

Material Safety Data Sheet

ABS

SECTION 1: Hazards identification

1.1 Classification of the substance or mixture

Classification according to EU Directives 67/548/EEC or 1999/45/EC
This product is not classified as dangerous according to EC criteria.

1.2 Label elements

Labelling according to EC Directives
This product is not classified as dangerous according to EC criteria.

1.3 Other Hazards

No information available.

SECTION 2: Composition / information on ingredients

2.2 Mixture

This product is a mixture.

- > 99.0 % Acrylonitrile/butadiene/ styrene; Regulation (EC) No 1272/2008 Not classified
- > 99.0 % Acrylonitrile/butadiene/ styrene; Classification: 67/548/EEC Not classified

SECTION 3: First aid measures

3.1 Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation:

Move person to fresh air; if effects occur, consult a physician.

Skin Contact:

Wash skin with plenty of water. Seek first aid or medical attention as needed. If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical attention immediately. Suitable emergency safety shower facility should be immediately available.

Eye Contact:

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion:

If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

3.2 Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

3.3 Indication of immediate medical attention and special treatment needed

If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 4: Firefighting measures

4.1 Extinguishing Media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

4.2 Special hazards arising from the substance or mixture

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. Combustion products may include trace amounts of: Styrene. Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

4.3 Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. If material is molten, do not apply direct water stream. Use fine water spray or foam.

Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 5: Accidental release measures

5.1 Personal precautions, protective equipment and emergency procedures

Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

5.2 Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

5.3 Methods and materials for containment and cleaning up

Contain spilled material if possible. Sweep up. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

SECTION 6: Handling and storage

6.1 Precautions for safe handling

6.1.1 Handling

General Handling: No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes.

Use with adequate ventilation. When appropriate, unique handling information for containers can be found on the product label. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

6.2 Conditions for safe storage, including any incompatibilities

Storage Store in accordance with good manufacturing practices.

6.3 Specific end uses

See the technical data sheet on this product for further information.

SECTION 7: Exposure controls/personal protection

7.1 Control parameters

Exposure Limits None established

7.2 Exposure controls

7.2.1 Personal Protection

Eye/Face Protection:

Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.

Skin Protection:

No precautions other than clean body-covering clothing should be needed.

Hand protection:

Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves with insulation for thermal protection (EN 407), when needed. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task.

Respiratory Protection:

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. Use an approved air-purifying respirator when vapors are generated at increased temperatures or when dust or mist is present. Use the following CE approved air-purifying respirator: When dust/mist are present use a/an Particulate filter, type P2. When combinations of vapors, acids, or dusts/mists are present use a/an Organic vapor cartridge with a particulate pre-filter, type AP2.

Ingestion:

Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

SECTION 8: Physical and chemical properties

Appearance:

Physical State: Granules

Colour: Natural

Odor: Odorless

Melting Point: 100 - 150 °C Literature

Odor Threshold: No test data available

pH: Not applicable

Freezing Point: Not applicable

Boiling Point (760 mmHg): Not applicable.

Flash Point - Closed Cup: Not applicable

Evaporation Rate (Butyl Acetate = 1): not applicable

Flammable Limits In Air: Lower: Not applicable
Upper: Not applicable

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Specific Gravity (H2O = 1): 1.05 - 1.07 Literature

Solubility in water (by weight): Negligible

Partition coefficient, n-octanol/water (log Pow):	No data available for this product.
Autoignition Temperature:	> 400 °C Literature
Decomposition Temperature:	No test data available
Kinematic Viscosity:	Not applicable
Explosive properties:	No test data available
Oxidizing properties:	No test data available

8.2 Other information

none

SECTION 9: Stability and reactivity

9.1 Reactivity

No dangerous reaction known under conditions of normal use.

9.2 Chemical stability

Stable.

9.3 Possibility of hazardous reactions

Polymerization will not occur.

9.4 Conditions to Avoid:

Avoid temperatures above 300 °C. Exposure to elevated temperatures can cause product to decompose.

9.5 Incompatible Materials:

None known

9.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating.

SECTION 10: Toxicological information

10.1 Information on toxicological effects

10.1.1 Acute Toxicity

10.1.1.1 Ingestion

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed. Single dose oral LD50 has not been determined. Typical for this family of materials. Estimated. LD50, rat > 5,000 mg/kg

10.1.1.2 Aspiration hazard

Based on physical properties, not likely to be an aspiration hazard.

10.1.1.3 Dermal

No adverse effects anticipated by skin absorption. The dermal LD50 has not been determined. Typical for this family of materials. Estimated. LD50, rabbit > 2,000 mg/kg

10.1.1.4 Inhalation

No adverse effects are anticipated from single exposure to dust. Vapors released during thermal processing may cause respiratory irritation. The LC50 has not been determined.

10.1.1.5 Eye damage/eye irritation

Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

10.1.1.6 Skin corrosion/irritation

Prolonged contact is essentially nonirritating to skin. Mechanical injury only. Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.

10.1.2 Sensitization

10.1.2.1 Skin

No relevant data found.

10.1.2.2 Respiratory

No relevant data found.

10.1.2.3 Repeated Dose Toxicity

Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

10.1.2.4 Chronic Toxicity and Carcinogenicity

No relevant data found.

10.1.2.5 Developmental Toxicity

No relevant data found.

10.1.2.6 Reproductive Toxicity

No relevant data found.

10.1.2.7 Genetic Toxicology

No relevant data found.

SECTION 11: Ecological information**11.1 Toxicity**

Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

11.2 Persistence and Degradability

This water-insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

11.3 Bioaccumulative potential

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

11.4 Mobility in soil

Mobility in soil: In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material will sink and remain in the sediment.

11.5 Results of PBT and vPvB assessment

This mixture has not been assessed for persistence, bioaccumulation and toxicity (PBT).

11.6 Other adverse effects

No relevant data found.

SECTION 12: Disposal considerations**12.1 Waste treatment methods**

For uncontaminated material the disposal options include mechanical and chemical recycling or energy recovery. In some countries landfill is also allowed. For contaminated material the options remain the same, although additional evaluation is required. For all countries the disposal methods must be in compliance with national and provincial laws and any municipal or local by-laws. All disposal methods must be in compliance with the EU framework Directives 2008/98/EC and their subsequent adaptations, as implemented in National Laws and Regulations, as well as EU Directives dealing with priority waste streams. Transboundary shipment of wastes must be in compliance with Regulation (EC) No 1013/2006 and subsequent modifications.

SECTION 13: Transport information**ROAD & RAIL**

Not regulated

OCEAN

Not regulated

AIR

Not regulated

INLAND WATERWAYS

Not regulated

SECTION 14: Regulatory information**14.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

14.2 Chemical Safety Assessment

Not applicable.

SECTION 15: Other information

Orbi-Tech GmbH urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.

Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SECTION 16: Emergency contact

Contact:

Contact person: Michael Elstner

Phone: +49 89 2488986 – 0

Mail: emergency@germanreprap.com