EXPANDING FOAMS

PRODUCT DESCRIPTION

Rhodia Expanding Foam is a one component, polyurethane foam systems under pressure in an aerosol container.

Each canister contains a specially developed liquid of crude MDI (diphenylmenthane di-Isocynate), in combination with a mixture of HFC and Hydrocarbon products as the propellant and foaming agent.

This product is moisture-cured and are designed to be used as multi purpose foam sealants or gap filling adhesives by "foam in place" techniques.

Canisters must be stored in a cool dry place and clear instructions printed on product label.

SAFETY INFORMATION

Rhodia Expanding Foams contain flammable propellant components and attention should be paid to the appropriate Material Safety Data Sheet.

All polyurethane foams are organic, combustible materials and may therefore present a fire risk if exposed to flame, fire and/or heat.

Typical Canister Profile

<table>
<thead>
<tr>
<th>Product Size</th>
<th>ml</th>
<th>500</th>
<th>750</th>
<th>750 Gun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can Dimension</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diameter</td>
<td>mm</td>
<td>65</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Length</td>
<td>mm</td>
<td>195</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Capacity</td>
<td></td>
<td>650</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Maximum</td>
<td>ml</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burst Pressure</td>
<td>bar</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Pressure</td>
<td>@ 20°C</td>
<td>bar</td>
<td>5</td>
<td>maximum</td>
</tr>
<tr>
<td></td>
<td>@ 50°C</td>
<td>bar</td>
<td>10</td>
<td>maximum</td>
</tr>
<tr>
<td>Shelf life</td>
<td>Maximum @ 15°C</td>
<td></td>
<td>18 months</td>
<td></td>
</tr>
<tr>
<td>Operation temperature</td>
<td>ºC</td>
<td>5 to 30</td>
<td></td>
<td>20 optimum</td>
</tr>
</tbody>
</table>
## Typical Physical Properties of Cured Foam
(all tested at 23°C and 50% RH)

<table>
<thead>
<tr>
<th>Property</th>
<th>500</th>
<th>750</th>
<th>750 Gun</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Size</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactivity (20cm bead)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tack Free Time</td>
<td>Maximum (minutes)</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Foam can be cut</td>
<td>Maximum (hours)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Yield (free rise #2) per can</td>
<td>Litres</td>
<td>27</td>
<td>40</td>
</tr>
<tr>
<td>Foam properties</td>
<td>Sample size 12cm x 6cm x 6cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density (free rise #2 core)</td>
<td>(kg/m³) BS4370</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Compressive strength</td>
<td>(kPa) BS4370</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

#2 = Foam saturated with fine spray of water during test

<table>
<thead>
<tr>
<th>Property</th>
<th>Sample size 5cm x 3cm x 12cm</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensional Stability</td>
<td>(Maximum linear change)</td>
<td></td>
</tr>
<tr>
<td>24hr @ -20°C (%)</td>
<td>ASTM</td>
<td>1</td>
</tr>
<tr>
<td>24hr @ +50°C (%)</td>
<td>D2126</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Sample size 25cm x 15cm x 15cm</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>(kPa) BS4370</td>
<td>71</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>(W/mk) Anacon</td>
<td>0.027</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>20°C - +90°C</td>
<td></td>
</tr>
<tr>
<td>Flammability Rating #3</td>
<td>DIN4102</td>
<td>B3</td>
</tr>
</tbody>
</table>

#3 ï This is a small-scale laboratory test and should be used for comparative purpose. It is **not** to be used to assess the potential fire hazard of a material use.

The above physical properties have been obtained under the conditions stated. The physical properties obtained when making different items, using alternative conditions to those detailed above, may vary and should be determined for the intended application.
MATERIAL SAFETY DATA SHEET

PRODUCT: RHODIA EXPANDING FOAM

(1) Identification of substance/preparation and of the Company
Product Name: CONSTRUCTION CHEMICALS UK LTD
75 TOWN GREEN ST
ROTHLEY
LEICESTER

Telephone No.: 0116 230 1955
Fax No.: 0116 230 1944

(2) Composition/information on ingredients
A one-component polyurethane foam.
Contains diphenylmethane di-isocyanate, HCFC & Butane

(3) Hazards Identification
Routes of Exposure/Health Hazards:
Skin and eye contact, inhalation and ingestion

Symptoms of Exposure (Acute):
Vapour may cause irritation of nose, throat and upper respiratory system.
Causes defatting of the skin. Irritating to eyes.

Symptoms of Exposure (Chronic):
Long term exposure to isocyanate vapour may cause respiratory problems including asthma and sensitisation.

Medical conditions aggravated:
Bronchitis, asthma and other respiratory complaints. By exposure: Dermatitis, eczema, psoriasis and other skin complaints. Conjunctivitis and other eye complaints.

Explosion hazards:
Excessive pressurisation of aerosol can will occur if heated, with risk of explosion. Explosive mixtures of propellant/air may be formed.

Fire hazards:
All organic materials are combustible and may present a fire risk if exposed to flame, fire heat or other potential sources of ignition.
Flammable product (flash point below 55°C).

Corrosion hazards:
No known corrosive hazard.

Environmental hazards:
Enter into water courses and sewage systems.

(4) First Aid Measures
Inhalation:
Remove patient to fresh air. If not breathing apply artificial respiration. If breathing is difficult, oxygen may be given by suitably qualified personnel. Seek medical attention. Effects may be delayed.

Eye Contact:
Flush with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Skin Contact:
Wash with soap and water for 15 minutes. Obtain medical attention.

Ingestion:
Wash with soap and water for 15 minutes. Obtain medical attention.

Advice to Physicians:
Treat symptomatically.

(5) Fire Fighting Measures
Fire Extinguishing Media:
Use Foam, Dry Powder, Carbon Dioxide. In case of larger fires, water spray/mist may be used.

Special Fire Fighting Procedures:
Water jets are not suitable.

Protective Equipment:
Full-face positive pressure breathing apparatus as and full protective clothing.

Special exposure hazard(s):
In the event of a fire may produce toxic vapour and fumes. Explosive mixtures of propellant/air may be formed. Excessive pressurisation of aerosol can will occur if heated, with risk of explosion.
(6) **Accidental Release Measures**

Personal Precautions: Remove all sources of ignition. Full protective clothing and eye protection. Goggles.

Environmental Precautions: Contain and cover any spillage immediately with sand, earth or other suitable absorbent. Prevent ingress into watercourses and sewers.

Methods of clean-up: Transfer absorbent material to a suitable waste container. Do not seal. Keep damp and in open air for 7 days. Dispose of in accordance with local and National regulations.

(7) **Handling & Storage**

Safe Handling Advice: Avoid contact with skin and eyes.

Ensure adequate ventilation to maintain atmospheric levels in accordance with exposure limit(s). Read instructions on aerosol can.

Storage precautions: Keep containers tightly closed and dry, in a well ventilated area away from heat and direct sunlight. Store can in an upright position.

Storage Temperature: 10-23°C

(8) **Exposure Controls/personal protection**

Exposure Limits: Natural ventilation

Personal Protection: In the absence of exhaust or natural ventilation that maintains atmospheric concentration in accordance with the exposure limit(s), self contained breathing apparatus should be worn.

Eye Protection: Safety goggles

Hand Protection: PVC/rubber gloves.

Skin Protection: WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), GAUNTLETS AND EYE PROTECTION when using.

(9) **Physical & Chemical Properties**

Physical State: Colour:

Odour: Odourless

pH: N/A

Boiling Point/Boiling Range:

Melting Point/Melting Range:

Flash Point:

Flammability:

Autoflammability: Auto ignition Temperature >100°C

Explosive Properties: -

Oxidising Properties: -

Relative Density: Partially miscible, reacts with water

(10) **Stability & Reactivity**

Chemical Stability: Stable under recommended storage conditions and in intended use and applications.

Conditions to Avoid: Elevated temperatures.

Materials to Avoid: None known.

Hazardous Decomposition Products: Stable under recommended storage conditions and in intended use and applications.

Toxic fumes or vapours may be generated on incineration.

(11) **Toxicological Information**

Oral: Single dose oral toxicity is low. Harmful.
Skin: Repeated skin contact will cause defatting, leading to irritation and dermatitis.
Eyes: May cause irritation.
Respiratory: May cause headaches, breathlessness (respiratory effects could be delayed). Propellant gas can displace air.
Sensitisation: Respiratory sensitisation may occur as a result of long term exposure to isocyanate vapours or short term exposure to excessive vapour concentrations.
Chronic effects: Possible sensitisation and long-term asthma-like symptoms may result from exposure to isocyanates.
Appraisal of Toxicological Data: Repeated or prolonged exposure to components of this preparation may result in irreversible effects.

(12) Ecological Information
Entry into water may result in the blocking of sunlight and oxygen diffusion so causing harm to the aquatic environment. Bioaccumulative potential of some components should be considered to be high due to low biodegradation rates. All necessary precautions should be taken to prevent entry of the components into soil, water or atmosphere.

(13) Disposal Considerations
Aerosol can should not be punctured or incinerated after use. Small quantities of isocyanate may be decontaminated using an approved technique. DISPOSE OF by the WASTE DISPOSAL AUTHORITY.

(14) Transport Information
UN No. 1950
Packing Group Not applicable
ADR/RED Class 2,10(b) 1
IMO Class 9
ICAO/IATA Class 2.1
IMO Shipping name Aerosols
IATA Shipping name Aerosols, flammable, N.O.S., containing substances in Division 6.1, Packing Group III
ADR/RID Shipping name Aerosol dispensers
MFAG Table No. 370
EMS No. 6.1-02
Marine Pollutant (Yes/No) No

(15) Regularity Information
HARMFUL
R20 - Harmful by inhalation
S02 - Keep out of reach of children.
R36/37/38 - Irritating to eyes, skin
S16 - Keep away from sources of ignition, no smoking & respiratory system.
S23 - Do not breathe vapour/spray.
R42 - May cause sensitisation by
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 - After contact with skin, wash
S37/39 - Wear suitable gloves and eye/face protection immediately with plenty of soap & water.
S38 - In case of insufficient ventilation, wear suitable respiratory equipment.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S51 - Use only in well ventilated areas.
Other Phrases
Do not spray on flame or incandescent objects
Discard only when completely empty
Contains isocyanates
See information supplied by the manufacturer
No smoking, naked flames or other sources of ignition. Earth all electrical equipment. Take precautionary measures against static discharge.
Aerosol can is pressurised-protect from sunlight and do not expose to temperatures exceeding 50°C
Aerosol can should not be punctured or incinerated after use
All organic materials are combustible and may present a fire risk if exposed to flame, fire heat or other potential sources of ignition.

Product Registration(s)
MDI prepolymer solution in propellent

Other Information
THE (COSHH) Control of Substances Hazardous to Health Regulations 1994 may apply to the use of this product at work.
Recommended Use IF YOU FEEL UNWELL, seek medical advice (show label where possible). Required training Engineering control of operator exposure must be used where reasonably practicable.
The information contained on these sheets is, to the best of our knowledge, true and accurate, but any recommendations or suggestions are made without guarantee.