SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Revision Date 25.02.2013 Version 7.6

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

1.1 Product identifier

Catalogue No.	803202
Product name	Epoxystyrene for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).

1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number

Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Carcinogenicity, Category 1B, H350
Acute toxicity, Category 4, Dermal, H312
Eye irritation, Category 2, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

Carc.Cat.2	Carcinogenic Category 2	R45
Xn	Harmful	R21
Xi	Irritant	R36

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word
Danger

Hazard statements
H350 May cause cancer.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.

Precautionary statements
Prevention
P201 Obtain special instructions before use.
Response
P302 + P352 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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Restricted to professional users.

Reduced labelling (≤125 ml)
Hazard pictograms

Signal word
Danger

Hazard statements
H350 May cause cancer.

Precautionary statements
P201 Obtain special instructions before use.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Restricted to professional users.

Index-No. 603-084-00-2

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	T	Toxic
R-phrase(s)	45-21-36	May cause cancer. Also harmful in contact with skin. Irritating to eyes.
S-phrase(s)	53-45	Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Further information
Restricted to professional users.

EC-No. 202-476-7 EC Label

Reduced labelling (≤125 ml)

Symbol(s)	T	Toxic
R-phrase(s)	45-21	May cause cancer. Also harmful in contact with skin.
S-phrase(s)	53-45	Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards
None known.

SECTION 3. Composition/information on ingredients
3.1 Substance

Formula	C_8H_8O (Hill)
CAS-No.	96-09-3
Index-No.	603-084-00-2
EC-No.	202-476-7
Molar mass	120,15 g/mol

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)		
CAS-No.	Registration number	Classification
(epoxyethyl)benzene (<= 100 %)		
96-09-3	*)	Carcinogenicity, Category 1B, H350 Acute toxicity, Category 4, H312 Eye irritation, Category 2, H319

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Hazardous components (1999/45/EC)

Chemical Name (Concentration)	
CAS-No.	Classification
(epoxyethyl)benzene (<= 100 %)	
96-09-3	Carc.Cat.2; R45 Xn, Harmful; R21 Xi, Irritant; R36

For the full text of the R-phrases mentioned in this Section, see Section 16.

3.2 Mixture
not applicable

SECTION 4. First aid measures
4.1 Description of first aid measures
After inhalation: fresh air. Call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Get medical attention.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

4.3 Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Water, Carbon dioxide (CO2), Foam, Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Combustible.
Vapours are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
Special protective equipment for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions
Do not empty into drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling
Advice on safe handling
Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Store at +15°C to +25°C.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	butyl-rubber
Glove thickness:	0,70 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when vapours/aerosols are generated.
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls
Do not empty into drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	unpleasant
Odour Threshold	No information available.
pH	No information available.
Melting point	-37 °C
Boiling point/boiling range	193 - 195 °C at 1.013 hPa
Flash point	74 °C Method: c.c.
Evapouration rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1,1 %(V)
Upper explosion limit	22 %(V)
Vapour pressure	20 hPa at 85 °C 0,4 hPa at 20 °C
Relative vapour density	No information available.
Relative density	1,05 g/cm³ at 20 °C
Water solubility	3 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: 1,61 (experimental) (External MSDS)

	Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	> 250 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	No information available.

9.2 Other data

Ignition temperature	498 °C

SECTION 10. Stability and reactivity

10.1 Reactivity

tends to polymerise
Forms explosive mixtures with air on intense heating.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

polymerisation initiators, Strong oxidizing agents, Bases, acids

10.4 Conditions to avoid

Strong heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity
LD50 rat: 2.000 mg/kg (RTECS)

Acute inhalation toxicity
This information is not available.

Acute dermal toxicity
LD50 rabbit: 935 mg/kg (RTECS)
absorption

Skin irritation
This information is not available.

Eye irritation
Causes serious eye irritation.

Sensitisation
This information is not available.

Germ cell mutagenicity
This information is not available.

Carcinogenicity
This information is not available.

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

CMR effects
Carcinogenicity:
May cause cancer.

Specific target organ toxicity - single exposure
This information is not available.

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard
This information is not available.

11.2 Further information
After absorption:
We have no description of any toxic symptoms.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity
Toxicity to fish
LC50 Pimephales promelas (fathead minnow): 4,54 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia magna (Water flea): 11,6 mg/l; 48 h (ECOTOX Database)

12.2 Persistence and degradability
No information available.

12.3 Bioaccumulative potential
Partition coefficient: n-octanol/water
log Pow: 1,61
(experimental)
(External MSDS)

Bioaccumulation is not expected.

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
Additional ecological information
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 2810
14.2 Proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (EPOXYSTYRENE)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 2810
14.2 Proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (EPOXYSTYRENE)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 2810
14.2 Proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (EPOXYSTYRENE)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-A S-A

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation	96/82/EC Directive 96/82/EC does not apply

Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
National legislation	
Storage class	6.1C

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H350	May cause cancer.

Full text of R-phrases referred to under sections 2 and 3

R21	Harmful in contact with skin.
R36	Irritating to eyes.
R45	May cause cancer.

Training advice
Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.