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

1.1 Product identifier

Trade name: Styrolution® PS HIPS
This safety data sheet pertains to the following products:
Styrolution PS 2710 GR2
Styrolution PS 456EB GR2
Styrolution PS 476L GR2
Styrolution PS 476L GR21
Styrolution PS 495F GR2
Styrolution PS 495F GR21
Styrolution PS 576H GR21

CAS-Number: 9003-55-8
EC-number: -

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

General use: Polymer
Basic material for chemical industry processing

1.3 Details of the supplier of the safety data sheet

Company name: INEOS Styrolution APAC Pte Ltd.
Street/POB-No.: 111 Somerset Road
Postal Code, city: #08-01/02 TripleOne Somerset, SG
Singapore 238164
WWW: www.styrolution.com
E-mail: infopoint.asia@styrolution.com
Telephone: +65 6933 8350
Telefax: +65 6933 8355
Dept. responsible for information:
Infopoint, Telephone: + 65 (0) 6933 - 8372
E-mail: infopoint.asia@styrolution.com

1.4 Emergency telephone number

Telephone: + 65 (0) 3158 - 1074

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

This substance 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.

Results of PBT and vPvB assessment:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

SECTION 3: Composition / information on ingredients

3.1 Substances

Chemical characterisation: Polymer
(C8 H8 C4 H6)x
styrene-butadiene-copolymer, HIPS, 90 - 98 %

CAS-Number: 9003-55-8

EC-number: -

RTECS-Number: WL6478000

Additional information: Preparation does not contain dangerous substances above limits that need to be mentioned in this section according to applicable legislation.

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. Consult an eye specialist in the event of irritation.
Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: Do not induce vomiting. Rinse mouth with water.
Drink one or two glasses of water. Seek medical aid in case of troubles.
Never give an unconscious person anything through the mouth.

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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water fog, foam.
Only in case of small fires: extinguishing powder, carbon dioxide, Sand, earth.

Extinguishing media which must not be used for safety reasons:

High power water jet

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Smoke, styrene-monomer, butadiene, aldehydes and acids (organic), carbon monoxide and carbon dioxide (CO_2).

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus.

Additional information: Cool endangered containers with water jetspray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

May form explosible dust-air mixture if dispersed. Remove all sources of ignition. Provide adequate ventilation. Do not breathe dust. Wear personal protection equipment.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

Avoid generation of dust. Take up mechanically. Can be reused without regeneration. Otherwise, dump or burning.

Additional information: Take precautionary measures against static discharges.

Particular danger of slipping on spilled product on the ground.

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.
Avoid dust formation. In the case of the formation of dust: Withdraw by suction.
Molten material: Avoid contact with the substance.

Precautions against fire and explosion:

Dust may form explosive mixtures with air. Take precautionary measures against static discharges. Keep away from sources of ignition. Use grounding equipment. Use explosion-proof equipment and non-sparking tools/utensils.

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.

Further details: Special danger of slipping by leaking/spilling product.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Additional information: The product contains very low levels of residual monomers and process chemicals (styrene, ethylbenzene and traces of 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: In case of dust formation:
Use filter type A-P2 according to EN 14387.

Hand protection: Protective gloves according to EN 374.
Glove material: Nitrile rubber - Layer thickness: 0.11 mm.
Breakthrough time: >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

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. Boots or safety shoes

General protection and hygiene measures:
Do not breathe dust.
Take off immediately all contaminated clothing.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.
Eye wash facility must be provided.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Physical state at 20 °C and 101.3 kPa: solid
Form: pellets
Colour: colourless

Odour: weak

Odour threshold: not available

pH value: not applicable

Melting point/freezing point:	105 - 135 °C
Initial boiling point and boiling range:	not applicable
Flash point/flash point range:	> 280 °C
Evaporation rate:	No data available
Flammability:	Not highly flammable.
Explosion limits:	No data available
Vapour pressure:	not applicable
Vapour density:	No data available
Density:	at 20 °C: 1030 g/cm³ (ISO 1183)
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	not relevant
Auto-ignition temperature:	not self-igniting
Decomposition temperature:	300 °C
Viscosity, dynamic:	not applicable
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

Ignition temperature:	approx. > 400 °C
Bulk density:	600 g/cm³
Drop point/drop range:	79 - 127 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

refer to 10.3

10.2 Chemical stability

Product is stable under normal 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

Avoid dust formation. Dust may form explosive mixtures with air.
Keep away from sources of ignition - No smoking.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In case of fire may be liberated: Smoke, styrene-monomer, butadiene, aldehydes and acids (organic), carbon monoxide and carbon dioxide (CO2).

Thermal decomposition: 300 °C

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity: LD50 oral: > 2000 mg/kg
LD50 dermal: > 2000 mg/kg

Toxicological effects: Acute toxicity (oral): Based on available data, the classification criteria are not met. Mild acute toxicity

Acute toxicity (dermal): Based on available data, the classification criteria are not met. Mild acute toxicity

Acute toxicity (inhalative): Based on available data, the classification criteria are not met. Mild acute toxicity. May cause irritations.

Skin corrosion/irritation: Lack of data.
Dust: Can cause skin, eye and respiratory tract irritation.
Processing, thermal hazards: Vapours: Can cause skin, eye and respiratory tract irritation.

Eye damage/irritation: Lack of data.
Dust: Can cause skin, eye and respiratory tract irritation.
Processing, thermal hazards: Vapours: Can cause skin, eye and respiratory tract irritation.

Sensitisation to the respiratory tract: Lack of data. The chemical structure of the polymer does not suggest a specific alert for such an effect.

Skin sensitisation: Based on available data, the classification criteria are not met. Not sensitising

Germ cell mutagenicity/Genotoxicity: Lack of data. The chemical structure of the polymer does not suggest a specific alert for such an effect.

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

Reproductive toxicity: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.
Dust: Can cause skin, eye and respiratory tract irritation.
Processing, thermal hazards: Vapours: Can cause skin, eye and respiratory tract irritation.

Specific target organ toxicity (repeated exposure): Lack of data. Chronic toxic effects are not expected. The product has not been tested. The statement is derived from products of similar structure or composition.

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: Skin irritation, eye irritations and redness
The melted product can cause severe burns.
Processing, thermal hazards: Irritating to eyes, respiratory system and skin.

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.
Degradation at UV-radiation/sunlight
Environmental half-life period: >=100 days (estimated)

Effects in sewage plants: Not toxic to sewage organisms
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:
not relevant

12.4 Mobility in soil

Product is not soluble in water.
Substance is heavier than water and sinks.
mobility in soil: low

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Other adverse effects

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 07 02 13 = Waste plastic

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.

Contaminated packaging

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 - Korea

Industrial Safety and Health Act

not applicable

Chemicals Control Act not applicable

National regulations - Japan

ENCS: listed; MITI 6-134

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

SECTION 16: Other information

Further information

Reason of change: General revision
Date of first version: 8/8/2012

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

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.