

## SIBUR-KHIMPROM JSC

### SAFETY DATA SHEET

According to Regulations (EC) 1907/2006 (REACH), (EC) 1272/2008 (CLP) & (EU) 2015/830

#### ALPHAPOR<sup>®</sup>

#### EXPANDABLE POLYSTYRENE (EPS)

#### GRADES:

EPS SE 91, 201, 301, 401, 501, 502, 601, 701, MIX

Version: 1.2

Created: 15/04/2019

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND COMPANY/UNDERTAKING

#### 1.1. Product identifier

NAME OF SUBSTANCE:	Expandable polystyrene (EPS)
SYNONYMS:	polyvinylbenzene, polystyrene, polyphenylethylene
TRADE NAMES:	ALPHAPOR (GRADES EPS SE)
PRODUCT IDENTIFICATION NUMBER(S) :	GRADES EPS SE 91, 201, 301, 401, 501, 502, 601, 701, MIX
Registration # for styrene (CAS # 100-42-5; EC # 202-851-5)	01-2119457861-32-0016
<i>Index No(CLP): 601-026-00-0</i>	
Registration # for pentane (CAS #109-66-0; EC #203-692-4)	01-2119459286-30-0010
<i>Index No(CLP): 601-006-00-1</i>	

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

##### 1.2.1. Identified use(s)

Identified use(s): Used primarily for the manufacture of foamed thermal insulation and packaging.

##### 1.2.2. Uses advised against

Uses advised against: Uses other than those given in section 1.2.1 are not recommended unless an assessment is completed, prior to commencement of that use, which demonstrates that the use will be controlled.

#### 1.3. Details of the supplier of the safety data sheet

##### Manufacturer

Company name:	Sibur-Khimprom JSC
Address:	98, Promishlennaya str., Perm, Perm region, 614055, Russian Federation
Phone:	+7 3422 90-89-01 (Moscow, 7.00 to 15.00) - Chief Engineer
Fax:	+7 3422 90-86-60
Email Address:	mail-shp@sibur.ru
Emergency phone:	+7 3422 90-87-05 (round the clock)

#### 1.4. Emergency telephone number

112 (Please note that emergency numbers may vary depending upon the country of delivery though 112 remains valid as universal number)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

##### 2.1.1. Classification according to Regulation (EC) No 1272/2008 (CLP)

###### Physical/Chemical Hazards

EUH018: In use, may form flammable/explosive vapour-air mixture

###### Health Hazards

Not classified.

###### Environmental hazards

Not classified.

#### 2.2. Label elements

##### 2.2.1. Labelling according to Regulation (EC) No 1272/2008 (CLP)

**Signal word: none.**

###### **Hazard pictogram**

None.

#### 2.3. Precautionary statements

P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.

P233: Keep container tightly closed.

P243: Take precautionary measures against static discharge.

P403 + P235: Store in a well-ventilated place. Keep cool.

#### 2.4. Other hazards

The product releases pentane, a flammable hydrocarbon (a volatile organic compound VOC). Combustible solid.

In the course of expandable polystyrene processing the emission of volatile products of thermal-oxidative degradation is possible (see section 10).

Dust may form explosive mixes with air. Product may be charged electrostatically.

Releases pentane may cause irritation to skin and eyes.

Dust may irritate respiratory system, eye irritation.

Releases pentane is harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

According to CLP Regulation the product is a mixture of polymer (expandable polystyrene CAS#9003-53-6) and additives: pentane isomers as blowing agent and a brominated flame retardant. HBCD free.

Name	EC#	CAS#	Content, %	Classification EC/1272/2008 (CLP)
Polystyrene <i>Index No(CLP): None</i>	500-008-9	9003-53-6	≤ 92.0	None
pentane <i>Index No(CLP): 601-006-00-1</i>	203-692-4	109-66-0	≤ 7.0	H224; H225; H304; H336; H411
styrene (monomer) <i>Index No(CLP): 601-026-00-0</i>	202-851-5	100-42-5	< 0.09	H226; H332; H315; H319; H304; H335; H372; H361d Component does not affect the classification of the product (the concentration is below a threshold)

The product does not contain other impurities or additives that could affect product's labelling and classification according to Regulation (EC) No 1272/2008 (CLP) in the concentration ranges specified.

## SECTION 4: FIRSTAID MEASURES

### 4.1. Description of first aid measures

**General information:** Spontaneous penetration of granulated polystyrene into human organism is impossible. The product releases pentane, a flammable hydrocarbon.

**Following inhalation:** Move any exposed person to fresh air at once. Keep warm and at rest. If there is respiratory distress give oxygen. If respiration stops or shows signs of failing, apply artificial respiration. Get medical attention.

**Following skin contact:** No hazard in normal use of product. If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical attention immediately.

**Following eye contact:** Rinse the eye immediately with plenty of water (low pressure) for at least 15 minutes. Remove contact lenses. Get medical attention.

**Following ingestion:** If swallowed, seek medical attention.

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

Headache, incoordination. Eye irritation, skin irritation.

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

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

**Suitable extinguishing media:** Water fog or fine spray, dry chemical fire extinguishers, carbon dioxide fire extinguishers, foam.

**Unsuitable extinguishing media:** Do not use water jets.

### 5.2. Special hazards arising from the substance or mixture

May be combustible at high temperature.

Combustion products: Carbon oxides (CO and CO<sub>2</sub>), styrene, pentane.

### 5.3. Advice for firefighters

Wear full protective clothing and MSHA/NIOSH-approved self-contained breathing apparatus (SCBA).

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Take precautionary measures against static discharges.

Ensure adequate ventilation.

Avoid dust generation. Avoid inhalation of dusts.

Spilled material may cause a slipping hazard.

In case of insufficient ventilation, wear suitable respiratory equipment.

### 6.2. Environmental precautions

Do not allow penetration of the product into water reservoirs, surface and ground water, sewer ducts and soil. Preventing disposal into water reservoirs of contaminated water without treatment.

Monitor content of hazardous substances in the air.

Provide sealing of process equipment.

### 6.3. Methods and materials for containment and cleaning up

Collect in suitable and properly labelled containers. Minimize generation of dust during clean-up.

Transfer to a container for disposal or recovery.  
 Provide ventilation. All equipment must be grounded.

#### 6.4. Reference to other sections

See Section 8.

### SECTION 7: HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition.

Provide input-extract and local ventilation of work zones to ensure that the occupational exposure limit is not exceeded. In case of insufficient ventilation, wear suitable respiratory equipment (See Section: 8).

Regularly control work zone air.

Take precautionary measures against static discharges. Provide thorough sealing and grounding of process equipment. Due to electrostatic properties of the material, grounding of silos and grounding of pneumatic transport equipment are obligatory.

Dust can be ignited by static discharge. Pneumatic conveying and other mechanical handling operations can generate combustible dust. Do not permit dust to accumulate to reduce the potential for dust explosions.

Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation.

Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin.

Do not ingest or inhale combustion or decomposition products.

Workers should be protected from the possibility of contact with molten product.

Avoid contact with heat and ignition sources and oxidising agents.

Warning: spilled granules will cause slipping and fall.

Do not eat, drink or smoke at the work place.

#### 7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with good manufacturing practices.

Keep away from heat, sparks and flame. Protect from direct sunlight.

Store in a dry, well-ventilated area at temperature not exceeding 25 °C.

Keep away from sources of ignition - No smoking.

#### 7.3. Specific end use(s)

Please check the identified uses given in Section 1.2 of this safety data sheet.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control parameters

##### 8.1.1. Occupational Exposure Limits

For polystyrene (CAS# 9003-53-6): not established.

For pentane (CAS# 109-66-0):

	LTEL 8 hr TWA ppm	LTEL 8 hr TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Note
Austria	600	1800	1200	3600	
Belgium	600	1800	750	2250	
European Union	1000	3000			Occupational Exposure Limit Values
Germany (AGS)	1000	3000	2000 (1)	6000 (1)	(1) 15 minutes average value
Germany (DFG)	1000	3000	2000	6000	STV 15 minutes average value
Italy	2000	667			
Spain	1000	3000			

	LTEL 8 hr TWA ppm	LTEL 8 hr TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Note
Sweden	600	1800	750	2000	

For styrene (CAS# 100-42-5):

	LTEL 8 hr TWA ppm	LTEL 8 hr TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Note
Austria	20	85	80	340	
Belgium	50	216	100	432	
Finland	20	86	100 (1)	430 (1)	(1) 15 minutes average value
France	23.3	100	46.6 (1)	200 (1)	Restrictive statutory limit values (1) 15 minutes average value
Germany (AGS)	20	86	40 (1)	172 (1)	(1) 15 minutes average value
Germany (DFG)	20	86	40 (1)	172 (1)	(1) 15 minutes average value
Hungary		50		50	
Sweden	10	43	20 (1)	86 (1)	(1) 15 minutes average value
United Kingdom	100	430	250	1080	

GESTIS International Limit values: <http://limitvalue.ifa.dguv.de>

### 8.1.2. DNEL/ PNEC values

DN(M)ELs for workers have not been derived.

DN(M)ELs for the general population have not been derived.

DNEL and PNECs for freshwater, saltwater, sediment and soil have not been derived.

### 8.2. Exposure controls

#### 8.2.1. Technical safety measures

Provide adequate forced-air and exhaust ventilation in work zones to ensure that the occupational exposure limit is not exceeded.

Compulsory monitoring of air conditions in work areas.

Sealing and grounding of equipment and communications.

Usage of intrinsically safe equipment.

#### 8.2.2. Personal protection equipment

Use of personal protective equipment must be consistent with good occupational hygiene practices.

**Eye/face protection:** Wear goggles giving complete protection to eyes (BS EN 166).

**Skin protection (hand and body):** Wear approved protective gloves (Nitrile rubber. BS EN 374)

If contact with hot product is anticipated, gloves should be heat-resistant and thermally insulated.

Wear insulating gloves BS EN407 (heat).

Wear apron or other protective clothing and antistatic boots.

**Respiratory Protection:** Not required (if used workplace conditions). An approved dust mask should be worn if dust is generated during handling.

In emergency or in case of increase of hazardous substances concentration at the workplace wear positive pressure MSHA/NIOSH-approved self-contained breathing apparatus (BS EN 14387:2004).

#### 8.2.3. Environmental Exposure Controls

None specific.

Do not allow penetration of the product into water reservoirs, surface and ground water, sewer ducts and soil.

Preventing disposal into water reservoirs of contaminated water without treatment.

Monitor content of hazardous substances in the air. Content of dust in the air should be monitored.

Provide sealing of process equipment.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Property	Value
Physical state at 20 °C and 1013 hPa	solid, beads
Colour	white
Melting point / Freezing point	not established
Boiling point	not available
Density (beads) (kg/m <sup>3</sup> )	600 – 650
Vapour pressure	not available
Surface tension	not available
Water solubility	not soluble
Partition coefficient n-octanol/water	not available
Flash point (°C) (pentane)	70 - 109
Self-ignition temperature (°C)	435- 475
Oxidising properties	not available
Granulometry	not established
Stability in organic solvents and identity of relevant degradation products	Soluble in aromatic and chlorinated hydrocarbons, carbonylsulfide and ketones.
Dissociation constant	not available
Viscosity	not available

### 9.2. Other information

Not available.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated. Vapours may form explosive mixture with air.

At certain conditions (temperature, presence of catalyst and others) may be involved in reaction of oxidation, chlorination and formation nitro- and sulfonyl derivatives.

### 10.2. Chemical stability

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

### 10.3. Possibility of hazardous reactions

Formation of explosive gas/air mixtures.

### 10.4. Conditions to avoid

Heating above 70 °C.

Avoid all sources of ignition: heat, sparks, open flame. Avoid direct sunlight. Avoid electro-static discharge.

### 10.5. Incompatible materials

Strong oxidising agents.

### 10.6. Hazardous decomposition products

Pentane.

## SECTION 11: TOXICOLOGICAL INFORMATION

Property	Results
<b>Acute toxicity</b>	
Oral	LD50: >5000 mg/kg bw (rat, mouse)
Inhalation	Not classified. No data available.
Dermal	Not classified. No data available.



<b>Skin corrosion/irritation</b>	Not classified. No data available.
<b>Serious eye damage/irritation</b>	Not classified. No data available.
<b>Skin sensitisation</b>	Not classified. No data available.
<b>Respiratory sensitisation</b>	Not classified. No data available.
<b>Germ cell mutagenicity</b>	
In vitro data	Not classified. No data available.
In vivo data	Not classified. No data available.
<b>Carcinogenicity</b>	
Oral	Not classified. No data available.
Inhalation	Not classified. No data available.
Dermal	Not classified. No data available.
<b>Reproductive toxicity</b>	Not classified. No data available.
<b>STOT - single exposure</b>	Not classified. No data available.
<b>STOT - repeated exposure</b>	Not classified. No data available.
<b>Aspiration hazard</b>	Not classified. No data available.
<b>Other effects</b>	none

## SECTION 12: ECOLOGICAL INFORMATION

Property	Value	Remarks
<b>TOXICITY</b>		
<b>Fish</b>		
Short-term toxicity	Not classified. No data available.	
Long-term toxicity	Not classified. No data available.	
<b>Aquatic invertebrates</b>		
Short-term toxicity	Not classified. No data available.	
Long-term toxicity	Not classified. No data available.	
<b>Algae and aquatic plants</b>		
	Not classified. No data available.	
<b>Sediment organisms</b>		
<b>Toxicity to soil macro-organisms</b>	Not classified. No data available.	
<b>Toxicity to soil micro-organisms</b>	Not classified. No data available.	
<b>Toxicity to terrestrial plants</b>	Not classified. No data available.	
<b>Toxicity to birds</b>	Not classified. No data available.	
<b>PERSISTENCE AND DEGRADABILITY</b>		
<b>Abiotic degradation</b>		
Hydrolysis	Not classified. No data available.	
Phototransformation/ photolysis in air	Not classified. No data available.	
Phototransformation in water	Not classified. No data available.	
Phototransformation in soil	Not classified. No data available.	
<b>Biodegradation</b>		
Biodegradation in water	Not classified. No data available.	
Biodegradation in soil	Not classified. No data available.	

Property	Value	Remarks
<b>BIOACCUMULATIVE POTENTIAL</b>		
Aquatic bioaccumulation	Not classified. No data available.	
<b>MOBILITY IN SOIL</b>		
Adsorption/desorption	Not classified. No data available.	
Volatilization	Not classified. No data available.	
<b>RESULT OF PBT AND vPvB ASSESSMENT</b>	Not classified as PBT or vPvB.	
<b>OTHER ADVERSE EFFECTS</b>	No information available.	

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Unused, old beads may still contain residual pentane. Therefore product has to be treated using all the safety measures in place for the fresh material.

Disposal is via incineration operated by an accredited disposal contractor.

Dispose of contents in a useful bundle in accordance with local, state or national legislation.

### 13.2. Additional Information

None.

## SECTION 14: TRANSPORT INFORMATION

### 14.1. UN number

UN2211

### 14.2. UN proper shipping name

POLYMERIC BEADS, EXPANDABLE

### 14.3. Transport hazard class(es)

9 (IMDG)

### 14.4. Packaging group

III

### 14.5. Environmental hazards

None.

### 14.6. Special precautions for user

Can release flammable vapours. No smoking. Ventilate freight container with open door for one hour before unloading.

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not evaluated.

## SECTION 15: REGULATORY INFORMATION

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

Directive 94/62/EC on packaging and packaging waste

### 15.2. Chemical Safety Assessment

Chemical Safety assessment not required.

## SECTION 16: OTHER INFORMATION

### 16.1. Indication of changes

VERSION	Date of change	Section	Description of changes
Version: 1.0	20/04/2017	All	Initial SDS.
Version: 1.1	12/12/2018	Title, 1	List of grades was updated.



VERSION	Date of change	Section	Description of changes
Version: 1.2	15/04/2019	3	Composition information was updated.

### 16.2. Abbreviations and acronyms

AGS	The German Committee on Hazardous Substances (Ausschuss für Gefahrstoffe – AGS)
DFG	Germany Research Foundation
DNEL	Derived No Effect Level
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
LC50	Lethal Concentration to 50 % of a test population
MSHA	Mine Safety and Health Administration
NIOSH	National Institute of Occupational Safety and Health
PNEC	Predicted No Effect Concentration
PBT	Persistent, bioaccumulative, toxic chemical
vPvB	Very Persistent, Very Bioaccumulative
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity

### 16.3. Key literature references and sources

None.

#### EU DIRECTIVES

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 1272/2008 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.

COMMISSION REGULATION (EU) no 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.

DIRECTIVE 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances.

COMMISSION DECISION of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes (notified under document number (2001/118/EC).

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