

SAFETY DATA SHEET

according to GB/T16483-2008

PS GPPS

Page:

1 of 7

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

Product identifier

Trade name:

PS GPPS

This safety data sheet pertains to the following products:

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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

2. Hazards identification

Classification of the substance or mixture

GHS classification

This substance 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): danger of dust explosion
The melted product can cause severe burns.

SAFETY DATA SHEET

according to GB/T16483-2008

PS GPPS

Page:

2 of 7

3. Composition / information on ingredients

Substances

Chemical characterisation: polymer

(C₈H₈) *n

styrene-homopolymer, GPPS

CAS-Number: 9003-53-6

RTECS-Number: WL6475000

Additional information: Preparation 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.

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: IF IN EYES: Rinse cautiously with water for several minutes. 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.
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 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

Special hazards arising from the substance or mixture

In case of fire may be liberated: smoke, Styrene-Monomer, aldehydes and acids (organic), carbon monoxide and carbon dioxide (CO₂).

Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus to prevent exposure to poisonous gases that may develop.

Additional information: Cool endangered containers with water jetspray.

SAFETY DATA SHEET

according to GB/T16483-2008

PS GPPS

Page:

3 of 7

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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

Methods and material for containment and cleaning up

Avoid generation of dust. Remove all sources of ignition.

Collect dry and place in appropriate containers for disposal. Subsequent cleaning.

Additional information: 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. 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.

Dust explosion risk: Class1

Storage

Requirements for storerooms and containers:

Store in a well-ventilated place. Keep container tightly closed.

Protect against heat /sun rays.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
9003-53-6	PS GPPS	long-term	8 mg/m ³
100-42-5	Styrene	long-term	50 mg/m ³
		short-term	100 mg/m ³

Additional information: The product contains very low levels of residual monomers and process chemicals (styrene and ethylbenzene) 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.

SAFETY DATA SHEET

according to GB/T16483-2008

PS GPPS

Page:

4 of 7

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 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.

General protection and hygiene measures:

Do not breathe 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.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:

Form: solid, granulate

Colour: colourless

Odour:

weak

Odour threshold:

not available

pH value:

not applicable

Melting point/freezing point:

105 °C up to 135 °C

Initial boiling point and boiling range:

no data available

Flash point/flash point range:

> 280 °C

Evaporation rate:

no data available

Flammability:

no data available

Explosion limits:

no data available

Vapour pressure:

not applicable

Vapour density:

no data available

Density:

at 20 °C: approx. 1050 kg/m³ (ISO 1183)

Water solubility:

insoluble

Partition coefficient: n-octanol/water:

not relevant

Auto-ignition temperature:

> 427 °C

Thermal decomposition:

> 300 °C

SAFETY DATA SHEET

according to GB/T16483-2008

PS GPPS

Page:

5 of 7

Additional information

Viscosity, dynamic: not applicable
Explosive properties: Dust explosion risk at fine dust
Oxidizing characteristics: not oxidising
Ignition temperature: > 400 °C
Bulk density: approx. 600 kg/m³
Drop point/drop range: 79 °C up to 127 °C
Additional information: Molar mass: 10000 - 300000 g/mol

10. Stability and reactivity

Reactivity: no data available
Chemical stability: Product is stable under normal storage conditions.
Possibility of hazardous reactions: In case of dust formation (Fine dust): danger of dust explosion
Conditions to avoid: Avoid open flames.
Avoid dust formation.
Incompatible materials: Strong oxidizing agents, Gasoline, aldehydes, ketone
Hazardous decomposition products: In case of fire may be liberated: smoke, Styrene-Monomer, aldehydes and acids (organic), carbon monoxide and carbon dioxide (CO₂).
Thermal decomposition: > 300 °C

11. Toxicological information

Information on toxicological effects

Acute toxicity:
LD50 Rat, oral: > 2000 mg/kg
LD50 Rabbit, dermal: > 2000 mg/kg

SAFETY DATA SHEET

according to GB/T16483-2008

PS GPPS

Page:

6 of 7

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: Lack of data. 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.

Symptoms

Dust: Skin irritation, eye irritations and redness
The melted product can cause severe burns.

12. Ecological information

Toxicity

Aquatic toxicity: no evidence of aquatic toxicity

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

SAFETY DATA SHEET

according to GB/T16483-2008

PS GPPS

Page: 7 of 7

Additional ecological information

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

Contaminated packaging

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

14. Transport information

USA: Department of Transportation (DOT)

Proper shipping name: Not controlled under DOT

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 - China

No data available

16. Other information

Reason of change: Changes in section 1.1: EC No.
General revision (Regulation (EU) No 2015/830)

Date of first version: 5/11/2012

Department issuing data sheet

Contact person: see section 1: Dept. 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.