

**Section 1 Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

BITHANE hardener.  
UFI: 4DV4-A2WG-K315-MDQH

**1.2. Relevant identified uses of the substances or mixture and uses advised against**

Isocyanate. Hardener for polyurethane resins.

**1.3. Details of the supplier of the safety data sheet****Company information**

Prysmian Cables and Systems Ltd  
Oak Road, Wrexham Industrial Estate,  
Wrexham LL13 9PH

Prysmian Cavi e Sistemi Italia S.r.l.  
Via Chiese 6  
20126 – Milano  
Italy

**Telephone**

+44 (0) 1978 66 2375

**Email**

[sa.clpsd01gb@prysmiangroup.com](mailto:sa.clpsd01gb@prysmiangroup.com)

**1.4. Emergency telephone number****Emergency telephone number**

+44 (0)197 8 66 2216

**Poison Centre Information**

| Country             | Organisation                                                                                                   | Address                                                                                                       | Contact No.                 |
|---------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------|
| United Kingdom      | National Poisons Information Service (Birmingham)                                                              | National Poisons Information Service, City Hospital, Dudley Road, B18 7QH, England                            | 0344 892 0111*              |
| Republic of Ireland | Poisons Information Centre of Ireland                                                                          | National Poisons Information Centre, Beaumont Hospital, Beaumont Road, Dublin 9, Ireland                      | 01 809 2166<br>01 837 9964* |
| France              | French National Products and Composition Database (B.N.P.C.); French Poison and Toxicovigilance Centre Network | Centre Antipoison de Nancy, CHRU de Nancy, Hôpital Central, 29 av. de Lattre de Tassigny, 54000 NANCY, France | +33 3 83 85 21 92           |
| Germany             | BfR Bundesinstitut für Risikobewertung                                                                         | Max-Dohrn-Str. 8-10, 10589 Berlin                                                                             | +49 30 18412 0              |
| Italy               | Istituto Superiore di Sanità (ISS)                                                                             | Viale Regina Elena 299, Rome, Italy                                                                           |                             |
| Spain               | Instituto Nacional de Toxicología y Ciencias Forenses (INTCF)                                                  | Calle José Echegaray 4, 28032 Las Rozas de Madrid, Madrid, Spain                                              | +34 917689800               |

\* For use by healthcare professionals only.

### Section 2 Hazards identification

This product is a mixture.

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (EU "CLP" Regulation):

|                           |                   |                                     |
|---------------------------|-------------------|-------------------------------------|
| Skin Irritation           | Hazard Category 2 | H315                                |
| Skin Sensitisation        | Hazard Category 1 | H317                                |
| Eye Irritation            | Hazard Category 2 | H319                                |
| Acute Toxicity            | Hazard Category 4 | H332                                |
| Respiratory Sensitisation | Hazard Category 1 | H334                                |
| Carcinogenicity           | Hazard Category 2 | H351                                |
| STOT: Single Exposure     | Hazard Category 3 | H335 (Respiratory tract irritation) |
| STOT: Repeated Exposure   | Hazard Category 2 | H373                                |

For full text of hazard statements see Section 16.

#### 2.2. Label elements

Labelling according to Regulation (EC) 1272/2008 (EU "CLP" Regulation):

Signal Word:

Danger

GHS Pictogram



Hazard Statement:

Causes skin irritation (H315)  
 May cause allergic reaction to skin (H317)  
 Causes serious eye irritation (H319)  
 Harmful if inhaled (H332)  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled (H334)  
 May cause respiratory irritation (H335)  
 Suspected of causing cancer (H351)  
 May cause damage to respiratory organs through prolonged or repeated exposure if inhaled (H373)

Precautionary Statement (Prevention):

Do not breathe vapour or spray (P260)  
 In case of inadequate ventilation wear respiratory protection (P284)  
 Wear protective gloves/protective clothing/eye protection/face protection (P280)

Precautionary Statement (Response):

IF ON SKIN: Wash with plenty of soap and water (P302 + P352)  
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing (P304 + P340)  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. (P305 + P351 + P338)

Additional Labelling Elements:

ADEQUATE TRAINING IS REQUIRED BEFORE INDUSTRIAL OR PROFESSIONAL USE OF THIS PRODUCT.

### 2.3. Other hazards

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB. The mixture does not contain substances identified as having endocrine disrupting properties.

## Section 3 Composition / information on ingredients

This product is a mixture.

| Chemical Name                                              | CAS Number | EC Number | REACH Registration Number | Hazard Class/ Category /Statement                                                                                                                                                                                                                                       | Concentration (w/w%) |
|------------------------------------------------------------|------------|-----------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 4,4' diphenylmethane diisocyanate (isomers and homologues) | 9016-87-9  | 500-079-6 | 01-2119457024-46-XXXX     | Carc. 2; H351<br>Acute Tox. 4; H332<br>STOT RE 2; H373 (Respiratory tract, inhalation)<br>Eye Irrit. 2; H319 (C ≥ 5%)<br>STOT SE 3; H335 (Respiratory tract irritation, C ≥ 5%)<br>Skin Irrit. 2; H315 (C ≥ 5%)<br>Resp. Sens. 1; H334 (C ≥ 0.1%)<br>Skin Sens. 1; H317 | 100                  |

## Section 4 First aid measures

### 4.1. Description of first aid measures

*General information:* Remove contaminated clothing immediately.

*Skin Contact:* Wash contaminated skin immediately with soap and water. Seek medical advice in the event of persistent irritation. Contaminated clothing should be removed and thoroughly cleaned before reuse.

*Eye Contact:* Flush with large amounts of water for 10-15 mins, holding the eye open. Consult an Ophthalmologist immediately

*Inhalation:* Remove to fresh air, provide warmth and rest. If there is difficulty breathing, seek medical attention immediately.

*Ingestion:* Do not induce vomiting. Seek medical attention immediately, showing the doctor this sheet.

### 4.2. Most important symptoms and effects, both acute and delayed.

|               |                                                                                                                                                                                           |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact:  | Causes serious eye irritation. Pain or irritation, watering, redness.                                                                                                                     |
| Inhalation:   | Harmful if inhaled. This product is a respiratory irritant. Prolonged or repeated exposure may result in respiratory sensitisation. Coughing wheezing and breathing difficulties. Asthma. |
| Skin contact: | Causes skin irritation. May cause an allergic skin reaction.                                                                                                                              |
| Ingestion:    | Irritating to mouth, throat and stomach. Ingestion may cause irritation of the gastrointestinal tract.                                                                                    |

### 4.3. Indication of any immediate medical attention and special treatment needed.

No data available

**Section 5 Firefighting measures****5.1. Extinguishing media**

*Suitable extinguishing media:* Carbon dioxide, foam or dry powder.

*Unsuitable extinguishing media:* Water may only be used in copious quantities. Reaction between water and hot isocyanate may be vigorous. Keep exposed (sealed) containers cool by spraying with water.

**5.2. Special hazards arising from the substance or mixture**

*Hazards from the substance/mixture:* In a fire or if heated, a pressure increase will occur and the container may burst.

*Hazardous decomposition products:* Material decomposes to give carbon dioxide, carbon monoxide, mixed oxides of nitrogen, isocyanate vapour and traces of hydrogen cyanide.

**5.3. Advice for firefighters**

*Special precautions:* Isolate the scene by removing all persons from the vicinity of the fire. A hazardous buildup of pressure could occur if water contaminated containers are resealed.

*Special protective equipment:* Firefighters should wear appropriate protective equipment and full-face self-contained breathing apparatus. Clothing for firefighters should conform to EN 469.

**Section 6 Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non emergency personnel**

Evacuate surrounding areas. Prevent entry of unprotected personnel into contaminated areas. Avoid breathing vapours or mists. Provide adequate ventilation or ensure an appropriate respirator is worn.

**6.1.2. For emergency responders**

Evacuate surrounding areas. Prevent entry of unprotected personnel into contaminated areas. Avoid breathing vapours or mists. Provide adequate ventilation or ensure an appropriate respirator is worn.

**6.2. Environmental precautions**

Do not allow runoff or contact with soil, waterways, drains and sewers.

**6.3. Methods and material for containment and cleaning up**

*Small spill:* Stop leak if without risk. Dilute with water and mop up if water soluble. Alternatively absorb on dry inert medium and transfer for container suitable for disposal via a licensed contractor (containers should have loose fitting lids / closures).

*Large spill:* Stop leak if without risk. Approach release from upwind. Prevent release into water courses, basements, or confined areas. Absorb on dry inert medium and transfer to open topped container suitable for disposal via a licensed contractor.

**6.4. Reference to other sections**

See Section 13 for disposal information.

**Section 7 Handling and storage****7.1. Precautions for safe handling**

Protective measures:

Use appropriate personal protective equipment.  
Persons with a history of skin sensitization, allergies or asthma should not be employed in the process.  
Avoid contact with eyes skin and clothing. Do not breathe vapour or mist. Do not ingest. Wear appropriate respirator if ventilation is inadequate.  
Store in original containers re-sealed after use. Empty containers containing residue should be treated as hazardous.

Advice on general occupational hygiene:

Eating drinking and smoking should be prohibited in working areas. Wash thoroughly after handling and remove contaminated clothing.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in a cool dry location away from direct sunlight. Recommended temperature range for storage is 5°C to 40°C. Avoid contact with acids, amines and water.

**7.3. Specific end use(s)**

See Section 1.2

**Section 8 Exposure controls / personal protection****8.1. Control parameters**

|                          | 8 Hour TWA             | 15 Min STEL            |
|--------------------------|------------------------|------------------------|
| Skin sensitiser (as NCO) | 0.02 mg/m <sup>3</sup> | 0.07 mg/m <sup>3</sup> |

*Recommended monitoring procedures:* Medical supervision of all persons who come into contact with respiratory sensitisers is recommended. Personnel with a history of asthma, bronchitis or skin sensitisation should not work with MDI based products.

OELs do not apply to previously sensitised individuals who should be removed from further exposure.

**8.2. Exposure controls****8.2.1. Appropriate engineering controls**

Provide exhaust ventilation to keep airborne vapour concentrations below the OEL.

**8.2.2. Individual protection measures**

|                         |                                                                                                                                                                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hygiene measures:       | Wash exposed areas of skin thoroughly after handling.<br>Remove contaminated clothing and launder before re-use.                                                                                                                                   |
| Eye protection:         | Eye protection to an approved standard should be used to avoid exposure to liquid splashes, mists, gases or dust.                                                                                                                                  |
| Skin protection:        | Chemically resistant gloves to an approved standard (e.g. EN374) should be worn Recommended materials are nitrile rubber or (for longer term application) butyl rubber.<br>Wear standard industrial clothing including chemically resistant boots. |
| Respiratory protection: | Respiratory protection should be worn in case of inadequate ventilation / usage in confined spaces.                                                                                                                                                |
| Thermal hazards:        | No additional information available.                                                                                                                                                                                                               |

**8.2.3. Environmental exposure controls**

Do not allow runoff or contact with soil, waterways, drains and sewers.

**Section 9 Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|                                                                |                                                      |
|----------------------------------------------------------------|------------------------------------------------------|
| Physical state:                                                | Liquid                                               |
| Colour:                                                        | Brown                                                |
| Odour:                                                         | Earthy/musty                                         |
| Odour threshold:                                               | No data available                                    |
| Melting point:                                                 | Not applicable                                       |
| Freezing point:                                                | Crystallises below 5 °C                              |
| Boiling point:                                                 | 300°C                                                |
| Flammability:                                                  | No data available                                    |
| Lower explosion limit:                                         | No data available                                    |
| Upper explosion limit:                                         | No data available                                    |
| Flash point:                                                   | >250°C                                               |
| Auto-ignition temperature:                                     | No data available                                    |
| Decomposition temperature:                                     | No data available                                    |
| pH:                                                            | Not applicable                                       |
| Viscosity, kinematic:                                          | Approx 300 mPa·s at 20 °C                            |
| Solubility:                                                    | Insoluble in water, reacts producing CO <sub>2</sub> |
| Partition coefficient n-octanol/water: (Log K <sub>ow</sub> ): | No data available                                    |
| Vapour pressure:                                               | <0.001 Pa at 20°C                                    |
| Vapour pressure at 50°C                                        | No data available                                    |
| Density:                                                       | 1240 kg/m <sup>3</sup> at 20°C                       |
| Relative density:                                              | No data available                                    |
| Relative vapour density at 20°C                                | 8.5 (relative to air)                                |
| Particle characteristics                                       | Does not contain nanomaterials                       |

**9.2. Other information****9.2.1. Information with regard to physical hazard classes**

No additional information available.

**9.2.2. Other safety characteristics**

No additional information available.

**Section 10 Stability and reactivity****10.1. Reactivity**

No specific data available.

**10.2. Chemical stability**

Stable at room temperature and temperatures up to 60°C.

**10.3. Possibility of hazardous reactions**

Polymerises at about 200 °C with evolution of CO<sub>2</sub>. Exothermic reaction with alkalis, alcohols and amines and water. May result in dangerous pressure build-up in closed containers.

### 10.4. Conditions to avoid

Avoid high temperatures.

### 10.5. Incompatible materials

Alcohols, amines, water, acids and bases.

### 10.6. Hazardous decomposition products

Combustion products may include carbon monoxide, carbon dioxide, mixed oxides of nitrogen and hydrogen cyanide.

## Section 11 Toxicological information

### 11.1. Information on toxicological effects

#### Acute Toxicity

| Route                       | Test | Species               | Duration | Result         |
|-----------------------------|------|-----------------------|----------|----------------|
| Oral                        | LD50 | Rat (male, female)    | -        | > 10,000 mg/kg |
| Inhalation, dusts and mists | LC50 | Rat (male, female)    | 4 hr     | 0.49 mg/L      |
| Dermal                      | LD50 | Rabbit (male, female) | -        | > 9400 mg/kg   |

Skin corrosion/irritation:

Causes skin irritation. May cause an allergic skin reaction. Studies have shown that respiratory sensitisation can be induced via contact with respiratory sensitisers such as diisocyanates.

Serious eye damage/irritation:

Causes serious eye irritation.

Sensitisation data:

Product is a respiratory irritant and potential respiratory sensitiser. Studies have shown that respiratory sensitisation can be induced via contact with respiratory sensitisers such as diisocyanates.

Germ cell mutagenicity

Data not available

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Data not available

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damaged to respiratory organs through prolonged or repeated exposure if inhaled.

Aspiration hazard

Data not available

### 11.2. Information on other hazards

The mixture does not contain substances identified as having endocrine disrupting properties.

## Section 12 Ecological information

### 12.1. Toxicity

|                          | Test | Species                          | Duration | Result      |
|--------------------------|------|----------------------------------|----------|-------------|
| Toxicity, daphnia        | EC50 |                                  | 24 hours | > 1000 mg/L |
| Acute toxicity, fish     | LCO  | <i>Bracchydanio rerio</i>        | 96 hours | > 1000 mg/L |
| Acute toxicity, bacteria | EC50 | Activated sludge microorganisms. | 24 hours | > 100 mg/L  |



**12.2. Persistence and degradability**

Reacts with water at the interface producing CO<sub>2</sub> and forming a solid, insoluble high melting point solid (polyurea). The reaction product is non-biodegradable.

**12.3. Bioaccumulative potential**

No significant bioaccumulation.

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

**12.6. Endocrine disrupting properties**

The mixture does not contain substances identified as having endocrine disrupting properties.

**12.7. Other adverse effects**

None known.

**Section 13 Disposal considerations****13.1. Waste treatment methods**

Product:

Generation of waste should be avoided wherever possible. Disposal of this product should comply with the requirements of environmental protection and waste disposal legislation together with any local authority requirements. Disposal should be via a licensed waste operator. Waste is considered hazardous. Avoid dispersal of waste material and runoff into soil, waterways, drains and sewers.

Packaging:

Used resin packaging containing fully mixed and cured residue is non-hazardous and may be disposed of as general waste. If disposal by mixing scrap or waste resin packs off is not feasible then disposal should be via a licensed operator (normally controlled incineration or landfill).

Local legislation

Waste catalogue:

Waste code:

EU Waste Disposal Code (EWC)

08 05 01\*, Waste isocyanates

16 03 05\*, Organic wastes containing dangerous substances

**Section 14 Transport information****14.1. UN number or ID number**

Not regulated under transport regulation.

**14.2. UN proper shipping name**

Not regulated under transport regulation.

**14.3. Transport hazard class**

Not regulated under transport regulation.

**14.4. Packing group**

Not regulated under transport regulation.

**14.5. Environmental hazards**

Not regulated under transport regulation.

**14.6. Special precautions for user**

Not classified as hazardous for transport.

**14.7. Maritime transport in bulk according to IMO instruments**

No data available.

**Section 15 Regulatory information**

This Safety Data Sheet has been prepared in accordance with the requirements of regulation (EC) No 1907/2006 as amended.

Labelling elements as classified under Regulation (EC) 1272/2008.

The Workplace exposure Limit given in Section 8 has been taken from the UK HSE document: EH40/2005 Workplace Exposure Limits as amended.

Additional relevant regulations:

Regulation (EC) 790/2009 First Adaptation to Technical Progress (ATP) for CLP regulation

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

None applicable.

**15.2. Chemical safety assessment**

A chemical safety assessment has not been undertaken for this mixture.

**Section 16 Other information****Full text of H-Statements**

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to respiratory organs through prolonged or repeated exposure if inhaled.

This SDS (version 5.0) is the 5<sup>th</sup> version of this SDS for this product.

This information is believed to be accurate and represents the best information available to the company at this time. This information is provided as a guide to the hazards and respective safety precautions relevant to this product. This SDS does not represent any guarantee of performance or specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.