

CompoLite[®]: material information data sheet

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Material:	CompoLite [®] ,
Description of polymer type:	low density rigid polyurethane foam
Manufacturer:	Ascorium GmbH
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CompoLite[®] parts are not considered to be hazardous products nor as mixtures of dangerous substances. They are identified as industrial polymers.
According to EU Regulation 1907/2006EC (REACH) Polyurethane elastomers are defined as “articles”.

A. Material Identification

Material name: Composite sandwich structure based on low density rigid PUR and glass fiber and a polypropylene spacer mat.

Trade names: CompoLite[®]

Composition: Polyurethane/glass fiber/polypropylene

Chemical description: Poly-addition product of isocyanates and polyether/polyester polyols, controlled by catalysts, stabilizers and other substances, resulting in a ultra-light PUR matrix as core material.

Appearance: Composite sandwich structure based on low density PUR.

B. Physical properties

Physical form/appearance: A sandwich composed of two layers of glass or natural fiber mats and an polypropylene spacer layer is sprayed with rigid polyurethane foam. The rigid foam penetrates the sandwich, fully cures, and thus stabilizes the CompoLite® component. .

Specific gravity: 200 - 400 kg/m³

Solubility in water: Insoluble

Odor: None or mild odor

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 +120°C

C. Fire Hazards

Auto-ignition point : Between 370°C to 427°C
(ASTM D 1929)

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: Not applicable

Suitable fire extinguishers: Water, CO₂, dry powder, liquid foam.

Human protection in large fires: Fire fighters should use self-contained breathing apparatus. Should the burning elastomer come in contact with skin , cool the burned area with water without removing the elastomer. For serious burns call immediately a doctor.
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 ignition resistance in small-scale tests and do not reflect hazards in large scale fire conditions.

Storage & Processing:

In processing CompoLite® all prescriptions, directives and technical rules for the lay-out of workstations, machinery safety and workplace human protection should be observed.

No special requirements for storage.

D. Toxicological data

Oral:

There is no evidence that CompoLite® is toxic in case of ingestion.

LD50 (oral-rats) >5000 mg/kg.

Inhalation:

Animal studies indicate that chronic overexposure to polyurethane dust particles could cause lung infection, airway obstruction and fibrosis.

Skin contact:

No adverse effects known following contact with CompoLite®.

Eye contact:

Dust particles can cause mechanical irritation. Rinse with water to remove dust.

Microbiological contamination :

PU elastomer is sterile when manufactured.

E. Protective measures in handling, storage and processing

Special protective equipment and clothing is not necessary when handling CompoLite®, 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 during processing, no special precautions are necessary for most post handling and cutting operations.
Ventilation during some operations:	Local exhaust ventilation is necessary for some operations i.e. where dust is produced from buffing and crumbing operations or where fumes are produced (e.g. by exposure to heat).
Storage:	Store away from heat sources (match, cigarette, open fire, electrical heater, ...). 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 generate dust.
Protective clothing:	Not required.
Other measures:	No specific measures are needed at all for fully cured CompoLite®. Gloves should be used when handling fresh polymers.
Biodegradability:	CompoLite® is not degradable or degrades very slowly.
Additional ecological data:	In case of a fire with CompoLite®, the particles that fall in the water are harmless. They are sieved out of the water and/or disintegrated in the water treatment plant. Living organisms in the water are not endangered.

F. Transport information

Labelling: CompoLite® 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 regulations.

Measures: No special steps need to be taken for the transportation of CompoLite®.

G. Disposal considerations

Production trim: CompoLite® trim and off-cuts can usually be recycled by several methods if uncontaminated by extraneous matter.

Post Consumer Waste: A recycling option exists via pyrolysis if a series of technical and economical conditions are met. If recycling is not possible, scrap or post-consumer PU elastomer waste can 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.

H. Composition and chemical characterization

Input for external Material Data Systems:

CompoLite® (Composite sandwich structure based on low density rigid PUR and glass fiber) is a glass fiber reinforced polymer and defined in Data Systems, i.e. IMDS, as product, not as a chemical compound. In terms of REACH, CompoLite® is defined as article.

For the manufacture of CompoLite®, a series of raw materials are used. These include isocyanates and polyols (major proportion). These ingredients are fully reacted during manufacture and chemically converted into the PU polymer matrix .

In addition, other essential additives of different characteristics are used in small concentrations, some of which could be chemically bonded also to the matrix. Depending on the grade, CompoLite® may contain any of the following substances

- Aliphatic and/or cycloaliphatic amine catalysts
- Flame-retardants
- Organometallic catalysts and flow modifiers
- Organic and/or inorganic pigments

No detailed breakdown of the finished PUR in any of these raw materials or additives can be expressed as final percentages as most are reactive and chemically bonded to the PU elastomer matrix or disappear gradually during the curing phase (24h) of the manufacture.

Substances like Hg, Cd, Pb and Cr (VI) are not intentionally added to the formulation. When reporting to customers in the Automotive sector, the use of IMDS is required. Besides the material PU elastomer, additives are to be reported according to the requirements of GADSL (Global Automotive Declarable Substance List).

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 CompoLite® manufacturer.

The data on this sheet relate only to the specific material designated herein. The manufacturer assumes no legal responsibility for use of, or reliance upon these data. For information regarding specific applications of the product, the manufacturer should be contacted.