

## 1. Product and Company Identification

### 1.1. Product Identification

Product name	Polystyrene board
Product material	Closed-cell, extruded polystyrene
Product type	RAVATHERM™ XPS 300 WB RAVATHERM™ XPS 300 STG RAVATHERM™ XPS 300 SL RAVATHERM™ XPS 500 SL RAVATHERM™ XPS 700 SL

1.2. Material/Product Application      Insulation Material

### 1.3. Manufacturer and Supplier Identification

Name	RAVATHERM HUNGARY Kft.
Address	4. Almádi Street, Balatonfűzfő 8184
Telephone	+ 36 88 59 69 79
Fax	+ 36 88 45 01 25
E-mail	info@ravatherm.com

### 1.4. Emergency Contact

Name	Egészségügyi Toxikológiai Tájékoztató Szolgálat [National Institute of Chemical Safety (NICS)]
Address	2. Nagyvárad tér, Budapest 1096
Emergency telephone	+36-1-476-6400; +36-1-476-6464
Green number	+36-80-201-199

## 2. Hazards Identification

### 2.1. Hazards of product

This product is as defined by REACH regulation	not a hazardous chemical
Safety advice for materials warning H and EUH phrases	
H242	Heating may cause a fire
EUH 208	Contains Dicumyl (2,3-Dimethyl-2,3-diphenylbutane). May produce an allergic reaction.
P- phrases relating to precaution	
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking
P261	Avoid breathing fume.

2.2. Labelling      The product does not cause sensitization, it contains skin sensitization material with a concentration of at least 0.1% up to 0,35%, which can cause sensitization to allergic individuals on the basis of the European Parliament and the Council 1272/2008 / EC Regulation

2.3. Other hazards      The product has no other known health or environmental effects.

## 3. Composition Information

The product contains flame retardants, among which Dicumyl (2,3-dimethyl-2,3-diphenyl-butane) material can cause allergic symptoms for allergic people after having contact with the skin.

Component	CAS number	EK number	REACH 57. Article	Code of hazard class and category	H-phrase	conc., %	molecule
Polystyrene (poly-(1-phenylethyl))	9003-53-6	-	-	-	-	>96,8	(C <sub>8</sub> H <sub>8</sub> ) <sub>x</sub>
Dicumyl (2,3-Dimethyl-2,3-diphenylbutane)	1889-67-4	217-568-2	-	Skin Sens Cat. 1.	H317	>0,1 <0,35	C <sub>18</sub> H <sub>22</sub>



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**4. First-aid measures**

The product is packaged in boards. Mechanical cutting can cause formation of dusts.

4.1. First-aid

Skin contact	Does not irritate skin, small parts can be removed from skin easily. Does not require special treatment. The product does not cause sensitization, it contains skin sensitization material with a concentration of at least 0.1% up to 0,35%, which can cause sensitization to allergic individuals.
Eye contact	Small part of the product or dust from the product as mechanical contamination can irritate eyes. It can be removed by flushing eyes thoroughly with water for 1-2 minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult an oculist.
Ingestion	No significant health hazards identified. Does not require special treatment.
Inhalation	Move person from the location of the accident. Flush the person's mouth and throat and clean the person's nose from dust.

**5. Fire Fighting Measures**

The product burns in the presence of an ignition source, after termination of fire effect it does not ignite in itself, it is self-extinguishing. Smoke vary depending on the oxygen supply and ambient temperature. Does not ignite at lower temperature, its flash point temperature 380 °C, until ca. 500 °C has black smoke.

Classification of Fire Protection	„E”	Not flammable
Classification of Fire Hazard		Flammable (solid combustible material)

5.1. Extinguishing Media

Dry chemical fire extinguisher. Carbon dioxide fire extinguisher. Foam. Water spray. Water fog. The used extinguishing media cannot contaminate the sewage system and surface water flows.

5.2. Special hazard from product/material

Hazardous combustion products: hydrocarbons, lower molecular acids (e.g. acetic acid) in traces hydrogen bromide (irritant), carbon monoxide, carbon dioxide (drug), carbon black.

In case of fire, inhalation of combustion products must be avoided.

5.3. Recommendation for firefighters

While extinguishing the most important is to remove the source of ignition, to reduce the temperature. The combustion products occurs only at high temperatures, so full protective clothing (full firefighting clothing) and external breathing apparatus with independent air supply is required.

**6. Accidental Release Measures**

6.1. Personal precautions: There are no special required instructions.

6.2. Environmental precautions: There are no special required instructions.

6.3. Containment and decontamination methods and materials

Special provisions, delimitation are not required, parts in the environment need to be collected, contaminated, no more usable parts need to be collected and stored as non-hazardous waste, possibly utilized as material. Non-contaminated and decontaminated products can be used.



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## 7. Handling and Storage

The product contains flame retardant additive, which prevents accidental ignition by small ignition sources.

### 7.1. Precautions for safe handling

No special treatment is needed in case of professional usage.  
Mechanical cutting, grinding or sawing can cause formation of dusts.  
Chafing, electrostatic fill needs to be avoided because of sparks.  
Product is dissolved in organic solvents, therefore glues used need to be organic solvent.  
Keep away from open flames and heat.

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

Professional transportation, storage and use of the product does not require special treatment.  
When storing direct contact with organic solvents, acids need to be avoided, must not be exposed to flame or other heat source.

## 8. Exposure Controls / Personal Protection

### 8.1. Exposure Limits

Exposure Limits	Not established in Europe
Exposure Restriction	No special treatment

### 8.2. Exposure Control

Personal protection against dust.

Inhalation, respiratory protection	With appropriate respiratory protective equipment dust inhalation needs to be avoided.
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Skin protection	No special protection needed. Allergic individuals should avoid direct contact with skin because the product contains a sensitizing materials, Dicumyl in concentration of at least 0.1 - up to 0.35%.
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Hand protection	Use gloves to protect from mechanical injury.
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Eye protection	No special protection needed, in case of dust formation safety glasses need to be used.
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Ingestion	No special protection needed.
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## 9. Physical and Chemical Properties

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

Physical State	solid
Colour	blue
Odor	odorless
Softening temperature	85 °C
Melting-point	240°C
Flaming temperature	345-360°C
Auto-ignition temperature	491 °C
Density	20-70 kg/m <sup>3</sup>
Relative density (H <sub>2</sub> O = 1)	1,04-1,13
Moisture absorption	0,2-1,0 m/m%

**10. Stability and Reactivity**

10.1. Reactivity	Resistant to acid, alkali. Solvent in most of organic solvents.
10.2. Chemical stability	Product is stable, does not decompose.
10.3. Possible hazardous reactions	Product used as insulation material no hazardous reaction occurs.
10.4. Situations to avoid	Direct exposure to sunlight should be avoided.
10.5. Incompatible Materials	Organic solvents, aldehydes, amines, esters.
10.6. Hazardous Decomposition	Normally product does not decompose. Product exposed to burning fire effects forms polymer chain fragments, aromatic compounds, small molecular weight hydrocarbons, carbon monoxide, carbon dioxide, carbon (soot) traces of hydrobromid.

**11. Toxicological Information**

## 11.1. Information about toxicological effects

Skin contact	Does not irritate skin, small mechanical chafing can occur. Allergic individuals should avoid direct contact with skin because the product contains a sensitizing materials, Dicumyl in concentration of at least 0.1 - up to 0.35%.
Eye contact	In form of dust it can irritate the eye, small amount of smoke generated via thermal cutting can cause irritation.
Inhalation	In form of dust it can irritate the upper respiratory, small amount of smoke generated via thermal cutting can cause irritation.
Ingestion	Accidental ingestion has no harmful effect on health.

**12. Ecological Information**

12.1. Toxicity	The product is biologically not accumulative. Its environmentally hazardous hexabromocyclododecane content remains in the product, does not change under normal circumstances, does not contaminate the environment.
12.2. Persistence and Degradability	Long periods of intensive exposure to sunlight can evaporate product. Appreciable biodegradation does not occur.
12.3. Bioaccumulation Capacity	The product is biologically not accumulative.
12.4. Mobility in soil	Product in soil is solid, inert material, no mobility with moisture.
12.5. Results of PBT and vPvB assessment	The product does not contain PBT and vPvB.

**13. Disposal Considerations**

13.1. Waste treatment methods	Waste from residues must be collected separately on-site effluent, it can be utilized as flame retardant XPS. As material it cannot be utilized as other, non-flame retardant polystyrene. Can be utilized as energy in waste incinerator with flue gas cleaning device.
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**14. Transport Information**

- 14.1. UN-number no
- 14.2. Labelling according to UN no
- 14.3. Classification of dangerous transportation no
- 14.4. Packaging class no
- 14.5. Danger to the environment no
- 14.6. Special precaution for users no
- 14.7. Bulk transportation according to MARPOL 73/78 II. Appendix and IBC code no

**15. Regulatory Information**

15.1. Safety, health and environmental regulations / legislation

EU directives and labelling classification not hazardous product

REACH regulation

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

CLP regulation

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

Relevant Hungarian Regulation

Act XXV of 2000 on Chemical Safety

Act XCIII 1993 on Health and Safety, Decree No. 5/1993. (XII. 26.) MüM

Act CLXXXV 2012 on Waste

Decree No. 72/2013. (VIII. 27.) VM on Waste List

Decree No. 29/2014. (XI. 28.) FM

15.2. Chemical safety assessment (CSA)

Hazard assessment not hazardous product

**16. Other information**

Information on this safety data sheet concerns to the transported product. It is the buyer's/user's duty to determine the conditions necessary for the safe use of this product.