

HT POLYSTYRENE

TECHNICAL DATASHEET

Main Applications:

High temperature applications, microwave and steam sterilisation
Thermoforming and injection moulding

Supplied as:

Granulate in big bags, octabins or valve sacks
Foil (optional with seal layer)

Grades:

HT White
HT Natural

Products:

HT100	Soup cups and drink cups
HT125	Microwave disposables
HT200	Microwave disposables
HT250	Microwave long duration heating
HT400	Steam sterilisation thermoforming
HT500	Steam sterilisation injection moulding

PHYSICAL PROPERTIES	TEST METHOD	UNITS	SPECIFICATION
Form			Cylindrical pellets
Colour			White, Natural or specified on ordering
Density	ISO 1183	g/cm ³	1.06
Melt Flow Rate	ISO 1183 (200,5)	g/600s	1 – 3
Volatile Content	BS2782 Pt.4 Method 454A	%	< 0.5
Ash Content	BS2782 Pt.4 Method 454A	%	< 1.0
Charpy Impact Strength (Notched)	ISO 179 (on 5 samples) at RT	kJ/m ²	White 5 – 7 Natural 4 – 7
Thermal Conductivity	DIN 52612	W/mK	0.16
Coefficient of Thermal Expansion	DIN 53752	X 10 ⁻⁵	8
Vicat B	ISO 306	°C	HT100 104 HT125 106 HT200 109 HT250 113 HT400 121 HT500 127

Information contained in this data-sheet is given in good faith and to the best of the knowledge and belief of Synbra Technology bv is accurate. The properties of plastics set out herein are typical values and do not constitute a specification. It is at all times the responsibility of the customer to ensure that materials supplied by Synbra Technology bv are suitable for the purpose for which they are intended. Synbra Technology bv accepts no liability whatsoever arising out of the use of the information herein contained or the use, application, adaptation or processing of the products herein described.

HT POLYSTYRENE

SAFETY DATASHEET HT POLYSTYRENE

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product name	High Temperature Polystyrene
Product code	HTPS (HT 100; HT 125; HT 200; HT 250; HT 400; HT 500; HT 600; HT 700; HT 800; HT 900; HT 1000)
Product type	Polymer
Supplier	Synbra Technology bv Postbus 37 4870 AA ETTEN-LEUR The Netherlands Phone +31 (168) 373 373 Fax +31 (168) 373 363

2 COMPOSITION/INFORMATION ON INGREDIENTS

Preparation description	Polystyrene, blended with Polyphenylene oxide This product consists primarily of high molecular weight polymers which are not expected to be hazardous. The ingredients in this product are present within the polymer matrix and are not expected to be hazardous
Common name	High Temperature polystyrene
Synonyms	HTPS, PS-PPO®
Other information	CAS number for polymer component: 9003-53-6 / 25134-01-4

3 HAZARDS IDENTIFICATION

Human health hazards	Molten product adheres to skin and causes burns.
Safety hazards	Danger of dust explosion, when ground to a small particle size.
Environmental hazards	No specific hazards.

4 FIRST AID MEASURES

First Aid – Inhalation	No specific measures.
First Aid – Skin	Molten material on the skin should be cooled rapidly with cold water, but not pulled off.
First Aid – Eye	Flush eye with water. If persistent irritation occurs, obtain medical attention.
First Aid – Ingestion	No specific measures.

5 FIRE FIGHTING MEASURES

Specific hazards	Not classified as flammable but will burn. Carbon monoxide may be evolved if incomplete combustion occurs.
Extinguishing media	Foam, water spray of fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Water in a jet.
Protective equipment	Full protective clothing and self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid standing on spilled product as loose beads cause a slip hazard. Do not breath dust.
Personal protection	Wear protective clothing specified for normal operations (See section 8)
Environmental precautions	No specific measures
Clean-up methods – small spillage	Shovel up and place in a labeled, sealable container for subsequent safe disposal.
Clean-up methods – large spillage	Transfer to a labeled, sealable container for product recovery or safe disposal.

7 HANDLING AND STORAGE

Handling	Avoid contact with heated or molten product. Do not breath dust. Do not breath fumes or vapors from heated product. Use local exhaust extraction over processing area. Avoid generation or accumulation of dusts. Take precautionary measures against static discharges. Earth all equipment.
Handling temperatures	Ambient.
Storage	Keep away from direct sunlight and other sources of heat or ignition.
Storage temperatures	Ambient.
Product transfer	Take precautionary measures against static discharge. Earth all equipment.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure standards	None established.
DUST, RESPIRABLE DUST	
TLV/MAC	
Dust (inhalable)	TWA (8 h) = 10 mg/m ³
Dust (respirable)	TWA (8 h) = 5 mg/m ³
STYRENE	
TLV/MAC	
	TWA (8 h) = 25 ppm
	TWA (8 h) = 105 mg/m ³
Respiratory protection	Not normally required.
If risk of inhalation wear	general purpose respirator (disposable) NPF 7-10
Hand protection	Not normally required.
Eye protection	Safety spectacles.
Body protection	Standard issue work clothes, safety shoes or boots. (Chemical resistant)

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Colour	white, black
Odeur	Odorless
Form	Small spherical or cylindrical beads
Softening point	94-150 °C
Flash point	>350 °C
Auto-ignition temperature	490 °C
Density	1060 kg/m ³ at 20 °C beads ISO 1183
Bulk density (for solids)	ca. 680 kg/m ³ at 20 °C
Solubility in water	Insoluble.
N-octanol/water partition coefficient (log Pow)	Not applicable.
Other information	The above properties are typical values only and do not constitute a specification.

10 STABILITY/REACTIVITY

Stability	Stable
Conditions to avoid	None known.
Materials to avoid	Strong oxidizing agents
Hazardous decomposition products	None known

11 TOXICOLOGICAL INFORMATION

Basis for assessment	Information given is based on a knowledge of the components and the toxicology of similar products.
Acute toxicity Oral	Expected to be of low toxicity, LD 50 > 2000 mg/kg.
Acute toxicity Dermal	Expected to be of low toxicity, LD 50 > 2000 mg/kg.
Acute toxicity Inhalation	Data not available.
Skin irritation	Not expected to be irritating.
Eye irritation	Not expected to be irritating.
Skin sensitisation	Not expected to be a skin sensitizer.
Mutagenicity	Not mutagenic.
Human effects	See Section 4 for information regarding acute effects to humans.

12 ECOLOGICAL INFORMATION

Basis for assessment	Eco toxicological data have not been determined specifically for this product. The information given is based on a knowledge of the components and the eco toxicology of similar products.
Mobility	Sinks in water. Remains on surface of soil.
Persistence/degradability	Expected to be not inherently biodegradable. Integrated environmental half-life expected to be > = 100 days.
Bioaccumulation	Not expected to bio-accumulate significantly. MW>700
Sewage treatment	Data not available.
Other information	Product is expected to be non-toxic, but small particles may have physical effects on aquatic and terrestrial organisms.

13 DISPOSAL CONSIDERATIONS

Product disposal	Recover or recycle if possible. Otherwise: Incineration. Licensed landfill.
Local legislation	The recommendations given are considered appropriate for safe disposal. However, local regulations may be more stringent and the must be complied with.

14 TRANSPORT INFORMATION

Other information	Not dangerous for conveyance under UN, IMO, ADR/RID and IATA/ICAO codes.
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15 REGULATORY INFORMATION

EC classification	Not classified as dangerous under EC Criteria.
EINECS/ELINCS (EC)	Polymer exempt.
MITI (Japan)	listed
TSCA (USA)	listed

16 OTHER INFORMATION

Uses and restrictions	Used for extrusion made sheets for thermoformed food packaging and non-food steam sterilisable injection moulding.
SDS distribution	The information in this document should be made available to all who may handle the product.

This information is based on the current knowledge of Synbra Technology bv and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.