



Product information

Product full identity:

Free-foamed PVC

U-PVC Foam is rated self-extinguishing, very light weight (SG 0.55), durable and versatile. U-PVC Foam due to its surface structure is ideal for all print media; this product also boasts low sound and thermal conductivity.

Properties

- » Light weight
- » Low water absorption
- » Indoor and outdoor use
- » Excellent sound and heat isolation properties
- » Self-extinguishing
- » Smooth surface

Applications

- » Exhibition boards and signs
- » Interior decorations and wall cladding
- » Displays
- » Letter cut
- » Screen printing
- » Digital printing

This document contains

- » Technical Datasheet (Page 2)
- » Chemical Datasheet (Page 3)
- » Safety Datasheet (Pages 4-7)

For any further information regarding food, fire and water certificates then please contact the sales team on 0116 232 1010

Technical Properties

| Physical Properties | Test | Unit | Result |
|---|-------------|-----------------------------------|-----------------------|
| 1. Specific gravity | ISO 1183 | g/cm ³ | 0.55 |
| 2. Water absorption | ISO 62 | % | <1 |
| 3. Maximum service temp. Upper temp limit (no stronger mechanical stress involved) | - | °C | 60 |
| Lower temp limit | - | °C | 0 |
| Mechanical Properties | Test | Unit | Result |
| 1. Tensile strength at yield | ISO 527 | MPa | >12 |
| 2. Elongation at yield | ISO 527 | % | - |
| 3. Tensile strength at break | ISO 527 | MPa | - |
| 4. Elongation at break | ISO 527 | % | 15 |
| 5. Impact strength | ISO 179 | kJ/m ² | 12 |
| 6. Notch impact strength | ISO 179 | kJ/m ² | - |
| 7. Ball indentation / Rockwell hardness | ISO 2039-1 | MPa | - |
| 8. Shore-D | DIN 53505 | - | >40 |
| 9. Flexural strength | ISO 178 | MPa | - |
| 10. Modulus of elasticity | ISO 527 | MPa | >750 |
| Thermal Properties | Test Method | Unit | Result |
| 1. Vicat-softening point VST/B/50 | ISO 306 | °C | 74 |
| 2. Heat deflection temperature HDT/B | ISO 75 | °C | - |
| HDT/A | - | °C | - |
| 3. Coefficient of linear thermal expansion | DIN 53752 | k ⁻¹ *10 ⁻⁴ | 0.75 |
| 4. Thermal conductivity at 20 °C | DIN 52612 | W/(m*K) | 0.08 |
| Electrical Properties | Test Method | Unit | Result |
| 1. Volume resistivity | VDE 0303 | Ω x m | - |
| 2. Surface resistivity | - | Ω | >5 x 10 ¹⁴ |
| 3. Dielectric constant at 1MHz | - | - | - |
| 4. Dielectric loss factor at 1 MHz | DIN 53483 | - | - |
| 5. Dielectric strength | VDE 0303 | kV/mm | 13 |
| 6. Tracking resistance | IEC 60112 | - | - |
| Additional Data | Test Method | Unit | Result |
| 1. Bondability | - | - | - |
| 2. Food compliance | FDA | - | - |
| 3. Flammability | UL 94 | - | V-0 |

All The above information is for guide purposes only. The data has been taken from standard test results provided by our manufacturers.

Key:

| Yes | Limited | No data |
|-----|---------|---------|
| + | 0 | - |

Chemical Properties

| Agent | Conc % | Working Temp | Temp | Agent | Conc % | Working Temp | Temp |
|------------------------|---------|--------------|------|----------------------------|-------------|--------------|------|
| | | 20°C | 60°C | Hydrofluoric acid | 40 | | |
| Acetic Acid | 100 | | | Hydrogen peroxide | 10 | | |
| Acetone | 100 | | | Hydrogen Sulphide | | | |
| Ammonia | Conc. | | | Isopropyl Alcohol | 100 | | |
| Ammonium chloride | | | | Mercurochrome | | | |
| Amyl Alcohol | | | | Methyl alcohol | 100 | | |
| Benzene | | | | Methyl ethyl ketone | 100 | | |
| Bleaching Solution | 12,5 Cl | | | Methylene chloride | 100 | | |
| Boric Acid | 100 | | | Nitric acid | 50 | | |
| Brake Fluid | | | | Nitrobenzine | | | |
| Butyl Acetate | | | | Oxalic Acid | | | |
| Calcium Chloride | | | | Ozone, gas | ca. 0,5 ppm | | |
| Carbon disulphide | 100 | | | Paraffin Oil | 100 | | |
| Carbon Tetrachloride | | | | Perchlorethylene | | | |
| Chlorine, gas | 100 | | | Petroleum | 100 | | |
| Chlorobenzene | 100 | | | Petroleum, aromatic free | 100 | | |
| Chloroform | | | | Phenol, aqu | ca.9 | | |
| Citric Acid | 10 | | | Phosphoric Acid | 50 | | |
| Cresol | | | | Potassium hydroxide liquor | 50 | | |
| Cyclohexanone | 100 | | | Propyl alcohol | | | |
| Cyclohexene | 100 | | | Pyridine | | | |
| Diesel Fuel | | | | Silicone oil | | | |
| Diethylene oxide, THF | | | | Sodium carbonate. aqu | | | |
| Ethyl acetate | 100 | | | Sodium chloride, aqu | | | |
| Ethyl alcohol | 96 | | | Sodium Hydroxide liquor | 15 | | |
| Ethylene Chloride | 100 | | | Sodium Hydroxide liquor | 60 | | |
| Formic Acid | 10 | | | Sodium hydrogen sulphite | | | |
| Frost protection agent | Petrol | | | Sodium nitrate, aqu | | | |
| Fuel, aromatic free | | | | Sodium thiosulfate | | | |
| Glycerine | 100 | | | Sulphuric Acid | 96 | | |
| Glycol | 100 | | | Tetrahydrofuran | 100 | | |
| Heating oil | | | | Toluene | 100 | | |
| Heptane | 100 | | | Trichlorethylene | 100 | | |
| Hydrochloric acid | conc. | | | Xylene | | | |

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| + | o | - |

Safety Properties

Substance / preparation and company detail

Product Name : Polyvinyl Chloride foam
Material Name : Polyvinyl Chloride Homopolymer
CAS Number : 9002-86-2
Material Synonyms : PVC
NFPA Ratings : Health=1, Fire=0, Reactivity=0
Oadby Plastics
68 Scudamore Road,
Braunstone Frith Industrial Estate,
Leicester,
LE3 1UA
0116 232 1010

Composition / indications to components

Tin stabilized PVC sheets, 2.5% by weight metal-tin or tin-mercaptide based stabilizer.
Pigments and additives used to enhance specific properties are encapsulated in the polymer resin matrix.
No solvents. No plasticizers. No cadmium, lead, or other heavy metals used.

Possible dangers

No particular hazards known.

Health Hazard Data

Effects of a Single Overexposure

Swallowing: Non-relevant

Skin absorption: Non-relevant

Inhalation: Non-relevant

Skin contact: Exposure is not expected to cause adverse health effects

Eye contact: Non-relevant

Effects of a Repeated Overexposure: None currently known

Medical Conditions Aggravated by Overexposure: None currently known

Other Effects of Overexposure: None currently known

First-aid measures

In general handling the material will not cause accidents.

Inhalation

If exposed to combustion fumes in high concentration - bring victim to fresh air. Medical attention needed.

Skin Contact

Burns resulting from accidental contact with molten material must be flushed immediately with cold water.

Do not remove the polymer from the skin. Medical attention needed.

Eye Contact

Like any foreign body, can cause mechanical irritation. Consult physician.

Safety Properties

First-fighting measures

Extinguishing Media

Water spray or CO₂. CO₂ is less recommended due to lack of cooling capacity.

Special Fire Fighting Procedures

Personnel without suitable respiratory apparatus should leave the affected area to prevent exposure to toxic or combustible gases.

Special Protective Equipment for Fire-fighters

Positive-pressure self-contained breathing apparatus, protective clothing, gas mask approved for acid vapours.

Unusual Fire and Explosion Hazards

PVC is a self extinguishing fire retardant material that being exposed to open fire and high temperatures decomposes emitting large quantities of HCl, which tends to extinguish the flames.

It does not continue to burn after ignition without an external fire source.

HCl has a strong acidic odour that causes sensory alert at very low concentrations. HCl odour threshold = 0.77 ppm.

Exposure to high concentrations of HCl will cause irritation of the respiratory passages, at very high concentrations may cause burns to mucous membranes.

Soot emitted when PVC is forced to burn may obscure visibility.

No special precautions and no personal protective equipment needed.

Measures in case of unintended release

No special precautions and no personal protective equipment needed. Collect mechanically for disposal or recovery.

Handling and storage

General handling precautions

Avoid contact with eyes.

Ventilation

General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled.

Other precautions

No explosion hazard. In the event of fire, cool and overlap product with water.

Static electricity discharge sparks possible during handling. Avoid contact or vicinity of flammable materials.

When opening truck or railcar for unloading, ventilate before entering.

Storage

Store in a cool shady area. No special technical protective measures required.

Limitation of exposition

Respiratory protection: No special protection needed

Hand protection/protection gloves: No special protection needed

Eye protection: No special protection needed

Other protective equipment: No special protection needed

Physical and chemical characteristics

Appearance: Flat sheets

Physical State: Solid

Colour: White or coloured

Odour: None

Density: 0,55- 0,70 gr/cm³

Heat Deflection: 62-65°C

Boiling Point, 760 Hg: Not relevant

Viscosity: Not relevant

Solubility in Water: <0.1g/100mL at 23°C

pH Value: Not relevant

Flammability Limit: None

Explosion Limits: None

Evaporation Rate: Not relevant

Percent Volatiles: Not relevant

Safety Properties

Stability and reactivity

Stability

Stable.

Conditions to avoid

Excessive heat, or open flame. Temperature above 150 °C will decompose raw polymer resin and liberate HCl.

Incompatible materials

Oxidizing agents or strong mineral acids can cause reaction.

Thermal decomposition

Begins above 150°C caused by fire, overheating during improper processing. Fumes damaging to health may be released.

Hazardous decomposition products

Burning can produce the following combustion products:

Carbon monoxide (CO) - is highly toxic if inhaled;

Carbon dioxide (CO₂) - in sufficient concentrations can act as an asphyxiant;

Hydrogen chloride (HCl) - in high concentrations cause irritation of the respiratory passages, at very high concentrations may cause burns to mucous membranes.

Reactivity

Hazardous polymerization: Will not occur

Hazardous reactions: None

Toxic information

PVC materials have a very low acute toxicity. In rats an acute LD₅₀ > 10 gr/kg of body weight. PNEUMOCONIOSIS has been described from inhalation of combustion products (effects of overexposure).

Industrial hygiene studies have shown that under normal and expected conditions of use of PVC materials, exposures are well below applicable limits.

Acute Toxicological Information

Acute oral toxicity: None

Acute percutaneous toxicity: None

Acute vapour exposure: None

Primary skin irritation: No irritation

Eye irritation: No irritation

Sensitization: No information available

Chronic effects: Unknown

Carcinogenicity: None

Other Toxicological Information

No known toxicological effects with normal use. For heating see section 10.

Additional Information

No additional toxicity information currently available.

Ecological information

Persistence and Degradability

Detailed studies have not been conducted concerning the environmental fate of the product. According to present knowledge no unfavourable ecological effects are to be expected.

Not generally hazardous to water. Insoluble in water, non-toxic solid.

Mobility: No information currently available

Persistence and biodegradability: Biodegradation period - tens of years.

Bio accumulative potential: No information currently available.

Environmental Risks

No hazard expectation to terrestrial or aquatic flora and fauna.

Eco-toxicity: LD₅₀ (rats) > 10 gr/kg

: IC₅₀ (bacterial inhibition) - no data available

Aquatic toxicity: LC₅₀ (daphnia magna) - no data available

: LC₅₀ (fathead minnow - fish) - no data available

Other information

All available ecological data have been taken into account for the development of the hazard and precautionary information contained in this safety data.

Safety Properties

Waste-disposal information

The product is not considered hazardous under current EPA hazardous waste regulations.

Recycling is the preferred method of disposal.

Alternatively, the product may be disposed of in an approved landfill.

High temperature incineration under controlled conditions due to formation of HCl.

All wastes should be evaluated in conjunction with applicable solid and hazardous waste regulations, Toxicity Characteristic

Leaching Procedures (TCLP), and disposed of as appropriate.

This product does not contain any cadmium or other heavy metal pigments or stabilizers.

It is the user's responsibility to dispose of all wastes in accordance with all national and local regulations at properly permitted or authorized facilities.

Transport information

Additional transportation data: Not currently regulated under Department of Transportation regulations

Labelling: No labelling is required in accordance with the EEC directives

Placarding: No placarding is required in accordance with the EEC directives

Special transport requirements : None

Packaging: Avoid dark-coloured packaging to prevent heat distortion

The product is classified as a non-hazardous material in the meaning of transport regulations.

Regulations

With regards to dust formed as a consequence of mechanical treatments, the appropriate regulations value limits for fine dust must be observed: MAC value (fine dust) – 5mg/m³.

OSHA Hazard Communication Classification for dusts and combustion fumes: Irritant, Skin Hazard, and Lung Hazard.

SARA Title III Classification for dusts and combustion fumes: Acute Health Hazard; Chronic Health Hazard.

WHMIS Classification: Non-hazardous

Further information

The information is based on our current knowledge. They are meant to describe our products in respect to safety requirements. They do not represent any guarantee of the described product in the sense of the legal guarantee regulations.