

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 ST
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.**
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 Telephone + 36 88 59 69 79
 Fax + 36 88 45 01 25
 E-mail info@ravatherm.com

2. Hazards Identification

2.1. Hazards of product

This product is as defined by REACH regulation not a hazardous chemical

Safety advice Warning materials H and EUH phrases
 H242 Heating may cause a fire.

Precautionary P phrases

P201 Do not handle until all safety precautions have been read and understood
P261 Avoid breathing dust/fume/gas/mist/vapours/spray

2.2. Labelling **Based on 1272/2008/EC of the European Parliament and of the Council, the product contains no hazardous ingredients.**

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

3. Composition Information

Component	CAS number	conc., %	Molecular formula	
Polystyrene	Poly-(1-phenylethylene)	9003-53-6	>96,5	(C ₈ H ₈) _x
PolyFR	Benzene, ethenyl-, polymer with 1,3-butadiene, brominated	1195978-93-8	0,5<x<2,0	(C ₈ H ₉) _x (C ₄ H ₆ Br ₂) _y (C ₄ H ₆ Br ₂) _z (C ₈ H ₉) _x
Dikumyl	2,3-Dimethyl-2,3-diphenylbutane	1889-67-4	0,1<x<0,35	C ₁₈ H ₂₂

Flame components	reterdant	PolyFR	Benzene, ethenyl-, polymer with 1,3-butadiene, brominated
		Dikumyl	2,3-Dimethyl-2,3-diphenylbutane

The product is made of styrene with colouring and flame retardant material and propellant using extrusion. Flame retardant material is

The elemental composition of the product is

Element	Chemical symbol	Weight ratio, w/w%
Carbon	C	>90,0
Hydrogen	H	>7,4
Bromine	Br	0,3<x<1,3

The product does not contain other elements.

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.
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

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

Building material property testing is done, there is no declared performance.

The product decomposes when exposed to heat. The decomposition temperature 250°C. Decomposition of combustible components react chemically with oxygen in the environment. Response to external and the thermal decomposition products from combustion of 500°C the product begins to burn.

The initial temperature of decomposition	250°C
The initial temperature of combustion	500°C

Flame retardant in the product

Brominated polymeric flame retardant in the product for a long time prevent the products of combustion and the fire from spreading.

The product is flame retardant components due to the presence of an ignition source after a delayed burn, fire burns itself does not effect the termination of further self-extinguishing. Smoke varies depending on the oxygen with reality and the ambient temperature.

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.
Skin protection	No special protection needed.
Hand protection	Use gloves to protect from mechanical injury.
Eye protection	No special protection needed, in case of dust formation safety glasses need to be used.
Ingestion	No special protection needed.

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 ³
Relative density (H ₂ 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 hydrogen-bromide.

11. Toxicological Information

11.1. Information about toxicological effects

Skin contact	Does not irritate skin, small mechanical chafing can occur.
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. The product does not contain hazardous substances to the environment. The flame retardants remain in the product, do not change under normal circumstances, they are not released into the environment.
12.2. Persistence and Degradability	No appreciable biodegradation does not occur.
12.3. Bioaccumulation Capacity	The product is not bio-accumulate.
12.4. Mobility in soil	The product is solid, inert material, no mobility with moisture.
12.5. Results of PBT and vPvB assessment	The product contains no PBT and vPvB.

13. Disposal Considerations

Waste treatment methods

Recyclable on material	Selectively: XPS containing flame retardant
Energy recovery	Only limited incineration plant with flue gas cleaning equipment.

Separate collection

- Wastes from shaping and surface treatment of metals and plastics
EWC Type of waste
12 01 05 Plastics particles
- Construction and demolition wastes (including road construction)
Identification code Designation
17 02 03 Plastic
- Municipal wastes and similar commercial, industrial and institutional wastes including separately collected fractions
Identification code Designation
20 01 39 Plastics

