50 (inhalation, rat) 11.8 mg/l/4h

Inhalation:	Harmful.
Contact with skin:	Causes irritation.
Contact with eyes:	Causes irritation.
Ingestion:	Aspiration hazard.
Carcinogenicity:	Limited evidence of carcinogenic effect. No evidence of carcinogenic effects in man.
Teratogenicity:	No evidence of reproductive effects.
Mutagenicity:	Some evidence available but insufficient to cause classification.

12. ECOLOGICAL INFORMATION

Toxicity:	EC50 (Daphnia magna) 4.7 mg/l (48 hr) IC50 (algae) 4.9 mg/l (72 hr) LC50 (fish) 4.02 mg/l (96 hr) Toxic to fish, invertebrates and microorganisms. However substantial aquatic exposure is not expected due to volatile nature of the material.
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Persistence and degradability: Readily biodegradable.

Bioaccumulation Potential: Low bioaccumulation potential.

Mobility in soil: This substance is volatile.
Water solubility 32 %.

Results of PBT and vPvB assessment: Not a PBT according to REACH Annex XIII.

Other Adverse Effects: Hazardous to the environment.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:	Incineration by an approved method could be considered. Do not discharge into drains or the environment, dispose to an authorised waste collection point.
Classification:	Must be dealt with as Hazardous Waste.

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14. TRANSPORT INFORMATION

UN Number: 2055

UN Proper Shipping Name: STYRENE MONOMER, STABILIZED

Transport hazard class (es): 3

Packing group: III

Environmental hazards:

Special precautions for user: Marine pollutant

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:

Transport Regulations:



Emergency Action Code:

Proper Shipping Name: STYRENE MONOMER, STABILIZED

EAC: 3Y

Road/Rail (ADR/RID):

Proper Shipping Name: STYRENE MONOMER, STABILIZED

ADR UN No.: 2055

ADR Hazard Class: 3

ADR Item No.:

ADR/RID No.:

Tremcard: 30

Tunnel Code: D/E

Sea (IMDG):

Proper Shipping Name: STYRENE MONOMER, STABILIZED

IMDG UN No.: 2055

IMDG Hazard Class: 3

IMDG Page No.:

IMDG Pack Group: III

IMDG EmS:

IMDG MFAG:

Air (ICAO/IATA):

Proper Shipping Name: STYRENE MONOMER, STABILIZED

ICAO UN No.: 2055

ICAO Hazard Class: 3

ICAO Packing Group: III

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DOT / CFR (US Department of Transportation):

DOT Proper Shipping Name:

Hazardous Material:

Hazard Class:

Identification Number:

Product RQ (lbs):

15. REGULATORY INFORMATION

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

Inventories: EINECS, TSCA, AICS, DSL, ENCS, KECI, PICCS, IECSC – All conformed to.

Chemical Safety Assessment: A Chemical Safety Assessment has been carried out.

Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

H226: Flammable liquid and vapour.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H332: Harmful if inhaled.

R20: Harmful by inhalation.

R36/38: Irritating to eyes and skin.

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.