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

1.1 Product identifier

Trade name: Styrolux®

This safety data sheet pertains to the following products:
Styrolux® 3G46
Styrolux® 3G55
Styrolux® 3G55 Q504
Styrolux® 4G60
Styrolux® 656C
Styrolux® 656C Q527
Styrolux® 684D
Styrolux® 693D
Styrolux® HS70
Styrolux® S
Styrolux® T
Styrolux® T1
Styrolux® T99
Styrolux® M
Styrolux® VSA
Styrolux® VSB
Styrolux® VSD
Styrolux® 9550

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

General use: Polymer
For industrial processing only

1.3 Details of the supplier of the safety data sheet

Company name: INEOS Styrolution Group GmbH
Street/POB-No.: Mainzer Landstraße 50
Postal Code, city: DE-60325 Frankfurt
WWW: www.styrolution.com
E-mail: INSTY.emea@ineos.com

Department responsible for information:
Infopoint
E-mail: INSTY.emea@ineos.com

1.4 Emergency telephone number

Telephone: +44 (0) 1235 239 670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

This mixture is classified as not hazardous.

2.2 Label elements

Labelling (CLP)

Hazard statements: not applicable

Precautionary statements: not applicable

2.3 Other hazards

Dust: Can cause skin, eye and respiratory tract irritation.
In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.
The melted product can cause severe burns.
Swallowing may cause gastrointestinal irritation and pain of guts.

Results of PBT and vPvB assessment:

The product does not contain any as PBT or vPvB classified substances.

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Polystyrene mixture contains:
CAS No. 9003-55-8: Styrene-butadiene-copolymer

Hazardous ingredients:

Identifiers	Designation	Content	Classification
EC No. 203-806-2 CAS 110-82-7	Cyclohexane	0 - 0.2 %	Flam. Liq. 2; H225. Skin Irrit. 2; H315. STOT SE 3; H336. Asp. Tox. 1; H304. Aquatic Acute 1; H400. Aquatic Chronic 1; H410.

Full text of H- and EUH-statements: see section 16.

Additional information: The substances are encapsulated in a polymer and are therefore not bioavailable.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation: Provide fresh air. Put victim at rest and keep warm. seek medical attention

Following skin contact: The melted product can cause severe burns.
Do not remove the product from the skin without medical assistance.
After contact with molten product, cool skin area rapidly with cold water. Consult physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart.
Remove contact lenses, if present and easy to do. Continue rinsing.
Consult an eye specialist in the event of irritation.

After swallowing: Rinse mouth with water. Drink one or two glasses of water.
Never give an unconscious person anything through the mouth. Seek medical attention

4.2 Most important symptoms and effects, both acute and delayed

Dust: Skin irritation, eye irritations and redness

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Decontamination, vital functions

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water spray jet, foam, extinguishing powder, carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

Full water jet

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Smoke, carbon monoxide and carbon dioxide (CO2).
In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: -

Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation.
Wear personal protection equipment. Do not breathe dust.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

6.3 Methods and material for containment and cleaning up

Take up mechanically. Collect in closed containers for disposal.
Avoid generation of dust. Remove all sources of ignition. Provide adequate ventilation.

Additional information: Special danger of slipping by leaking/spilling product.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not breathe dust.
In the case of the formation of dust: Withdraw by suction.
Molten material: Avoid contact with the substance.

Precautions against fire and explosion:

Take precautionary measures against static discharges. Keep away from sources of ignition. Use grounding equipment. Use explosion-proof equipment and non-sparking tools/utensils. Avoid open flames.
In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Store in a well-ventilated place. Keep container tightly closed.
Protect against heat /sun rays.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
	Styrolux®	Great Britain: WEL-TWA Great Britain: WEL-TWA	10 mg/m³ (Dust limit value, inhalable fraction) 4 mg/m³ (Dust limit value, respirable fraction)
100-42-5	Styrene	Great Britain: WEL-STEL Great Britain: WEL-TWA	1080 mg/m³; 250 ppm 430 mg/m³; 100 ppm
110-82-7	Cyclohexane	Great Britain: WEL-STEL Great Britain: WEL-TWA	1050 mg/m³; 300 ppm 350 mg/m³; 100 ppm
124-38-9	Carbon dioxide	Great Britain: WEL-STEL Great Britain: WEL-TWA	27400 mg/m³; 15000 ppm 9150 mg/m³; 5000 ppm
106-99-0	1,3-Butadiene	Great Britain: WEL-TWA	2.2 mg/m³; 1 ppm

Additional information: The product contains very low levels of residual monomers and process chemicals (styrene, ethylbenzene and butadiene) that may be evolved during thermal processing, along with possible decomposition products. As the identity and levels of these impurities evolved will depend upon the processing conditions (temperature etc.) it is the responsibility of the user to determine the adequacy of any protection or safety measures.

8.2 Exposure controls

Provide good ventilation in the work area. Additional controls are not normally necessary when handling the polymer.

Thermal extrusion: Provide local exhaust ventilation to ensure that the workplace exposure limit is not exceeded.
Use of respiratory protection may be necessary during maintenance activities.

Personal protection equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded.
Use filter type A-P2 according to EN 14387.

Hand protection: Protective gloves according to EN 374.
Protective gloves made of fabric or leather.

In case of melting: Impervious heat protective gloves according to EN 407.
Glove material: Leather
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:
Molten material: Avoid contact with skin.
Avoid breathing dust and vapours. Keep away from sources of ignition.
Wash hands before breaks and after work.

In case of dust formation: Particular danger of slipping on spilled product on the ground.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Form: solid, granulate
Colour: colourless, clear

Odour: weak, characteristic

Odour threshold: No data available

pH:	No data available
Melting point/freezing point:	> 30 °C (DIN EN ISO 306)
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	No data available
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	at 20 °C: approx. 1.05 g/cm³ (DIN 53479)
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	approx. 300 °C
Viscosity, kinematic:	No data available
Explosive properties:	In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.
Oxidizing characteristics:	Not oxidising

9.2 Other information

Bulk density:	at 20 °C: approx. 640 kg/m³ (DIN 53466)

SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to subsection "Possilbility of hazardous reactions".

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

In case of dust formation (Fine dust): May form explosible dust-air mixture if dispersed.

10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.
Avoid dust formation.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

When greatly overheated, material may release hazardous decomposition products: monomers, hydrocarbons, gases/vapours, cyclic low molecular weight oligomers, carbon monoxide and carbon dioxide.

Thermal decomposition: approx. 300 °C

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data. not to be expected

Serious eye damage/irritation: Lack of data. not to be expected

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data. not to be expected

Germ cell mutagenicity/Genotoxicity: Lack of data. not to be expected

Carcinogenicity: Lack of data. not to be expected

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data. not to be expected

Aspiration hazard: Lack of data.

Other information: When handled appropiately, even after long years of experience with this product, no adverse health effects are known.

Symptoms

Dust: Can cause skin, eye and respiratory tract irritation.
The melted product can cause severe burns.
Thermal treatment, Processing: Irritating to eyes, respiratory system and skin.
In case of ingestion: Swallowing may cause gastrointestinal irritation and pain of guts.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: no evidence of aquatic toxicity

12.2 Persistence and degradability

Further details: Biodegradation: Product is not readily biodegradable.
The product is likely to persist in the environment.

Effects in sewage plants: In sewage treatment plants it may be separated mechanically.

12.3 Bioaccumulative potential

To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.

Partition coefficient: n-octanol/water:
No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

The product does not contain any as PBT or vPvB classified substances.

12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 07 02 99 = wastes from the MFSU of plastics, synthetic rubber and man-made fibres
MFSU = manufacture, formulation, supply and use

Recommendation: With due observance of the regulations laid down by the local authorities, this must be brought to a suitable incineration plant/waste disposal site.

Package

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR: not applicable

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR: Not restricted

14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR: not applicable

14.4 Packing group

ADR/RID, IMDG, IATA-DGR: not applicable

14.5 Environmental hazards

Marine pollutant: no

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

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

No data available

SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazchem-Code: -
No data available

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

SECTION 16: Other information

Further information

Wording of the H-phrases under paragraph 2 and 3:

H225 = Highly flammable liquid and vapour.
H304 = May be fatal if swallowed and enters airways.
H315 = Causes skin irritation.
H336 = May cause drowsiness or dizziness.
H400 = Very toxic to aquatic life.
H410 = Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
Aquatic Acute: Hazardous to the aquatic environment - acute
Aquatic Chronic: Hazardous to the aquatic environment - chronic
AS/NZS: Australian Standards/New Zealand Standards
Asp. Tox.: Aspiration toxicity
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EN: European Standard
EQ: Excepted quantities
EU: European Union
Flam. Liq.: Flammable liquid
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
MFSU: Manufacture, formulation, supply and use
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
Skin Irrit.: Skin irritation
STOT SE: Specific target organ toxicity - single exposure
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

Reason of change: Changes of product list
General revision

Date of first version: 25/2/2013

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.