

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878

Date of compilation (version no.): 2017/06/01 (1)

Revision (revision no.): 2025/10/16 (5)

Previous editions and revisions of this document have lost their validity

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKIN

1.1. Product identifier

Product name: Polystyrene
Trade name: SYNTHOS PS GP grades: 525, 585A, 585X, 137, 152, 154, 171, 172, 174, 174H
SYNTHOS PS MG grades 130M, 170M, 171M
CAS no. 9003-53-6 - polystyrene
EC no. Polymer exempt
REACH registration number: Polymer exempt

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

Identified uses

According to the used type, for example for manufacture of packaging for food industry (for low -fat foodstuff) health and home utensils, drawing templates, thermally shaped packaging, panels for shower cabinets, expanded insulation boards, ect.

Uses advised against

None.

1.3. Details of the supplier of the safety data sheet

Synthos S.A.
ul. Chemików 1
32-600 Oswiecim
Poland
Tel. + 48 33 844 18 21...25
Fax + 48 33 842 42 18
reachSD@synthosgroup.com

Production plants :

- Synthos Dwory 7 spółka z ograniczoną odpowiedzialnością, ul. Chemików 1, Oświęcim, Poland
- Synthos Kralupy a.s., 278 01 Kralupy nad Vltavou, Czechy, O. Wichterleho 810, Czech Republic
- Synthos Breda B.V. Lijndonk 25, 4825BC Breda, The Netherlands

1.4. Emergency telephone number

Poland: 48 33 847 22 23 (available 24/7)
Czech Republic: +420 315 727 085, +420 315 713 041
The Netherlands: +44 1865 407333

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification of the mixture in accordance with Regulation (EC) No 1272/2008

This product is not classified as dangerous.

2.2. Label elements

In accordance with EU and national laws labelling of the product is not required.

2.3. Other hazards

The product contains no substances that meet the criteria for PBT or vPvB in accordance with Annex XIII.

The product does not contain components that are included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight.

Synthos S.A.

ul. Chemików 1, 32-600 Oświęcim, tel. +48 33 844 18 21...25, fax +48 33 842 42 18.
www.synthosgroup.com

synthos

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878
Version no. (revision no): 1 (5)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

The content of polystyrene - Synthetic Polymer Microparticles (SPM): 100 %

The product is a polymer with CN code 39 03 19 00 – polystyrene

The product contains no dangerous components which listing in this section is required in accordance with the Annex II to REACH Regulation.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

4.1.1. Inhalation

In normal conditions of use and storage the product creates no danger via inhalation exposure. In case inhalation of vapours released by/from the melted product causes nausea go out to fresh air. Rinse throat with water. Consult a physician in case symptoms persist.

4.1.2. Skin contact

Wash skin with plenty of water and soap. In case of contact of melted product with skin, immediately cool down the melted plastic and surrounding skin with plenty of water. Do not attempt to remove adhered product from skin or clothing. Apply sterile dressing. Immediately call medical help.

4.1.3. Eye contact

Thoroughly rinse eyes with plenty of water for at least 15 minutes while lifting the eyelids. In case of contact of melted product with eyes, immediately cool down the melted plastic and continue rinsing eyes for at least 15 minutes. Check for and remove (if any and if possible) contact lenses (unless they adhered to eyes). Provide medical help.

4.1.4. Ingestion/swallow

Consult a physician

4.2. Most important symptoms and effects, both acute and delayed

Upon direct contact with the product susceptible persons may suffer from skin/eye irritations.

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Suitable extinguishing media

Extinguishing powders, carbon dioxide, foam, water spray.

5.1.2. Unsuitable extinguishing media

Water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazard is created by the polystyrene dusts, which once ignited may begin to burn or explode. Lower explosive limit for polystyrene dust is ca. 20 g/m³. Polystyrene dusts ignition or explosion may be delayed, for instance due to initially unnoticed smouldering of polystyrene dusts accumulated on hot surfaces of pipelines, lamps, extrusion machines etc.

During the fire of the product release of toxic and dense vapours and fumes containing carbon dioxide, carbon monoxide, styrene, benzene and other hydrocarbons, may take place.

Warning, spilled product creates risk of slide and fall.

Upon heating the product first softens, then melts and dribbles.

Extinguished product should be soaked thoroughly with water to cool it down and prevent re-ignition.



Synthos S.A.

ul. Chemików 1, 32-600 Oświęcim, tel. +48 33 844 18 21...25, fax +48 33 842 42 18.

www.synthosgroup.com

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878
Version no. (revision no): 1 (5)

5.3. Advice for firefighters

Evacuate personnel from the endangered area immediately.

Fire-fighters should wear full bunker gear and SCBA approved by relevant authorities.

Extinguished rubber should be soaked thoroughly with water to cool it down and prevent re-ignition.

Other information

Dispose of fire debris and contaminated extinguishing water in accordance with regulations in force. Collect contaminated extinguishing water separately, do not allow it to reach sewage or effluent systems.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Avoid contact with the product. Scattered product crates the danger of slide and/or fall. Follow advice and instructions of emergency responders.

6.1.2. For emergency responders

Wear work clothing. Avoid contact with the product. If necessary use personal protective equipment. Avoid breathing dust. Scattered product crates the danger of slide and/or fall.

6.2. Environmental precautions

None.

6.3. Methods and material for containment and cleaning up

6.3.1. Methods and material for containment

None.

6.3.2. Methods and material for cleaning up

Collect the product to a labelled container. Use gloves, broom and a shovel or a vacuum cleaner. Use or dispose of in accordance with regulations in force.

6.4. Reference to other sections

Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

The product is intended for industrial use only

The product is not intended for sale to or use by consumers.

Do not discharge directly into drains, air, soil, or the aquatic environment

Observe basic regulations of safety and hygiene at the workplace as well as operating instructions and fire-fighting safety.

When using do not eat or drink.

Wear suitable working clothing. If necessary use personal protection equipment.

Prevent dust formation and accumulation.

Scattered product poses risk of slide and fall. Keep workplace clean.

During processing of the product small amounts of decomposition product may be released, use proper ventilation at the workplace.

During pouring and in pneumatic conveying systems static electricity may accumulate – pipelines, reservoirs etc. have to be protected against this phenomenon.

7.2. Conditions for safe storage, including any incompatibilities

The storage area should be secured to prevent any unintentional release of the product into the environment.

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878
Version no. (revision no): 1 (5)

The granulate is stored in PE bags or in octabins with PE lining or in stainless steel tanks, observe fire prevention measures.

Protect against moisture, light and weather.

Keep away from sources of heat and fire.

Amount storage limits are not determined.

7.3. Specific end use(s)

Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limits

Substance	CAS No.	Workplace exposure limit (EH40-United Kingdom)				Comments
		Long-term exposure limit (8-hour TWA reference period)		Short-term exposure limit (15-minute reference period)		
		ppm	mg/m³	ppm	mg/m³	
styrene	100-42-5	100	430	250	1080	-

The product contains very low level of residual monomer (styrene) that may be evolved during thermal processing, along with possible decomposition products. As the identify 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.

8.1.2. DN(M)EL levels

8.1.2.1. DN(M)EL levels – workers

N/A

8.1.2.2. DN(M)EL levels – general population

N/A

8.1.3. PNEC levels

N/A

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide ventilation of the workplace.

8.2.2. Individual protection measures, such as personal protective equipment

8.2.2.1. Eye/face protection

Workers performing activities for which exposure to particles that are capable of causing mechanical injury to the eye have to wear protective goggles.

8.2.2.2. Skin protection

Hand protection

Not required.

Other

Wear work clothing and shoes.

8.2.2.3. Respiratory protection

Not necessary in ventilated areas.

8.2.2.4. Thermal hazards

The product creates no thermal hazards.

8.2.3. Environmental exposure controls

The product is not dangerous for the environment and water.

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878
Version no. (revision no): 1 (5)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a) Physical state	SYNTHOS PS GP - Solid, granulate, SYNTHOS PS MG- small spherical beads
b) Colour	colourless
c) Odour	odourless
d) Melting point/freezing point	not applicable
e) Boiling point or initial boiling point and boiling range	not applicable – decomposes
f) Flammability	data not available
g) Lower and upper explosion limit	lower explosive limit of polystyrene dusts ca. 20 g/m ³
h) Flash point	data not available
i) Auto-ignition temperature	data not available
j) Decomposition temperature	ca. 220°C 250 ÷ 280°C range at which product may decompose at noticeable rate > 300°C intensive decomposition of the product is observed
k) pH	not applicable
l) Kinematic viscosity	not applicable
m) Solubility	insoluble in water soluble in most organic solvent: esters, aromatic hydrocarbons, chlorinated hydrocarbons, ketones and eters
n) Partition coefficient n-octanol/water (log value)	not applicable
o) Vapour pressure	not applicable
p) Density and/or relative density	1,04 – 1,06 g/cm ³ @ 20°C
q) Relative vapour density	not applicable
r) Particle characteristics	granulate (<5mm)
9.2. Other information	
s) Heat of combustion	ca. 45 MJ/kg
t) Polymerization heat	not applicable
u) Bulk density	600 ÷ 700 kg/m ³ @ 20°C
w) Softening point	depends on type, grade and heating rate ca. 90°C softens (becomes elastic) ca. 130°C flows (becomes plastic)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

See Section 10.3 of this Safety Data Sheet.

10.2. Chemical stability

The product is stable under given herein conditions of use and storage.

10.3. Possibility of hazardous reactions

Occurrence of hazardous reactions is unlikely.

10.4. Conditions to avoid

High temperature, direct sunlight.

10.5. Incompatible materials

Organic solvents. Strong oxidizers.



Synthos S.A.

ul. Chemików 1, 32-600 Oświęcim, tel. +48 33 844 18 21...25, fax +48 33 842 42 18.

www.synthosgroup.com

synthos

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878
Version no. (revision no): 1 (5)

10.6. Hazardous decomposition products

Thermal decomposition of the product starts at ca. 220°C and is accompanied by formation and subsequent release of styrene, aromatic hydrocarbons and their derivatives.

SECTION 11: TOXICOLOGICAL INFORMATION

No data on toxicological properties of the product as such is available. Hazards which the product creates to the human health and life have been assessed in accordance with rules applicable for mixtures (see also Section 2 of this Safety Data Sheet).

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

Skin corrosion/irritation

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

Serious eye damage/irritation

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

Respiratory or skin sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

Dermal, inhalation.

Symptoms related to the physical, chemical and toxicological characteristics

Data not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Data not available.

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

The product does not contain components that are included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight

SECTION 12: ECOLOGICAL INFORMATION

No data on ecotoxicological properties of the product as such is available. Hazards which the product creates to the environment have been assessed in accordance with rules applicable for mixtures (see also Section 2 of this Safety Data Sheet).

12.1. Toxicity

The product is not classified as dangerous to the environment.

Synthos S.A.

ul. Chemików 1, 32-600 Oświęcim, tel. +48 33 844 18 21...25, fax +48 33 842 42 18.

www.synthosgroup.com

synthos

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878
Version no. (revision no): 1 (5)

12.2. Persistence and degradability

The main component of the product (polymer) does not undergo biodegradation, oxidation or hydrolysis at noticeable rate.

12.3. Bioaccumulative potential

Based on chemical structure it is expected that the main component of the product (polymer) will not undergo bioaccumulation.

12.4. Mobility in soil

Data not available

12.5. Results of PBT and vPvB assessment

The product contains no substances which have been identified as PBT/vPvB.

12.6. Endocrine disrupting properties

The product does not contain components that are included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight

12.7. Other adverse effects

Data not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Do not discharge directly into drains, air, soil, or the aquatic environment

The product waste will be primarily handed over to secondary use. The waste which cannot be handed over to secondary use will be disposed of (through biological, physical or chemical processes; or, optionally, through storing). Only the waste that cannot be disposed of in another way, either for technological, environmental or economic reasons, will be stored.

Waste secondary use and disposal will be carried out only on a specified place in facilities meeting relevant requirements according to valid regulations.

Waste code: starting product: 07 02 13 - O

The packaging is not contaminated - may be re-used.

SECTION 14: TRANSPORT INFORMATION

Transport and packaging of the product are not subject to regulations on transport of hazardous goods (ADR, RID, IATA DGR, IMDG).

Transport the product using covered means of transport.

14.1. UN number or ID number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

Synthos S.A.

ul. Chemików 1, 32-600 Oświęcim, tel. +48 33 844 18 21...25, fax +48 33 842 42 18.

www.synthosgroup.com

The logo for Synthos S.A. features the word "synthos" in a lowercase, blue, sans-serif font. A green leaf-like graphic element is positioned to the right of the letter 'o'.

SYNTHOS PS

General Purpose Polystyrene

Safety Data Sheet

According to Regulation (EC) 1907/2006 (REACH)
and Regulation (EU) 2020/878
Version no. (revision no): 1 (5)

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

The synthetic polymer microparticles supplied is subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council

- REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (including any amendments/adaptations to technical progress).
- REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (including any amendments/adaptations to technical progress).
- DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives (including any amendments/adaptations to technical progress).

15.2. Chemical safety assessment

The supplier has not carried out chemical safety assessment for the mixture. In accordance with provisions of REACH regulation carrying out of chemical safety assessment for this product is not required.

SECTION 16: OTHER INFORMATION

16.1. Revised sections

3.2, 7, 13.1, 15.1

16.2. List of relevant hazard statements and/or precautionary statements given under Sections 2 to 15 and (if applicable) full text of any statements which are not written out in full under the aforementioned Sections

vPvB	Very persistent and very bioaccumulative (substance)
PBT	Persistent, bioaccumulative and toxic (substance)
DN(M)EL	Derived No (Minimal) Effect Levels
NOAEL	No Observed Adverse Effect Level
LD50	Lethal Dose 50%, dose required to kill half the members of a tested population after a specified test duration
EC50	Half maximal effective concentration, concentration which induces a response halfway between the baseline and maximum after some specified exposure time
NOEC	No Observed Effect Concentration
RID	The International Rule for Transport of Dangerous Substances by Railway
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road

This document is of an informative character. The information given herein is based on the present state of our knowledge and experience. It makes neither product properties nor qualitative parameters guarantee and cannot be used as a basis of any claims. The information provided is not applicable for any mixtures of the product with any other materials. The product has to be transported, stored and used in accordance with regulations in force, good occupational hygiene practice and recommendations given its Safety Data Sheet.