

SAFETY DATA SHEET



SYNOLITE 6440-N-1

1. Identification of the substance/preparation and company/undertaking

Product name : SYNOLITE 6440-N-1

Supplier : DSM Composite Resins AG
Stettenerstrasse 28
CH-8207 Schaffhausen
Switzerland
Tel: +41 52 6441212
www.dsm.com/drs

Emergency telephone number : Netherlands: +31 38 4569289

e-mail address of person responsible for this SDS : DSMRESINS.SDS@dsm.com (Communication in English only please)

Recommended use : Resins system used in the production of fibre reinforced plastics or non-reinforced filled products.

2. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : **R**10
Xn; R20
Xi; R36/38

Human health hazards : Harmful by inhalation. Irritating to eyes and skin.

Environmental hazards : Based on the available data of this product no hazardous properties are known.

Physical/chemical hazards : Flammable.

3. Composition/information on ingredients

Substance/preparation : Preparation

Ingredient name	CAS no.	%	EC no. *	Classification
Styrene	100-42-5	35-50	202-851-5	R10 Xn; R20 Xi; R36/38
See section 16 for the full text of the R-phrases declared above				

* EC no. means EINECS or ELINCS number.

Occupational exposure limits, if available, are listed in section 8.

4. First-aid measures

Effects and symptoms

Inhalation : Inhalation causes headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

Ingestion : Irritating to mouth, throat and stomach.

Skin contact : Causes skin irritation. Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms, such as redness, blistering, dermatitis etc.

Eye contact : Irritating to eyes. (redness and pain).

First-aid measures

General : Protection of first-aiders: Put on appropriate personal protective equipment (see section 8). Move exposed person to fresh air. Remove contaminated clothing and shoes.

Inhalation : If inhaled, remove to fresh air. Prevent cooling of the person. Keep victim at rest in half-upright position. If not breathing, give artificial respiration. Get medical attention.

Ingestion : If swallowed, rinse mouth with water (only if the person is conscious). If affected person is conscious, give plenty of water to drink. Get medical attention if symptoms appear.

Skin contact : Take off immediately all contaminated clothing. Wash with soap and water. Obtain medical attention if symptoms occur.

Eye contact : Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention.

First aid facilities : Ensure that eyewash stations and safety showers are close to the workstation location.

5. Fire-fighting measures

Extinguishing media

Small fire

Suitable : Use dry chemicals, CO₂ or alcohol-resistant foam. Cover with vermiculite or other non-combustible material.

Not suitable : Do not use water jet.

Large fire

Suitable : Alcohol-resistant foam.

Not suitable : Do not use water jet.

5. Fire-fighting measures

- Unusual fire/explosion hazards** : Vapour is explosive in air at temperatures higher than the flash point.
- Hazardous thermal decomposition products** : In case of fire, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, (dense) black smoke, aldehydes, organic acids.
- Special fire-fighting procedures** : Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Protection of fire-fighters** : Wear suitable protective clothing. Self-contained breathing apparatus.

6. Accidental release measures

- Personal precautions** : Avoid contact with eyes, skin and clothing. Use suitable protective equipment (section 8). Consult expert immediately. Keep away from sources of ignition. Take precautionary measures against static discharges. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
- Environmental precautions** : Prevent entry into sewers, basements or confined areas. Dyke if necessary.
- Clean-up Methods**
- Small spill and leak** : Take up with suitable material. Place in a suitable container. Clean up affected area with a large amount of water. Keep away from incompatible materials and avoid specific conditions (See section 10).
- Large spill and leak** : Prevent entry into sewers, basements or confined areas. Dyke if necessary. Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container. Recycle, if possible. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Fire/explosion hazards Keep away from sources of ignition.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Use with adequate ventilation. Use suitable protective equipment. Avoid contact with eyes, skin and clothing. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Take measures against static discharge. Keep away from sources of ignition.
- Storage** : Store in a fireproof location. Keep in a cool place. Keep away from heat and direct sunlight.
- Storage temperature** : Do not store above the following temperature: 25 °C.

Note: See section 10 for stability and reactivity

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
United Kingdom (UK)	
<input checked="" type="checkbox"/> Styrene	EH40-WEL (United Kingdom (UK), 9/2006). WEL 15 min limit: 1080 mg/m ³ 15 minute(s). WEL 15 min limit: 250 ppm 15 minute(s). WEL 8 hrs limit: 430 mg/m ³ 8 hour(s). WEL 8 hrs limit: 100 ppm 8 hour(s).

- Engineering measures** : Use only with adequate ventilation. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
- Hygiene measures** : When using do not eat, drink or smoke. Wash hands after handling compounds and before eating, smoking and using the lavatory and at the end of the day.
- Personal protective equipment - Production scale**
- Respiratory system** : Wear filter mask, filtertype A.
- Skin and body** : Wear suitable protective clothing.
- Eyes** : Safety glasses with side shields.
- Hands** : Wear suitable gloves.

Advice on personal protection is applicable for high exposure levels. Select proper personal protection based on a risk assessment of the actual exposure situation.

9. Physical and chemical properties

- Physical state** : Liquid. [Clear.]
- Colour** : Yellowish. [Light]
- Odour** : Characteristic.
- Flash point** : 33 °C (estimate)
- Lower explosion limit** : Not available.
- Upper explosion limit** : Not available.
- Density (g/cm³)** : 1.15 g/cm³ (25°C)
- Solubility** : Insoluble in the following materials: cold water.
- Viscosity** : 245 to 331 mPa.s (245 to 331 cP)

10. Stability and reactivity

- Stability** : Stable under recommended storage and handling conditions (see section 7). In case of incorrect use: Fire/explosion hazards.
- Conditions to avoid** : Keep away from heat, sparks and flame.
- Materials to avoid** : No special recommendations.

11. Toxicological information

Potential acute health effects

- Inhalation** : Harmful by inhalation.
- Ingestion** : Irritating to mouth, throat and stomach.
- Skin contact** : Irritating to skin.
- Eye contact** : Irritating to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
styrene	LD50 Oral	Rat	2650 mg/kg	-
	LD50 Oral	Mouse	316 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
	LC50 Inhalation Vapour	Rat	12 mg/m ³	4 hours
	LC50 Inhalation Vapour	Mouse	9.5 mg/m ³	4 hours
	LC50 Inhalation Vapour	Mouse	9.5 mg/m ³	4 hours

Potential chronic health effects

- Chronic effects** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Chronic toxicity : No specific data.

Carcinogenicity : No specific data.

Mutagenicity : No specific data.

Teratogenicity : No specific data.

Reproductive toxicity : No specific data.

International regulations lists

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
styrene	A4	2B	-	-	-	-

12. Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
styrene	Mortality	Acute EC50 4.7 mg/L	Daphnia	48 hours
	Population	Acute EC50 0.56 mg/L	Algae	48 hours
	Mortality	Acute LC50 10 mg/L	Fish	96 hours
	Mortality	Acute LC50 29 mg/L	Fish	96 hours
	Mortality	Acute LC50 4.02 mg/L	Fish	96 hours
	Mortality	Acute LC50 25.05 mg/L	Fish	96 hours

Persistence/degradability

12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
styrene	-	-	Readily

Other adverse effects : No known significant effects or critical hazards.





Mobility : For data on physical state and solubility see section 9.

13. Disposal considerations

Methods of disposal (waste of residues; contaminated packaging) : Waste must be disposed of in accordance with national and local environmental regulations.

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
ADR/RID Class	UN1866	Resin solution, flammable	3	III		Hazard identification number 30 Limited quantity LQ7 CEVIC Tremcard 30GF1-III
ADNR Class	UN1866	Resin solution, flammable	3	III		-
IMDG Class	UN1866	Resin solution, flammable	3	III		Emergency schedules (EmS) F-E, S-E
IATA Class	UN1866	Resin solution flammable	3	III		Passenger and Cargo Aircraft Quantity limitation: 60 L Cargo Aircraft Only Quantity limitation: 220 L Limited Quantities - Passenger Aircraft Quantity limitation: 10 L

PG* : Packing group

15. Regulatory information

EU regulations

Hazard symbol or symbols :



Harmful

Risk phrases :

R10- Flammable.
R20- Harmful by inhalation.
R36/38- Irritating to eyes and skin.

Contains :

styrene

202-851-5

16. Other information

Full text of R phrases referred to in sections 2 and 3 - United Kingdom (UK) : R10- Flammable.
R20- Harmful by inhalation.
R36/38- Irritating to eyes and skin.

Full text of classifications referred to in sections 2 and 3 - United Kingdom (UK) : Xn - Harmful
Xi - Irritant

16. Other information

Internal code : 006525WW17735

History

Date of printing : 20 March 2008.

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Notice to reader

The information contained in the Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality. The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications.

The user is responsible for ensuring that appropriate precautions are taken and for satisfying themselves that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert.

Training advice : Handling of this substance or preparation is restricted to skilled personnel only.

Sources of key data : Literature data and/or investigation reports are available through the manufacturer.

Alterations compared to the previous version : Alterations compared to the previous version are marked with a little (blue) triangle.