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Safety data sheet

BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)
Date / Revised: 17.10.2025 Version: 6.0
Product: **Polystyrol 158 K**

(ID no. 30035310/SDS_GEN_00/EN)
Date of print 18.10.2025

1. Identification

Product identifier

Polystyrol 158 K

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

Relevant identified uses: Polymer
Uses advised against: Use in medical devices and as /or rather in additives by the manufacturing of medical devices.
Recommended use: for industrial processing only

Details of the supplier of the safety data sheet

Company:
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2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

No need for classification according to GHS criteria for this product.

Label elements

Globally Harmonized System (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

Other hazards

According to UN GHS criteria

Avoid dust development and deposition - dust explosion risk. Take precautionary measures against static discharges.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Preparation based on:
polystyrene
CAS Number: 9003-53-6

4. First-Aid Measures

Description of first aid measures

If inhaled:
After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid.

On skin contact:
Areas affected by molten material should be quickly placed under cold running water. Burns caused by molten material require hospital treatment.

On contact with eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek immediate medical attention.

On ingestion:
Rinse mouth and then drink 200-300 ml of water. If difficulties occur: Seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Eye irritation, skin irritation

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Carbon dioxide, Carbon monoxide, Styrene
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures

Sources of ignition should be kept well clear. Avoid inhalation of dusts.

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

Sweep/shovel up. Avoid raising dust. Ensure adequate ventilation.

7. Handling and Storage

Precautions for safe handling

Avoid inhalation of dusts. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
Avoid dust formation. Dust can form an explosive mixture with air. Provide exhaust ventilation. When the product is ground (chopped), dust explosion regulations should be noted.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Paper/Fibreboard
Further information on storage conditions: Protect against moisture. Avoid extreme heat. Avoid all sources of ignition: heat, sparks, open flame. The product must be stored according to the requirements of Regulation (EC) No 2023/2006. Contamination with other substances must be avoided. Storage together with other substances, especially hazardous substances, must be avoided. The substance/product may cake under the influence of moisture. Avoid direct sunlight.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

9003-53-6: polystyrene

Exposure controls

Personal protective equipment

Respiratory protection:
Breathing protection if dusts are formed. Combination filter for gases/vapours of organic compounds and solid and liquid particles (f.e. EN 14387 Type A-P2)

Hand protection:
Wear gloves to prevent contact during mechanical processing and/or hot melt conditions.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures
Avoid contact of molten material with skin. Avoid inhalation of dusts/mists/vapours. Eye wash fountains and safety showers must be easily accessible. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	solid	
Form:	granules	
Colour:	The colour is derived from the trade name.	
Odour:	almost odourless	
Odour threshold:	not determined	
softening temperature:	> 90 °C	(DIN EN ISO 306)
onset of boiling:	The substance / product decomposes therefore not determined.	
Flammability:	May form flammable dust-air mixture.	
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Flash point:	> 280 °C	
Auto-ignition temperature:	> 400 °C	(DIN 51794)
Thermal decomposition:	approx. 300 °C To avoid thermal decomposition, do not overheat.	
pH value:	not soluble	
Viscosity, dynamic:	not relevant	
Thixotropy:	not thixotropic	
Solubility in water:	insoluble	
Partitioning coefficient n-octanol/water (log Kow):	not applicable	
Vapour pressure:	not applicable	
Relative density:	1,04 (20 °C)	
Density:	approx. 1,04 g/cm3 (20 °C, 1 bar)	
Relative vapour density (air):	not applicable, The product is a non-volatile solid.	

9.2. Other information

Information with regard to physical hazard classes

Explosives
Explosion hazard: Product is not explosive, however a dust explosion could result from an air / dust mixture.

Oxidizing properties
Fire promoting properties: not fire-propagating

Other safety characteristics

Bulk density:	approx. 600 kg/m3 (20 °C, 1 bar)	(DIN 53466)
Evaporation rate:	The product is a non-volatile solid.	

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.

Conditions to avoid

Avoid extreme heat. Avoid all sources of ignition: heat, sparks, open flame. Avoid dust formation.

Incompatible materials

Substances to avoid:
strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:
monomers, oxides, gases/vapours, hydrocarbons, cyclic low molecular weight oligomers, Gaseous products of degradation can be given off if the product is greatly overheated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Contact with molten product may cause thermal burns.

Irritation

Assessment of irritating effects:
No irritation is expected under intended use and appropriate handling.

Respiratory/Skin sensitization

Assessment of sensitization:
There is no evidence of a skin-sensitizing potential.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Reproductive toxicity

Assessment of reproduction toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the structure of the product.

Persistence and degradability

Assessment biodegradation and elimination (H2O):

The polymer component of the product is poorly biodegradable. The insoluble fraction can be removed by mechanical means in suitable waste water treatment plants.
In accordance with the required stability the product is not readily biodegradable. The product has not been tested. The statement has been derived from the structure of the product.

Bioaccumulative potential

Assessment bioaccumulation potential:
Discharge into the environment must be avoided.

Bioaccumulation potential:
The product will not be readily bioavailable due to its consistency and insolubility in water.

Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Study scientifically not justified.

Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

Other adverse effects

The substance is not listed in Regulation (EU) 2024/590 on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:
No data can be given due to the product's insolubility in water.

13. Disposal Considerations

Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:
Uncontaminated packaging can be recycled.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.