

FLEXIBLE POLYURETHANE FOAM

Material Information Data Sheet

Introductory Note

This Information Data Sheet on Flexible Polyurethane Foam aims to deliver information needed for the safe handling and use of material.

The Sheet was examined and approved on Dec. 17th, 2012 by AIPEF's Technical Committee.

Its drafting was carried out on the basis of structure suggested by Europur and available knowledge at the time of writing. Said structure relies to Flexible Polyurethane Foams being defined as "articles"; its safety information is consequently not bound to provisions prescribed by Regulation 1907/2006/EC (REACH) for dangerous Substances and Mixtures.

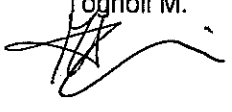
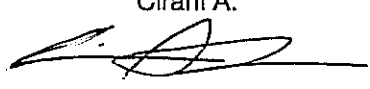

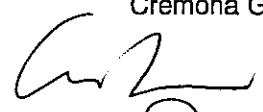

AIPEF, on behalf of their Member Companies, do not take any responsibility of improper use of material; User shall ascertain appropriateness and completeness of reported information with respect to specific utilization of foam.

No warranty is made regarding the sufficiency of safety measures contained in the Sheet, nor regarding the fact that other or further measures may be required in particular or exceptional circumstances. The user must verify the congruity and completeness of the information contained herein regarding the specific intended use.

The information contained herein regards exclusively Flexible Polyurethane Foam and is not necessarily valid if this material is used in combination with other products or after any process that may alter its characteristics or properties.

FLEXIBLE POLYURETHANE FOAM

MATERIAL INFORMATION DATA SHEET

Revision	Date	Description of modifications	
-	06/07/2004	2 nd version	
01	13/09/2007	Preface, product identification	
02	11/01/2013	General revision	
Prepared by		Reviewed by	Approved by
RSPG Tognoli M.  Resp. R&S Cirani A. 		RSGQ Farioli M.  RSPG Tognoli M.	Direzione Tecnica Cremona G.  CEO Bressan A. 
<p><i>"Upon receiving this document, each recipient must ensure that all copies of previous editions in his/her possession are eliminated".</i></p>			

Material Flexible polyurethane foam (PUR)

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Polyurethane foams are not considered as hazardous products nor as mixtures of dangerous substances. They are identified as industrial polymers. According to EU Regulation 1907/2006/EC (REACH) Polyurethane foams are defined as "articles".

ORSA foam S.p.A.

A. Product Identification

Product names:	Polyether Polyurethane Foam. Polyester Polyurethane Foam.
Trade names:	Various, according to manufacturer.
Composition:	Polyurethane polymer.
Chemical description:	Polyaddition product of Polyisocyanates, polyether/polyester polyols and water, controlled by catalysts, stabilizers and other additives, resulting in a cellular polyurethane foam.
Regulatory Information	No labeling is currently required for this material by existing EU Regulation on Classification, Packaging and Labeling of substances and mixtures (1272/2008/EC).

B. Physical properties

Physical form/appearance:	Cellular material with elastic properties.
Colour:	Varies according to manufacturer's choice.
Specific gravity:	10-300 kg/m ³
Solubility in water:	Insoluble
Odour:	None or mild odour
Flash ignition point:	Between 315°C to 370°C
Decomposition temperature:	Above 180°C
Thermal energy:	28.000 kJ/kg
Stability and reactivity:	The product is stable at temperatures between - 40°C and + 100°C

C. Fire Hazards

Self-ignition point : (ASTM D 1929)	Between 370°C to 427°C
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ORSA foam S.p.A.

Fire hazard:	The product is a combustible material and causes, when burning, intense heat and dense smoke. In a fire, decomposition products such as carbon black, carbon monoxide, carbon dioxide, gaseous hydrocarbons and nitrogen containing products can be generated in various concentrations depending on the combustion conditions.
Melting point:	The product has no melting point but will decompose into gaseous components.
Suitable fire extinguishers:	Water, carbon dioxide, dry powder, liquid foam.
Human protection in large fires:	Fire fighters should use self-contained breathing apparatuses. Should the burning foam come in contact with skin, cool the burned area with water without removing the foam. In case of serious burns call a doctor immediately. In the event of persons inhaling combustion gases, they must be removed from the area and given swift medical attention.
Further fire information:	Terms like "is flame retarded" or "contains flame retardants" are sometimes used to describe improved resistance to ignition in small-scale tests and do not reflect hazards in large scale fire conditions.
Storage & Processing:	In processing flexible PUR Foams all prescriptions, directives and technical rules regarding the layout of workstations, machinery safety and workplace human protection must be observed. Because of the fire risks associated with certain processing operations on foam block (e.g. hot-wire cutting, crumbing, flame lamination, etc) it is advisable to seek expert guidance on fire precautions that need to be in place. Attention should be paid to the possibility to produce dangerous electrostatic charges during foam processing operations.

D. Toxicological data

Oral:	There is no evidence that PUR foam is toxic in case of ingestion. LD50 (oral-rats) >5000 mg/kg.
Inhalation:	Animal studies indicate that chronic overexposure to polyurethane dust particles may cause lung infection, airway obstruction and fibrosis.
Skin contact:	No adverse effects known following contact with PUR foam.
Eye contact:	Dust particles may cause mechanical irritation. Rinse with water to remove dust.

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Microbial contamination:

Production process of Flexible Polyurethane Foam does not give rise to particular/specific problems of microbial contamination.

E. Protective measures in handling, storage and processing

Special protective equipment and clothing is not necessary when handling fully cured foam, since it does not irritate the skin, eyes or respiratory system, except in those processes where dust is produced.

Ventilation:

Provided there is adequate general ventilation, no special precautions are necessary for most handling and cutting operations.

Ventilation during some operations:

Local exhaust ventilation is necessary for some operations i.e. where dust is produced from sawing, buffing or crumbing operations or where fumes are produced in flame lamination, thermo-forming or hot wire cutting.

Storage:

Store away from heat sources (match, cigarette, open fire, electrical heater, ...). UV rays may cause surface discoloration. This does not affect the physical properties of foam. Store in compliance with safety standards established by local Authorities and by specific requirements of the Insurance Companies.

Eye protection:

Protective goggles should be worn for processes which may generate dust.

Protective clothing:

Normally not required. In case of dust generating operations skin protective clothes and appropriate respiratory masks are recommended.

Other measures:

No specific measures are needed for fully cured PUR foam. Gloves should be used when handling fresh foams.

F. Ecological information

Biodegradability:

Dependent on the type of PU foam, the product is not degradable or degrades slowly.

Additional ecological data:

In the event of a standard foam fire, the particles falling in the water are harmless. They may be sieved out of the water and/or disintegrated in the water treatment plant. Living organisms in the water are not endangered.

PUR Flexible Foams do not contain Ozone depleting substances and are not produced using products restricted by pertinent Legislation.

G. Transport information

Labeling: PU foam is not classified for conveyance or supply under the International Agreements on Carriage of Dangerous Goods. The product is not classified as hazardous for any mode of transportation under current EU/UN Legislation.

Measures: No special steps need to be taken for the transportation of PUR foam.

H. Disposal considerations

Production trim: Trim polyurethane foam and off-cuts can usually be recycled by several methods provided the residues are clean and sorted.

Post Consumer Waste: A major recycling option exists via rebonding if a number of technical and economic conditions are met. If recycling is not possible, scrap or post-consumer PUR foam waste can be used for energy recovery or be disposed of at licensed landfill sites or by incineration under controlled conditions in agreement with EU and National regulatory provisions and following advice from the Local Waste Regulation Authority.

Legislation: Under EU environmental legislation, there are no special requirements for the disposal of conventional PUR foam.

I. Disclaimer of liability

The local legislation is to be followed.

This information is furnished without warranty, expressed or implied, except that it is accurate according to the best available knowledge of the PU foam manufacturer.

The data on this sheet relate only to the specific material designated therein.

The manufacturer assumes no legal responsibility for use of, or reliance upon these data. For information regarding specific applications of the product, the foam manufacturer should be contacted.