

# Material Safety Data Sheet

## According to 2001/58/EC

Printing date 25.09.2006

Reviewed on 25.09.2006

### 1 Identification of the substance/preparation and of the company/undertaking

· **Product details**

- **Trade name:** 2-Component polyurethane foam
- **Application of the substance / the preparation**  
2 component polyurethane montage foam in aerosol cans  
B2 quality

· **Manufacturer/Supplier:**

Den Braven Sealants bv  
Denariusstraat 11  
4903 RC Oosterhout  
P.O. Box 194  
4900 AD Oosterhout  
Nederland








- **Further information obtainable from:** Abteilung Umweltschutz
- **Information in case of emergency:** +31 (0)413-268716

### 2 Composition/information on ingredients

· **Chemical characterization**

- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues  Xn,  Xi; R 20-36/37/38-42/43	25-50%
CAS: 13674-84-5	tris(2-chlorisopropyl)-phosphate R 52/53	10-25%
CAS: 75-28-5 EINECS: 200-857-2	isobutane  F+; R 12	2.5-10%
CAS: 107-21-1 EINECS: 203-473-3	ethanediol  Xn; R 22	2.5-10%
CAS: 115-10-6 EINECS: 204-065-8	dimethyl ether  F+; R 12	2.5-10%
CAS: 86675-46-9	halogenated polyether polyol  Xn; R 22	2.5-10%
CAS: 74-98-6 EINECS: 200-827-9	propane  F+; R 12	2.5-10%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 3 Hazards identification

· **Hazard description:**



Xn Harmful  
F+ Extremely flammable

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Warning! Pressurized container.

R 12 Extremely flammable.

R 20 Harmful by inhalation.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 42/43 May cause sensitisation by inhalation and skin contact.

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Contains isocyanates. See information supplied by the manufacturer

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.

Buildup of explosive mixtures possible without sufficient ventilation.

Keep out of the reach of children

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Additional information:**

When transported by motorcar or truck cans have to stand upright in the boot or on the loading space - not in car interior.

Do not use if the temperature of the can exceeds +25°C - danger of bursting- If necessary cans have to cool in a water bath.

When both components are mixed heat will develop. After activation empty the can completely within the period of time given by the manufacturer.

The blowing agent is extremely flammable.

Only unreacted formulation or fresh foam is harmful.

### 4 First-aid measures

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

Fresh foam remove or scrape carefully.

· **After swallowing:** Call for a doctor immediately.

### 5 Fire-fighting measures

· **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards caused by the substance, its products of combustion or resulting gases:**

Formation of toxic gases is possible during heating or in case of fire.

Can form explosive gas-air mixtures.

Danger of bursting by heating.

· **Protective equipment:** Mouth respiratory protective device.

· **Additional information** Cool endangered receptacles with water spray.

### 6 Accidental release measures

· **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.

· **Measures for environmental protection:**

Do not allow product to reach sewage system or any water course.

Do not allow to enter sewers/ surface or ground water.

· **Measures for cleaning/collecting:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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Do not flush with water or aqueous cleansing agents  
Foamed out fresh material should be wetted or covered with moisture absorbing materials (sand, wood shavings, absorbing chemicals) for curing

### 7 Handling and storage

- **Handling:**
- **Information for safe handling:**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Use up the activated can immediately within the period of time specified by the manufacturer
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.  
Do not spray onto a naked flame or any incandescent material.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool location.  
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Ingredients with limit values that require monitoring at the workplace:**

#### 9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

MEL	Short-term value: 0.07 mg/m <sup>3</sup> Long-term value: 0.02 mg/m <sup>3</sup> Sen; as -NCO
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#### 811-97-2 1,1,1,2-Tetrafluorethan

OES	Long-term value: 4240 mg/m <sup>3</sup> , 1000 ppm
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#### 107-21-1 ethanediol

OES	Short-term value: 104** mg/m <sup>3</sup> Long-term value: 10* 52** mg/m <sup>3</sup> *particulate, IOELV, Sk **vapour, New, IOELV, Sk
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#### 115-10-6 dimethyl ether

OES	Short-term value: 958 mg/m <sup>3</sup> , 500 ppm Long-term value: 766 mg/m <sup>3</sup> , 400 ppm IOELV
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- **Additional information:** The lists valid during the making were used as basis.

- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

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· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.  
Not necessary if room is well-ventilated.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR

Chloroprene rubber, CR

Recommended thickness of the material:  $\geq 0.5$  mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

### 9 Physical and chemical properties

· **General Information**

<b>Form:</b>	Aerosol
<b>Colour:</b>	beige or coloured
<b>Odour:</b>	Characteristic

· **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** Not applicable, as aerosol.

· **Flash point:** Not applicable, as aerosol.

· **Ignition temperature:** 235°C

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** In use, may form flammable/explosive vapour-air mixture.

· **Vapour pressure at 20°C:** 6 bar

· **Density at 20°C:** 1.03 g/cm<sup>3</sup>

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

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### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.  
Danger of bursting by heating.
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

**9016-87-9 diphenylmethanediisocyanate, isomers and homologues**

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50/4 h	0.49 mg/l (rat)

**13674-84-5 tris(2-chlorisopropyl)-phosphate**

Oral	LD50	3600 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**  
Sensitization possible through inhalation.  
Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful  
Irritant

### 12 Ecological information

- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### 13 Disposal considerations

- **Product:**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
Taking back and recycling of empty cans free of charge in Germany :  
PDR Recycling GmbH & Co KG  
Am -Alten-Sägewerk 3  
D-95349 Thurnau  
Free call 0800 783 67 36  
Fax 0800 783 67 37
- **Waste disposal key:**  
Cured material: 170603  
Empty cans: 160504

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

· **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 2 5F Gases.
- **Danger code (Kemler):** 23
- **UN-Number:** 1950
- **Packaging group:** -
- **Hazard label** 2.1
- **Description of goods:** 1950 AEROSOLS
- **Remarks:** LQ2

· **Maritime transport IMDG:**



- **IMDG Class:** 2.1
- **UN Number:** 1950
- **Label** 2.1
- **Packaging group:** -
- **EMS Number:** F-D,S-U
- **Marine pollutant:** No
- **Proper shipping name:** AEROSOLS

· **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 2.1
- **UN/ID Number:** 1950
- **Label** 2.1
- **Packaging group:** -
- **Proper shipping name:** AEROSOLS, flammable

### 15 Regulatory information

- **Labelling according to EU guidelines:**  
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
- **Code letter and hazard designation of product:**  
Xn Harmful  
F+ Extremely flammable

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- **Hazard-determining components of labelling:**  
*diphenylmethanediisocyanate, isomers and homologues*
- **Risk phrases:**
  - 12 *Extremely flammable.*
  - 20 *Harmful by inhalation.*
  - 36/37/38 *Irritating to eyes, respiratory system and skin.*
  - 42/43 *May cause sensitisation by inhalation and skin contact.*
- **Safety phrases:**
  - 2 *Keep out of the reach of children.*
  - 9 *Keep container in a well-ventilated place.*
  - 16 *Keep away from sources of ignition - No smoking.*
  - 24/25 *Avoid contact with skin and eyes.*
  - 26 *In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.*
  - 37/39 *Wear suitable gloves and eye/face protection.*
  - 45 *In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).*
  - 51 *Use only in well-ventilated areas.*
  - 56 *Dispose of this material and its container to hazardous or special waste collection point.*
- **Special labelling of certain preparations:**
  - Contains isocyanates. See information supplied by the manufacturer*
  - Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.*
  - Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.*
  - Buildup of explosive mixtures possible without sufficient ventilation.*
  - Keep out of the reach of children*
- **National regulations:**
- **Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.*

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Relevant R-phrases**
  - 12 *Extremely flammable.*
  - 20 *Harmful by inhalation.*
  - 22 *Harmful if swallowed.*
  - 36/37/38 *Irritating to eyes, respiratory system and skin.*
  - 42/43 *May cause sensitisation by inhalation and skin contact.*
  - 52/53 *Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- **Department issuing MSDS:** *Abteilung Umweltschutz*
- **Contact:** *Herr Häring jun.*