



MERECO

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 07/20/2012

Version 2

Reviewed on 07/20/2012

## \* 1 Identification of the substance/mixture and of the company/undertaking

### · Product identifier

· Trade name: **Metrethane 4734 Activator Black**

· Relevant identified uses of the substance or mixture and uses advised against: No further relevant information available.

· Application of the substance / the preparation: Hardening agent / Curing agent

### · Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Mereco Division  
Metachem Resins Corporation  
1505 Main Street  
West Warwick, RI 02893  
USA Phone +1 / 401 / 822-9300

· Information department: Technical department.  
email = [info@mereco.com](mailto:info@mereco.com)

· Emergency telephone number: Telephone: (401) 822-9300

## \* 2 Hazards identification

### · Classification of the substance or mixture

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

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

The product has to be labelled due to the calculation procedure of international guidelines.

· Classification system: The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

### · Label elements

#### · Labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals. The product has been classified and marked in accordance with directives on hazardous materials.

· Code letter and hazard designation of product: Xi Irritant

· Risk phrases: 36/37/38 Irritating to eyes, respiratory system and skin.

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· **Special labelling of certain preparations:**

Contains epoxy constituents. See information supplied by the manufacturer.  
Contains Diglycidyl ether Bisphenol-A epoxy resin. May produce an allergic reaction.

· **Classification system:**

- **NFPA ratings (scale 0 - 4)** Health = 1  
Fire = 1  
Reactivity = 0
- **HMS-ratings (scale 0 - 4)** Health = 1  
Fire = 1  
Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.  
· **vPvB:** Not applicable.
- 

\* **3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with non-hazardous additions.

· <b>Components:</b>	
Mineral filler	Xi R36/37/38
Diglycidyl Ether Bisphenol-A epoxy resin	Xi R36/38-43; N R51/53

· **Additional information:**

For the wording of the listed risk phrases refer to section 16.  
This material is a blend of liquid curing agents and mineral or ceramic powders. The powders do not pose airborne hazards to the user of this formulated product because they are completely encapsulated in the liquid materials. If any of the specific powdered ingredients are hazardous in accordance with Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) they are identified in Section 15 of the MSDS (SARA Section 313).

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\* **4 First aid measures**

· **Description of first aid measures**

- **After inhalation:** In case of unconsciousness place patient in a stable 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. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.

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· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

\* **5 Firefighting measures**

· **Extinguishing media**

· **Suitable extinguishing agents:**

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

· **Special hazards arising from the substance or mixture**

No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:**

No special measures required.

\* **6 Accidental release measures**

· **Personal precautions, protective equipment and emergency procedures**

Not required.

· **Environmental precautions:**

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

· **Methods and material for**

**containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

\* **7 Handling and storage**

· **Handling:**

· **Precautions for safe handling**

Store in cool, dry place in tightly closed receptacles. Use only in well ventilated areas.

· **Information about protection against explosions and fires:**

No special measures required.

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- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:** No special requirements.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:** Keep receptacle tightly sealed.
  - **Specific end use(s)** No further relevant information available.
- 

## \* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:** The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - **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.
    - **Breathing equipment:** In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
    - **Protection of hands:** Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material is based on consideration of the penetration times, rates of diffusion and the degradation of the material.
    - **Material of gloves** The selection of suitable gloves depends not only 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

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|---|--|
| <ul style="list-style-type: none"> <li>· <b>Penetration time of glove material</b></li> <li>· <b>Eye protection:</b></li> </ul> | <p>application.</p> <p>The exact penetration time has to be determined by the glove manufacturer and has to be observed.</p> <p>Tightly sealed goggles</p> |
|---|--|
- 

## \* 9 Physical and chemical properties

· <b>Information on basic physical and chemical properties</b>	
· <b>General Information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	Viscous
· <b>Color:</b>	Black
· <b>Odor:</b>	Mild
· <b>Odour threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	313°C
· <b>Flash point:</b>	282°C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	450°C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not self-igniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20°C:</b>	1 hPa
· <b>Density at 20°C:</b>	
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
· <b>Dynamic:</b>	Not determined.

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· <b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

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## \* 10 Stability and reactivity

- **Reactivity**
    - **Chemical stability**
      - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
    - **Possibility of hazardous reactions** No dangerous reactions known.
    - **Conditions to avoid** No further relevant information available.
    - **Incompatible materials:** No further relevant information available.
    - **Hazardous decomposition products:** Irritant gases/vapors
- 

## \* 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
8001-79-4 Castor oil		
Oral	LD50	>4952 mg/kg (rat)

- **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:** The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>		
1333-86-4	Carbon black	2B <0.5%

· <b>NTP (National Toxicology Program)</b>		
None of the ingredients is listed.		

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## \* 12 Ecological information

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.

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- **Persistence and degradability** No further relevant information available.
  - **Behavior in environmental systems:**
    - **Bioaccumulative potential** No further relevant information available.
    - **Mobility in soil** No further relevant information available.
  - **Additional ecological information:**
    - **General notes:** Water hazard class 1 (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.
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.
  - **Other adverse effects** No further relevant information available.
- 

## 13 Disposal considerations

- **Waste treatment methods**
    - **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
  - **Uncleaned packagings:**
    - **Recommendation:** Disposal must be made according to official regulations.
- 

## \* 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, ADR, ADN, IMDG, IATA</b>	Not Applicable
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Not Regulated
· <b>ADR, ADN, IMDG, IATA</b>	Not Applicable
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	Not Applicable
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	Not Applicable
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

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## \* 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· <b>Section 302 (extremely hazardous substances):</b>		
None of the ingredients is listed.		
· <b>Section 313 (Specific toxic chemical listings):</b>		
None of the ingredients is listed by CAS number.		
· <b>Sections 311/312 (Specific hazard chemical listings):</b>		
None of the ingredients is listed.		
· <b>Sections 311/312 Hazard Categorizations:</b>		
None of the ingredients is listed.		
· <b>TSCA (Toxic Substances Control Act):</b>		
All ingredients are listed.		
· <b>Proposition 65</b>		
· <b>Chemicals known to cause cancer:</b>		
1333-86-4	Carbon black	<0.5%
· <b>Chemicals known to cause reproductive toxicity for females:</b>		
None of the ingredients is listed.		
· <b>Chemicals known to cause reproductive toxicity for males:</b>		
None of the ingredients is listed.		
· <b>Chemicals known to cause developmental toxicity:</b>		
None of the ingredients is listed.		
· <b>Carcinogenic categories</b>		
· <b>EPA (Environmental Protection Agency)</b>		
None of the ingredients is listed.		
· <b>TLV (Threshold Limit Value established by ACGIH)</b>		
None of the ingredients is listed.		
· <b>MAK (German Maximum Workplace Concentration)</b>		
1333-86-4	Carbon black	3B <0.5%
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
1333-86-4	Carbon black	<0.5%
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
None of the ingredients is listed.		
· <b>Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.		

## 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.

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- **Relevant phrases**
  - R36/37/38 Irritating to eyes, respiratory system and skin.
  - R36/38 Irritating to eyes and skin.
  - R43 May cause sensitisation by skin contact.
  - R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Department issuing MSDS:** Technical department
- **Contact:** Dr. John F. Plummer
- **\* Data compared to the previous version altered.**

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## \* 1 Identification of the substance/mixture and of the company/undertaking

### · Product identifier

· Trade name: **Metrethane 4734 Base**

· Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.

· Application of the substance / the preparation Isocyanate resin

### · Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Mereco Division  
Metachem Resins Corporation  
1505 Main Street  
West Warwick, RI 02893  
USA Phone +1 / 401 / 822-9300

· Information department: Technical department.  
email = [info@mereco.com](mailto:info@mereco.com)

· Emergency telephone number: Telephone: (401) 822-9300

## \* 2 Hazards identification

### · Classification of the substance or mixture

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R20/22: Harmful by inhalation and if swallowed.

Xi; Irritant

R36/37/38-42/43: Irritating to eyes, respiratory system and skin. May cause sensitisation by inhalation and skin contact.

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

The product has to be labelled due to the calculation procedure of international guidelines. Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.

· Classification system: The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

### · Label elements

#### · Labelling according to EU guidelines:

The product has been classified and marked in accordance with directives on hazardous materials.

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- **Code letter and hazard designation of product:** Xn Harmful
- **Hazard-determining components of labelling:** diphenylmethanediisocyanate, isomers and homologues  
4,4'-methylenediphenyl diisocyanate  
methylenediphenyl diisocyanate (2,2'; 2,4)
- **Risk phrases:** 20/22 Harmful by inhalation and if swallowed.  
36/37/38 Irritating to eyes, respiratory system and skin.  
42/43 May cause sensitisation by inhalation and skin contact.
- **Safety phrases:** 9 Keep container in a well-ventilated place.  
23 Do not breathe gas/fumes/vapour/spray.  
24 Avoid contact with skin.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
37 Wear suitable gloves.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
60 This material and its container must be disposed of as hazardous waste.
- **Special labelling of certain preparations:** Contains isocyanates. See information supplied by the manufacturer.
- **Classification system:**
  - **NFPA ratings (scale 0 - 4)** Health = 3  
Fire = 1  
Reactivity = 1
  - **HMIS-ratings (scale 0 - 4)** Health = \*3  
Fire = 1  
Reactivity = 1
- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

## \* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
  - **Description:** Mixture of the substances listed below with non-hazardous additions.

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· <b>Components:</b>		
9016-87-9	diphenylmethanediisocyanate, isomers and homologues	Xn R20-40-48/20; Xi R36/37/38-42/43 Carc. Cat. 3
101-68-8	4,4'-methylenediphenyl diisocyanate	Xn R20-40-48/20; Xi R36/37/38-42/43 Carc. Cat. 3
26447-40-5	methylenediphenyl diisocyanate (2,2'; 2,4)	Xn R20-40-48/20; Xi R36/37/38-42/43 Carc. Cat. 3

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

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## \* 4 First aid measures

### · Description of first aid measures

- **General information:** Symptoms of poisoning may even occur after several hours; therefore medical observation is necessary for at least 48 hours after the accident.  
Seek immediate medical advice.
  - **After inhalation:** Supply fresh air. For added safety, call a doctor.  
In case of unconsciousness place patient in a stable side position for transportation.
  - **After skin contact:** Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
  - **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - **After swallowing:** Immediately call a doctor.  
Induce vomiting, if person is conscious. Seek medical help.
  - **Information for doctor:**
    - **Most important symptoms and effects, both acute and delayed** Breathing difficulty  
Nausea
    - **Indication of any immediate medical attention and special treatment needed** No further relevant information available.
- 

## 5 Firefighting measures

### · Extinguishing media

- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.  
Foam
- **For safety reasons unsuitable extinguishing agents:** Water

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- **Special hazards arising from the substance or mixture** Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
  - **Protective equipment:** Mouth respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

## \* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Mouth respiratory protective device.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections** See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## \* 7 Handling and storage

- **Handling:**
  - **Precautions for safe handling** Store in cool, dry place in tightly closed receptacles.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Use only in well ventilated areas.
  - **Information about protection against explosions and fires:** Protect from heat.  
Emergency cooling must be available in case of nearby fire.
- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:** No special requirements.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:** Keep receptacle tightly sealed.  
Protect from humidity and water.  
Store in cool, dry conditions in well sealed receptacles.  
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

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- **Specific end use(s)** No further relevant information available.

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\* **8 Exposure controls/personal protection**

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

- **Control parameters**

· <b>Components with limit values that require monitoring at the workplace:</b>	
<b>101-68-8 4,4'-methylenediphenyl diisocyanate</b>	
PEL	Short-term value: C 0.2 mg/m <sup>3</sup> , C 0.02 ppm
REL	Short-term value: C 0.2* mg/m <sup>3</sup> , C 0.02* ppm Long-term value: 0.05 mg/m <sup>3</sup> , 0.005 ppm *10-min
TLV	0.051 mg/m <sup>3</sup> , 0.005 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **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.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**

Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material is based on consideration of the penetration times, rates of diffusion and the degradation of the material.

- **Material of gloves**

The selection of suitable gloves depends not only 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 penetration time has to be determined by the glove manufacturer and has to be observed.

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· **Eye protection:** Tightly sealed goggles

## \* 9 Physical and chemical properties

· <b>Information on basic physical and chemical properties</b>	
· <b>General Information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	Liquid
· <b>Color:</b>	Dark brown
· <b>Odor:</b>	Mild
· <b>Odour threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	190°C
· <b>Flash point:</b>	111°C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	400°C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not self-igniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	0.4 Vol %
· <b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density at 20°C:</b>	
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Hydrolized.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	0.0 %

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<b>· Other information</b>	No further relevant information available.
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## \* 10 Stability and reactivity

- **Reactivity**
  - **Chemical stability**
    - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
  - **Possibility of hazardous reactions**
    - Reacts with water.
    - Reacts with amines.
  - **Conditions to avoid**
    - No further relevant information available.
  - **Incompatible materials:**
    - Protect from humidity and water.
    - Reacts with water.
  - **Hazardous decomposition products:**
    - Nitrogen oxides
    - Isocyanate
    - Irritant gases/vapors (possible HCN)

## \* 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>101-68-8 4,4'-methylenediphenyl diisocyanate</b>		
Oral	LD50	2200 mg/kg (mouse) > 10000 mg/kg (rat)
Dermal	LD50	> 6200 mg/kg (rabbit)

- **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 internally approved calculation methods for preparations:  
Harmful  
Irritant

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· **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>			
9016-87-9	diphenylmethanediisocyanate, isomers and homologues	3	40-60%
101-68-8	4,4'-methylenediphenyl diisocyanate	3	20-40%
· <b>NTP (National Toxicology Program)</b>			
None of the ingredients is listed.			

\* **12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Water hazard class 1 (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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

· **Waste treatment methods**

· **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

\* **14 Transport information**

· <b>UN-Number</b>	
· <b>DOT, ADR, ADN, IMDG, IATA</b>	Not Applicable
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Not Regulated
· <b>ADR, ADN, IMDG, IATA</b>	Not Applicable

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· <b>Transport hazard class(es)</b>	
· DOT, ADR, ADN, IMDG, IATA	
· Class	Not Applicable
· <b>Packing group</b>	
· DOT, ADR, IMDG, IATA	Not Applicable
· <b>Environmental hazards:</b>	
· Marine pollutant:	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

## \* 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· <b>Section 302 (extremely hazardous substances):</b>			
None of the ingredients is listed.			
· <b>Section 313 (Specific toxic chemical listings):</b>			
9016-87-9	diphenylmethanediisocyanate, isomers and homologues		40-60%
101-68-8	4,4'-methylenediphenyl diisocyanate		20-40%
· <b>Sections 311/312 (Specific hazard chemical listings):</b>			
All ingredients are listed.			
· <b>Sections 311/312 Hazard Categorizations:</b>			
9016-87-9	diphenylmethanediisocyanate, isomers and homologues	A = Acute; C = Chronic (health hazards)	40-60%
101-68-8	4,4'-methylenediphenyl diisocyanate	A = Acute; C = Chronic (health hazards)	20-40%
26447-40-5	methylenediphenyl diisocyanate (2,2'; 2,4)	A = Acute; C = Chronic (health hazards)	10-20%
· <b>TSCA (Toxic Substances Control Act):</b>			
All ingredients are listed.			
· <b>Proposition 65</b>			
· <b>Chemicals known to cause cancer:</b>			
None of the ingredients is listed.			
· <b>Chemicals known to cause reproductive toxicity for females:</b>			
None of the ingredients is listed.			

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· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

9016-87-9	diphenylmethanediisocyanate, isomers and homologues	CBD
101-68-8	4,4'-methylenediphenyl diisocyanate	CBD

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

9016-87-9	diphenylmethanediisocyanate, isomers and homologues	4	40-60%
101-68-8	4,4'-methylenediphenyl diisocyanate	4	20-40%

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

\* **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 phrases**

R20 Harmful by inhalation.  
 R36/37/38 Irritating to eyes, respiratory system and skin.  
 R40 Limited evidence of a carcinogenic effect.  
 R42/43 May cause sensitisation by inhalation and skin contact.  
 R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

· **Department issuing MSDS:** Technical department

· **Contact:** Dr. John F. Plummer

· \* **Data compared to the previous version altered.**