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

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 486N
Styrolution PS 495F GR2
Styrolution PS 495F GR21
Styrolution PS 576H GR21

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

General use: Polymer
Basic material for chemical industry processing

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.ineos-styrolution.com
E-mail: INSTY.asia@ineos.com
Telephone: +65 6933 8350
Telefax: +65 6933 8355
Department responsible for information:
Infopoint, Telephone: + 65 (0) 6933 - 8372
E-mail: INSTY.asia@ineos.com

Emergency telephone number

Telephone: +86 512 8090 3042 (Country); + 65 3158 1074 (regional)

2. Hazards identification

Classification of the substance or mixture

GHS classification

This mixture is classified as not hazardous.

Label elements

Hazard statements: not applicable

Precautionary statements: not applicable

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.

3. Composition/information on ingredients

Mixtures

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

CAS-Number: 9003-55-8

RTECS-Number: WL6478000

Hazardous ingredients:

CAS No.	Designation	Content	Classification
is not subject to Dangerous Material Safety Control Act	Additives	2 - 10 %	not classified

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

4. 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: 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.

Most important symptoms and effects, both acute and delayed

Dust: Skin irritation, eye irritations and redness

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

Extinguishing media

Suitable extinguishing media:

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

Extinguishing media which must not be used for safety reasons:

Full water jet

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 (CO2).

Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus.

Additional information: Cool endangered containers with water jetspray.

6. Accidental release measures

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.

Environmental precautions

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

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.

7. Handling and storage

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.

Storage

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.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limit values:

Type	Limit value
Singapore: long-term	10 mg/m³

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.

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.
See also information in chapter 7, section storage.

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 BS EN ISO 374:1.
Protective gloves made of fabric or leather.
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 BS EN ISO 16321-1:2022.

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.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

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:	Not applicable
Melting point/freezing point:	105 - 135 °C
Initial boiling point and boiling range:	Not applicable

Flash point/flash point range:	Not applicable
Evaporation rate:	No data available
Flammability:	Not highly flammable.
Explosion limits:	LEL (Lower Explosion Limit): Not applicable
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
Thermal decomposition:	>300 °C

Additional information

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
Bulk density:	600 g/cm³
Drop point/drop range:	79 - 127 °C

10. Stability and reactivity

Reactivity: Refer to subsection "Possibility of hazardous reactions".

Chemical stability: Product is stable under normal storage conditions.

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

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

Incompatible materials: Strong oxidizing agents

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

11. Toxicological information

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.

Serious 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.

12. Ecological information

Toxicity

Aquatic toxicity: no evidence of aquatic toxicity

Effects in sewage plants: Not toxic to sewage organisms
In sewage treatment plants it may be separated mechanically.

Persistence and degradability

Further details: Biodegradation: Product is not readily biodegradable.
Degradation at UV-radiation/sunlight
Environmental half-life period: >=100 days (estimated)

Mobility in soil

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

Additional ecological information

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

13. Disposal considerations

Waste treatment methods

Product

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.

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

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

not applicable

Sea transport (IMDG)

Proper shipping name:: Not restricted
Marine pollutant: no

Air transport (IATA)

Proper shipping name:: Not restricted

Further information

No dangerous good in sense of these transport regulations.

15. Regulatory information

National regulations - Japan

ENCS: listed; MITI 6-134

Fire Service Act: Designated flammable goods

Industrial Safety and Health Law: Chemical substances with publicly listed names

Further regulations, limitations and legal requirements

No data available

16. Other information

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
AS/NZS: Australian Standards/New Zealand Standards
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
ENCS: Inventory of Existing and New Chemical Substances
EQ: Excepted quantities
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
LD50: Lethal dose 50%
LEL: Lower Explosion Limit
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
TRGS: Technical Rules for Hazardous Substances
UV: Ultraviolet
vPvB: Very persistent and very bioaccumulative

Reason of change: Changes in section 1.1: Website
Date of first version: 8/8/2012

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.