

Sunpor Lambdapor®

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

1.1 Product identifier

Trade name Sunpor Lambdapor®
[2.2733-1]

CAS No. None assigned.

EINECS No. None assigned.

REACH Registration No. None assigned.

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

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

Uses advised against None known.

1.3 Details of the supplier of the Safety Data Sheet

SUNPOR Kunststoff GmbH
 Tiroler Straße 14
 3105 St. Pölten
 Austria / Österreich

Telephone ++ 43 2742 291 0
 Fax ++ 43 2742 291 40
 eMail office@sunpor.at

1.4 Emergency telephone number

24 h Emergency Contact Services
 National Chemical Emergency Centre (NCEC): Sunpor Kunststoff GmbH – NCEC29003
Europe: +44 1865 407 333 (English)
Americas: +1 202 464 2554 (English)
Germany: +49 89 220 61012 (English, German)

United Kingdom: National Poisons Information Centre: None provided

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP) None assigned.

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

| | |
|---------------------------------------|--|
| Trade name | Sunpor Lambdapor® |
| Hazard Pictogram | None. |
| Signal word(s) | None. |
| Hazard statement(s) | None. |
| Precautionary statement(s) | None. |
| Self assessed precautionary statement | <p>P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking.</p> <p>P233: Keep container tightly closed.</p> <p>P243: Take precautionary measures against static discharge.</p> <p>P403 + P235: Store in a well-ventilated place. Keep cool.</p> |

2.3 Other hazards

May cause some eye irritation which should cease after removal of the product. May form flammable/explosive vapour-air mixture.

- The product contains constituents with hazardous properties in accordance with Section 3. The mixture assessment was reviewed following the update of the raw material classification. Available eluate data for the product do not show any acute effects on tested aquatic organisms within the solubility range; additional testing to substantiate the environmental assessment of the current product has been initiated.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

- Mixtures based on: polystyrene (CAS No. 9003-53-6), propellant, polymeric flame-proofing agent (CAS No. 1195978-93-8), Graphite

| Hazardous ingredient(s) | %W/W | CAS No. | EC No. | REACH Registration No. | EC Classification No. 1272/2008 |
|---|-------|-----------|-----------|------------------------|---|
| Pentane | < 5,5 | 109-66-0 | 203-692-4 | 01-2119459286-30 | Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 |
| 2-Methylbutane (isopentane) | < 1,5 | 78-78-4 | 201-142-8 | 01-2119475602-38 | Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 |
| 1,1'-(1,1,2,2-Tetramethylethylen)dibenzol | < 0,6 | 1889-67-7 | 217-568-5 | 01-2119971824-30 | Repr. 2, H361fd Skin Sens. 1B, H317 Aquatic Chronic 1 (M=100), H413 |

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

| | |
|--------------|---|
| Inhalation | Remove persons affected by vapour to fresh air. If symptoms persist, obtain medical attention. |
| Skin Contact | Wash skin with soap and water. If symptoms persist, obtain medical attention. |
| Eye Contact | Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. If symptoms persist, obtain medical attention. |
| Ingestion | Unlikely to be hazardous if swallowed. IF SWALLOWED: Do not induce vomiting. Obtain medical attention immediately if ingested. |

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: Headache, Dizziness.
 Eyes and Skin Contact: Redness, Irritation.

4.3 Indication of immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Product is not classified as flammable, but will burn on contact with flame or exposure to high temperature (see Section 9).

5.1 Extinguishing Media

| | |
|--------------------------------|--|
| Suitable Extinguishing Media | Water spray, foam, dry powder or CO ₂ . |
| Unsuitable Extinguishing Media | Do not use water jet. |

5.2 Special hazards arising from the substance or mixture

This product may give rise to hazardous fumes in a fire. Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, styrene, aliphatic hydrocarbons and traces of hydrogen bromide can be produced.

Advice for fire-fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Chemical protection suit. Keep containers cool by spraying with water if exposed to fire. Flammable concentrations of pentane may accumulate on storage in closed containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Caution - spillages may be slippery.

Pentane can form explosive mixture with air. The pentane vapour is heavier than air; beware of pits and confined spaces. Remove or make safe all sources of ignition. Avoid friction, sparks, or other means of ignition. Take precautionary measures against static discharges. Use only non-sparking tools.

6.2 Environmental precautions

Prevent entry into drains.

6.3 Methods and material for containment and cleaning up

If safe to do so: Small spillages: Sweep up and shovel into waste drums or plastic bags. Transfer to a lidded container for disposal or recovery. Large spillages: Use vacuum equipment suitable for use in hazardous locations for collecting spilt materials, where practicable. Transfer to a lidded container for disposal or recovery.

6.4 Reference to other sections

See Also Section 8 and 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

Provide adequate ventilation, including appropriate local extraction. Do not breathe dust. Avoid generation of dust clouds. Should be kept away from naked flames and other sources of ignition. Extinguish any other fire. Remove or make safe all sources of ignition. Avoid friction, sparks, or other means of ignition. The electrical system should be spark-free. Do not eat, drink or smoke when using this product. Take precautionary measures against static discharges. Ensure adequate earthing. Avoid release to the environment. Permission must be obtained from the appropriate Local Authority before disposing of waste material.

Process Hazards

Take measures against electrostatic charging. To prevent the build-up of static electricity and the formation of an explosive pentane-air mixture, containers must be completely emptied during processing. High flow velocities in pipelines can increase electrostatic charging. All parts of the system should be electrically connected and grounded. The electrical continuity should be checked at regular intervals. Antistatic clothing and shoes must be worn.

| | |
|---|---|
| 7.2 Conditions for safe storage, including any incompatibilities | <p>Flammable concentrations of pentane may accumulate on storage in closed containers. Before unloading freight containers, keep doors open and ventilate for one hour. Keep container tightly closed, in a cool, well ventilated place. Keep away from direct sunlight and other sources of heat or ignition. Keep away from rain and moist conditions. Bulk: Keep under inert gas. Open top tanks should be covered with an open rigid grid. Take precautionary measures against static discharges. The electrical system should be spark-free. The product is usually supplied in fibreboard octabins.</p> |
| Specific design for storage rooms or vessels | <p>Storage rooms should be kept cool to reduce pentane release, and provided with a suitable ventilation system to prevent accumulation of pentane. In addition, safety devices to alert any build up of pentane/air explosive mixtures should be used. The electrical system should be spark-free.</p> |
| Storage Temperature | <p>Ambient.</p> |
| Incompatible materials | <p>Avoid storing or handling in conjunction with UN Class 1 explosives.</p> |
| Suitable containers | <p>Steel (drums).</p> |

7.3 Specific end use(s) Used primarily for the manufacture of foamed thermal insulation and packaging.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

United Kingdom:

109-66-0: pentane

TWA value 3,000 mg/m³ ; 1,000 ppm (OEL (EU))

indicative

TWA value 1,800 mg/m³ ; 600 ppm (WEL/EH 40 (UK))

78-78-4: isopentane; 2-methylbutane

TWA value 3,000 mg/m³ ; 1,000 ppm (OEL (EU))

indicative

TWA value 1,800 mg/m³ ; 600 ppm (WEL/EH 40 (UK))

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Use only in well-ventilated areas.

8.2.2 Personal protection equipment

Eye/face protection



Safety spectacles.

Skin protection (Hand protection/
Other)

Wear suitable gloves. Recommended: Impervious gloves (EN 374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Wear suitable protective clothing. Antistatic safety shoes or antistatic boots.

Respiratory protection



An approved dust mask should be worn if dust is generated during handling.

Thermal hazards

Not applicable.

8.2.3 Environmental Exposure Controls

European Community and local provisions on Volatile Organic Substances (VOC), are to be fulfilled when they are applicable to the EPS industry.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

These properties are the most relevant.

9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Form | Solid, Small spherical beads. |
| Colour | White or colored |
| Odour | Perceptible odour. |
| Odour Threshold (ppm) | Not established. |
| pH (Value) | Not applicable. |
| Melting Point | Not available. |
| Boiling Point | Not available. |
| Flash Point | < -50 °C (Pentane) |
| Upper Explosive Limit (UEL) | 7.8 % (v/v) (Pentane) |
| Lower Explosive Limit (LEL) | 1.3 % (v/v) (Pentane) |
| Auto Ignition Temperature | 285 °C (Pentane) (ASTM E-659) |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | In use, may form flammable/explosive vapour-air mixture. |
| Vapour Pressure (mm Hg) | Not available. |
| Vapour Density (Air=1) | 2.5 (Pentane) |
| Density | 1020–1050 kg/m ³ @ 20 °C (beads) |
| Bulk Density | circa. 600 kg/m ³ @ 20 °C |
| Softening Point | 70-75 °C (beads expand with evolution of pentane) |
| Solubility (Water) | Insoluble. |
| Solubility (Other) | Soluble in aromatic hydrocarbons, halogenated solvents and ketones. |
| Partition Coefficient (n-Octanol/water) | Not available. |
| Decomposition Temperature | Not available. |
| Viscosity (mPa.s) | Not established. |
| Explosive properties | In use, may form flammable/explosive vapour-air mixture. |
| Oxidising properties | Not oxidising. |

9.2 Other information None.

SECTION 10: STABILITY AND REACTIVITY

| | |
|--|---|
| 10.1 Reactivity | Stable under normal conditions. |
| 10.2 Chemical stability | Stable under normal conditions. |
| 10.3 Possibility of hazardous reactions | In use, may form flammable/explosive vapour-air mixture. |
| 10.4 Conditions to avoid | Keep away from heat, sources of ignition and direct sunlight. |
| 10.5 Incompatible materials | Avoid storing or handling in conjunction with UN Class 1 explosives. |
| 10.6 Hazardous Decomposition Product(s) | Pentane, styrene monomer, carbon monoxide, hydrogen bromide. (in case of fire or during hot wire cutting). Release of pentane increases with temperature. (beads expand with evolution of pentane). |

SECTION 11: TOXICOLOGICAL INFORMATION

This assessment is based on information available on similar products.

11.1 Information on toxicological effects

11.1.1 Polymer

Acute toxicity

- Inhalation

The product can evolve pentane vapours, which at high concentrations may lead to dizziness, headache and anaesthetic effects.

- Ingestion

Unlikely to be hazardous if swallowed.

- Skin Contact

No data.

- Eye Contact

No data.

Irritation

May cause irritation to skin and eyes.

Corrosivity

No data.

Sensitisation

The product contains a component classified as skin sensitising (Skin Sens. 1B, H317).

Repeated dose toxicity

No data.

Carcinogenicity

No data.

Mutagenicity

No data.

Toxicity for reproduction

The product contains a component classified as reproductive toxicant Category 2 (H361fd).

11.2 Other information

None.

SECTION 12: ECOLOGICAL INFORMATION

- This environmental hazard assessment is based on information available on similar products.
- This product contains substances which are classified as dangerous for the environment. However recent studies on aquatic organisms have shown that EPS-beads, while containing these substances, do not need to be classified for environmental hazard.

12.1 Toxicity

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static) Nominal concentration. The product has low solubility in the test medium. An eluate has been tested. No toxic effects occur within the range of solubility.

Aquatic plants:

12.2 Persistence and degradability

The product itself has not been tested. In accordance with the required stability the product is not readily biodegradable. The statement has been derived from the structure of the product. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

12.3 Bioaccumulative potential

The product has low potential for bioaccumulation.

12.4 Mobility in soil

The product is essentially insoluble in water. Expandable polystyrene sinks in fresh water, may float or sink in sea water.

12.5 Results of PBT and vPvB assessment

Not classified as PBT or vPvB

12.6 Endocrine disrupting properties

None

12.7 Other adverse effects

Pentane has very low Global Warming Potential (<0.00044) and zero Ozone Depletion Potential.

SECTION 13: DISPOSAL CONSIDERATIONS

Surplus, 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. See Also Section 7.

13.1 Waste treatment methods Recover or recycle if possible. Remove all packaging for recovery or disposal. Normal disposal is via incineration operated by an accredited disposal contractor.

13.2 Additional Information Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number UN2211

14.2 Proper Shipping Name POLYMERIC BEADS, EXPANDABLE, evolving flammable vapour.

14.3 Transport hazard class(es) 9

14.4 Packing Group III

14.5 Environmental hazards None.
Not classified as a Marine Pollutant.

14.6 Special precautions for user 633: Keep away from any source of ignition.

Transport or conveyance within the manufacturing premises: Refer to the internal procedures and information provided by this document.

Transport or conveyance outside the manufacturing premises: Apply the requirements of the regulations on transport of dangerous goods and the manufacturer's recommendation on safe loading, transporting, unloading of the material.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

14.8 Additional Information Hazard Identification Number: 90
Tunnel Restriction Code: D/E
IMDG EMS F-A, S-I

Hazard label(s)

Sea transport (IMDG)

Air transport (ICAO/IATA)



UN Class 9 miscellaneous hazard label

SECTION 15: REGULATORY INFORMATION

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

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

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

Directive 94/62/EC on packaging and packaging waste.

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

15.2 Chemical Safety Assessment Chemical Safety Assessment not required. Exposure scenarios of registered components are available on request.

SECTION 16: OTHER INFORMATION

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

| | |
|------------------------|---|
| Asp. Tox. | Aspiration hazard |
| Flam. Liq. | Flammable liquids |
| STOT SE | Specific target organ toxicity — single exposure |
| Aquatic Chronic | Hazardous to the aquatic environment - chronic |
| H317 | May cause an allergic skin reaction |
| H304 | May be fatal if swallowed and enters airways. |
| H336 | May cause drowsiness or dizziness. |
| H411 | Toxic to aquatic life with long lasting effects. |
| • H317 | May cause an allergic skin reaction |
| • H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child |
| • H410 | Very toxic to aquatic life with long lasting effects |

• Data changed from previous version

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. SUNPOR Kunststoff gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. SUNPOR Kunststoff accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

Annex to the extended Safety Data
Sheet (eSDS)

No information available.