1 Identification

- Product identifier
- Trade name: Spal-Pro 2000 Part A
- Other means of identification: No other identifiers
- Recommended use and restriction on use
  - Recommended use: Epoxy joint filler
  - Restrictions on use: No relevant information available.
- Details of the supplier of the Safety Data Sheet
  - Manufacturer/Supplier: METZGER/McGUIRE
  - Mailing Address: PO Box 2217 Concord, NH 03302
  - Shipping Address: 807 Route 3-A Bow, NH 03304
  - Phone: 603-224-6122
  - Toll Free: 800-223-6680
  - Email: info@metzgermcguire.com
- Emergency telephone number:
  - ChemTel Inc. (800)255-3924 (North America)
  - +1 (813)248-0585 (International)

2 Hazard(s) identification

Classification of the substance or mixture

Skin Sens. 1 H317 May cause an allergic skin reaction.

Label elements

- GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms:
  - GHS07

Signal word: Warning

Hazard statements:

H317 May cause an allergic skin reaction.

Precautionary statements:

- P261 Avoid breathing mist, vapors, or spray.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection.
- P302+P352 If on skin: Wash with plenty of soap and water.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P363 Wash contaminated clothing before reuse.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Identity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>106264-79-3 1,3-Benzenediamine, 2(or 4)-methyl-4,6(or 2,6)-bis(methylthio)-</td>
<td>10-20%</td>
<td></td>
</tr>
<tr>
<td>5285-80-0 4,4'-methylenebis[N-sec-butylaniline]</td>
<td>0-5%</td>
<td></td>
</tr>
<tr>
<td>102-60-3 1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol</td>
<td>0-5%</td>
<td></td>
</tr>
<tr>
<td>1333-86-4 Carbon black</td>
<td>0-5%</td>
<td></td>
</tr>
<tr>
<td>13463-07-7 titanium dioxide</td>
<td>0-5%</td>
<td></td>
</tr>
<tr>
<td>104-19-8 N,N,4-trimethylpiperazine-1-ethylamine</td>
<td>&lt;1%</td>
<td></td>
</tr>
</tbody>
</table>

Additional information:

- For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
- Non-classification as a carcinogen is based on non-respirable form of product.
- For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

Description of first aid measures

- After inhalation:
  - Respiration: particulates is unlikely during normal usage.
  - Supply fresh air, consult doctor in case of complaints.
- After skin contact:
  - Do not pull solidified product away from the skin.
  - Immediately wash with water and soap and rinse thoroughly.
  - If skin irritation or rash occurs: Get medical advice/attention.
- After eye contact:
  - Remove contact lenses if worn, if possible.
  - Rinse opened eye for several minutes under running water.
  - If symptoms persist, consult a doctor.
- After swallowing:
  - Rinse out mouth and then drink plenty of water.
  - Do not induce vomiting: immediately call for medical help.

Most important symptoms and effects, both acute and delayed:

- Headache
- Breathing difficulty
- Coughing
Trade name: Spal-Pro 2000 Part A

47.0

Allergic reactions
Nausea in case of ingestion.
Gastric or intestinal disorders when ingested.
Vomiting.
Diarrhea.
Slight irritant effect on eyes.
Slight irritant effect on skin and mucous membranes.

Indication of any immediate medical attention and special treatment needed:
Contains 1,3-Benzenediamine, 2(or 4)-methyl-4,6(or 2,6)-bis(methylthio)-. May produce an allergic reaction.
Treat skin and mucous membrane with antihistamine and corticoid preparations.
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· Extinguishing media
Suitable extinguishing agents:
Water fog/haze
Foam
Gaseous extinguishing agents
Fire-extinguishing powder
For safety reasons unsuitable extinguishing agents: Water spray

· 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:
Wear self-contained respiratory protective device.
Wear protective suit.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation.
Use personal protective equipment as required.

· Environmental precautions
Do not allow to enter sewers/surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.

· Methods and material for containment and cleaning up
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.

· 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:
Use only in well ventilated areas.
Avoid contact with the eyes and skin.
Open and handle receptacle with care.
Avoid breathing mist, vapors, or spray.

· Information about protection against explosions and fires:
Keep respiratory protective device available.

· Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
Store in cool, dry conditions in well sealed receptacles.

· Information about storage in one common storage facility:
Store away from foodstuffs.

Specific end use(s)
No relevant information available.

8 Exposure controls/personal protection

· Control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL (USA)</th>
<th>REL (USA)</th>
<th>TLV (USA)</th>
<th>EL (Canada)</th>
<th>EV (Canada)</th>
<th>LMPE (Mexico)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1333-86-4 Carbon black</td>
<td>Long-term value: 3.5 mg/m³</td>
<td>Long-term value: 3.5* mg/m³</td>
<td>*0.1 in presence of PAHs; See Pocket Guide Apps.A+C</td>
<td>Long-term value: 3 mg/m³</td>
<td>Long-term value: 3 mg/m³</td>
<td>Long-term value: 3* mg/m³</td>
</tr>
<tr>
<td>13463-67-7 Titanium dioxide</td>
<td>Long-term value: 15 mg/m³</td>
<td>Long-term value: 15 mg/m³</td>
<td>Long-term value: 10 mg/m³</td>
<td>Long-term value: 10 mg/m³</td>
<td>Long-term value: 10 mg/m³</td>
<td>Long-term value: 10 mg/m³</td>
</tr>
</tbody>
</table>

· Exposure controls
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
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.
Avoid breathing mist, vapors, or spray.

Engineering controls: No relevant information available.
Breathing equipment: Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.

Protection of hands: Protective gloves
Eye protection: Safety glasses
Body protection: Protective work clothing

Limitation and supervision of exposure into the environment
Avoid release to the environment.
Risk management measures No relevant information available.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - Appearance: Liquid
  - Color: According to product specification
  - Odor: Not determined.
  - Odor threshold: Not determined.
- pH-value: Not determined.
- Melting point/Melting range: Not determined.
- Boiling point/Boiling range: Not determined.
- Flash point: >93 °C (>199.4 °F)
- Flammability (solid, gaseous): Not applicable.
- Auto-ignition temperature: Not determined.
- Decomposition temperature: Not determined.
- Danger of explosion: Product does not present an explosion hazard.
- Explosion limits
  - Lower: Not determined.
  - Upper: Not determined.
- Oxidizing properties: Not determined.
- Vapor pressure: Not determined.
- Density: Not determined.
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water: Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- Other information No relevant information available.

10 Stability and reactivity

- Reactivity: No relevant information available.
- Chemical stability: Stable under normal temperatures and pressures.
- Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions Exothermic polymerization.
Reacts with oxidizing agents.
Reacts with strong acids and alkali.
Reacts with peroxides and other radical forming substances.
- Conditions to avoid
Store away from oxidizing agents.
Avoid acids.
Excessive heat.
- Incompatible materials Oxidizers, strong bases, strong acids
- Hazardous decomposition products Carbon monoxide and carbon dioxide

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity: Based on available data, the classification criteria are not met.
- LD/LC50 values that are relevant for classification:
  - 106264-79-3, 1,3-Benzenediamine, 2(or 4)-methyl-4,6(or 2,6)-bis(methylthio)-
    LD50 1420 mg/kg (rat)
- 101-19-8, N,N,4-trimethylpiperazine-1-ethylamine
  - Oral LD50 390 mg/kg (rabbit)
- Primary irritant effect:

47. On the skin: Based on available data, the classification criteria are not met.

47. On the eye: Based on available data, the classification criteria are not met.

47. Sensitization: Sensitization possible through skin contact.

12 Ecological information

12.1 Toxicity

Types:
- Aquatic toxicity
  Toxic to aquatic life with long lasting effects.

12.2 Biological effects

12.2.1 Toxicological properties

12.2.2 Ecotoxicological properties

12.2.3 Endocrine-disrupting properties

12.2.4 PBT and vPvB properties

12.3 Mobility in soil

12.4 Persistence and degradability

12.5 Bioaccumulative potential

12.6 Additional ecological information

12.7 General notes

12.8 Results of PBT and vPvB assessment

13 Disposal considerations

13.1 Storage

13.2 Transportation

13.3 Waste treatment methods

Waste treatment methods

Recommendation:
Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Uncleaned packagings

Recommendation:
Disposal must be made according to official regulations.

Packaging that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

UN-Number
- Not regulated.

DOT
- Not regulated.

ADR, IMDG, IATA
- ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,3-Benzenediamine, 2(or 4)-methyl-4,6(or 2,6)-bis(methylthio)-)
Trade name: Spal-Pro 2000 Part A

Environmental hazards: Product contains environmentally hazardous substances: 1,3-Benzenediamine, 2(or 4)-methyl-4,6(or 2,6)-bis(methylthio)-.

Marine pollutant: Yes

Special precautions for user: Warning: Miscellaneous dangerous substances and articles.

Danger code (Kemler): 90

EMS Number: F-A,S-F

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

Transport/Additional information: Not regulated when carried in single or combination packaging containing a net quantity of 5L or less for liquids or 5 kg or less for solids per the following:

ADR: SP 375
IMDG: 2.10.2.7
IATA: special provision A197

DOT: Not regulated when carried in single or combination packaging containing a net quantity of 5L or less for liquids or 5 kg or less for solids per the following:

CDG: 3649
IMDG: 2.10.2.7
IATA: special provision A416

Remarks: Transport labeling is not required for non-bulk single package shipments by motor vehicle, rail car or aircraft. Bulk packaging consists of a maximum capacity of greater than 450L (119 gallons) for a liquid and a maximum net mass greater than 400kg (882 pounds) for a solid.

15 Regulatory information

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

United States (USA)

SARA:

Section 302 (extremely hazardous substances):
None of the ingredients are listed.

Section 307 (hazard statements):
None of the ingredients are listed.

Section 310 (precautionary statements):
None of the ingredients are listed.

Section 311 (specific first aid measures):
None of the ingredients are listed.

Section 313 (specific hazard statements):
None of the ingredients are listed.

TSCA (Toxic Substances Control Act):
All ingredients are listed.

Proposition 65 (California): (Cont'd. on page 10)

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.

Date of preparation / last revision: May 14, 2018 / -

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
OSHA: Occupational Safety & Health Administration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bio-accumulable, Toxic
vPvB: very Persistent and very Bioaccumulative
OSHA; Occupational Safety & Health Administration
Fam. Lq, 4: Flammable liquids – Category 4
Acute Tox. 1: Acute toxicity – Category 1
Skin Corr. 1: Skin corrosion/irritation – Category 1
Eye Irrit. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1

Sources:
Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
### Trade name: Spal-Pro 2000 Part A

Safety Data Sheets, Individual Manufacturers  

SDS Prepared by:  
ChemTel Inc.  
1305 North Florida Avenue  
Tampa, Florida USA 33602-2902  
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573  
Website: www.chemtelinc.com

### 1 Identification

- **Product identifier**
- **Trade name:** Spal-Pro 2000 Part B  
- **Other means of identification:** No other identifiers  
- **Recommended use and restriction on use**  
  - **Recommended use:** Industrial uses.  
  - **Restrictions on use:** No relevant information available.  
- **Details of the supplier of the Safety Data Sheet**  
  - **Manufacturer/Supplier:** METZGER/McGUIRE  
    - **Mailing Address:** PO Box 2217  
      - Concord, NH 03302  
    - **Shipping Address:** 807 Route 3-A  
      - Bow, NH 03304  
    - **Phone:** 603-224-6122  
    - **Toll Free:** 800-223-6680  
    - **Email:** info@metzgermcguire.com  
- **Emergency telephone number:**  
  - ChemTel Inc.  
    - (800)255-3924 (North America)  
    - +1 (813)248-0585 (International)

### 2 Hazard(s) identification

- **Classification of the substance or mixture**  
  - **Acute Tox. 4 H332** Harmful if inhaled.  
  - **Skin Irrit. 2 H315** Causes skin irritation.  
  - **Eye Irrit. 2A H319** Causes serious eye irritation.  
  - **Resp. Sens. 1 H344** May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
  - **Skin Sens. 1 H317** May cause an allergic skin reaction.  
  - **Carc. 2 H351** Suspected of causing cancer.  
  - **STOT SE 3 H335** May cause respiratory irritation.  
  - **STOT RE 2 H373** May cause damage to organs through prolonged or repeated exposure.  
- **Label elements**  
- **GHS label elements**  
  - The product is classified and labeled according to the Globally Harmonized System (GHS).  
- **Hazard pictograms:**
  - GHS07 GHS08  
- **Signal word:** Danger  
- **Hazard statements:**

(Cont'd. on page 2)
Safety Data Sheet

Trading name: Spal-Pro 2000 Part B

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

Precautionary statements:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist/vapors/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection.
P285 In case of inadequate ventilation wear respiratory protection.
P302+P352 If on skin: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P312 Call a poison center/doctor if you feel unwell.
P320 Use suitable ventilation.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P365 Store locked up.
P373 In case of fire or explosion: Use water spray to extinguish.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards: There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Components:

9016-87-9 diphenylmethanediisocyanate, isomers and homologues

<table>
<thead>
<tr>
<th>Resp.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335</td>
<td>0-35%</td>
</tr>
</tbody>
</table>

4,4’-methylene diphenyl diisocyanate

<table>
<thead>
<tr>
<th>Resp.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335</td>
<td>0-25%</td>
</tr>
</tbody>
</table>

112898-48-3 oxirane, methy-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1’-methylenebis[isocyanatobenzene]

<table>
<thead>
<tr>
<th>Resp.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335</td>
<td>0-35%</td>
</tr>
</tbody>
</table>

26447-40-5 methylenediphenyl disocyanate

<table>
<thead>
<tr>
<th>Resp.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335</td>
<td>0-20%</td>
</tr>
</tbody>
</table>

4 First-aid measures

Description of first aid measures:

After inhalation:
Supply fresh air and be sure to call for a doctor. Provide oxygen treatment if affected person has difficulty breathing. In case of irregular breathing or respiratory arrest provide artificial respiration. In case of unconsciousness place patient stably in side position for transportation.

After skin contact:
Immediately remove any clothing soiled by the product. Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

After eye contact:
Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:
Rinse out mouth and then drink plenty of water. Do not induce vomiting; immediately call for medical help.

Most important symptoms and effects, both acute and delayed:

Asthma attacks
Headache
Breathing difficulty
Coughing
Allergic reactions
Irritant to skin and mucous membranes.

Causes eye irritation.
May cause respiratory irritation.
Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

Danger:
Danger of impaired breathing. Harmful if inhaled.

May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer.

Indication of any immediate medical attention and special treatment needed:

Contains 4,4’-methylene diphenyl diisocyanate, diphenylmethanediisocyanate, isomers and homologues, Oxirane, methy-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1’-methylenebis[isocyanatobenzene], methylenediphenyl disocyanate. May produce an allergic reaction. Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
47.0

Medical supervision for at least 48 hours.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary edema.
Treat skin and mucous membrane with antihistamine and corticoid preparations.
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
  CO2, extinguishing powder or water spray. Fight larger fires with water spray.
- For safety reasons unsuitable extinguishing agents: Water stream.
- Special hazards arising from the substance or mixture
  During heating or in case of fire poisonous gases are produced.
- Advice for firefighters
  · Protective equipment:
  Wear self-contained respiratory protective device.
  Do not inhale explosion gases or combustion gases.
  Wear fully protective suit.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Use respiratory protective device against the effects of fumes/dust/aerosol.
  Wear protective equipment. Keep unprotected persons away.
  Ensure adequate ventilation.
  Isolate area and prevent access.
- Environmental precautions
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Methods and material for containment and cleaning up
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Send for recovery or disposal in suitable receptacles.
- 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:
  Avoid splashes or spray in enclosed areas.
  Use only in well ventilated areas.
  Avoid breathing mist, vapors, or spray.
  Avoid contact with the eyes and skin.
  · Information about protection against explosions and fires:

8 Exposure controls/personal protection

- Control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL (USA) Ceiling limit value: 0.2 mg/m³, 0.02 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL (USA)</td>
<td>Long-term value: 0.05 mg/m³, 0.005 ppm Ceiling limit value: 0.2* mg/m³, 0.02* ppm</td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>Long-term value: 0.051 mg/m³, 0.005 ppm</td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>Long-term value: 0.005 ppm Ceiling limit value: 0.01 ppm Skin; (R)</td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>Long-term value: 0.005 ppm</td>
</tr>
<tr>
<td>LMPE (Mexico)</td>
<td>Long-term value: 0.005 ppm</td>
</tr>
</tbody>
</table>

- General protective and hygienic measures:
  The usual precautionary measures for handling chemicals should be followed.
  Keep away from foodstuffs, beverages and feed.
  Immediately remove all soiled and contaminated clothing.
  Wash hands before breaks and at the end of work.
  Do not inhale gases / fumes / aerosols.
  Avoid contact with the eyes and skin.

- Engineering controls: No relevant information available.

- Breathing equipment:
  Combined Organic Vapor and Particulate Respirator is recommended for use during all processing activities.

- Protection of hands:

(Cont'd. of page 5)
47.0

Protective gloves

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

Eye protection:

Body protection: Protective work clothing

Limitation and supervision of exposure into the environment

No relevant information available.

9 Physical and chemical properties

Information on basic physical and chemical properties

- Appearance: Liquid
- Color: According to product specification
- Odor: Characteristic
- Odor threshold: Not determined.

- Melting point/Melting range: Not determined.
- Boiling point/Boiling range: Not determined.

- Flash point: >93 °C (>199.4 °F)

- Flammability (solid, gaseous): Not applicable.
- Auto-ignition temperature: Not determined.
- Decomposition temperature: Not determined.
- Danger of explosion: Product does not present an explosion hazard.

- Explosion limits
  - Lower: Not determined.
  - Upper: Not determined.
- Oxidizing properties: Not determined.

- Vapor pressure: Not determined.
- Density:
  - Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.

- Solubility in / Miscibility with
  - Water: Slowly reacts with water.
- Partition coefficient (n-octanol/water): Not determined.

10 Stability and reactivity

- Reactivity: No relevant information available.
- Chemical stability: Stable under normal temperatures and pressures.
- Thermal decomposition / conditions to be avoided:
  - No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions
  - Toxic fumes may be released if heated above the decomposition point.
  - Exothermic polymerization.
  - Reacts with alcohols, amines, aqueous acids and alkalis.
  - Reacts with strong oxidizing agents.
- Conditions to avoid
  - Moisture.
  - Excessive heat.
- Incompatible materials
  - Oxidizers, strong bases, strong acids
- Hazardous decomposition products
  - Carbon monoxide and carbon dioxide
  - Nitrogen oxides (NOx)
  - Isocyanate
  - Hydrogen cyanide (prussic acid)

11 Toxicological information

- Information on toxicological effects
- Acute toxicity: Harmful if inhaled.
  - LD/LC50 values that are relevant for classification:
    - 101-68-8 4,4'-methylene diphenyl diisocyanate
      - Oral LD50: 2200 mg/kg (mouse)

- Primary irritant effect:
  - On the skin: Irritant to skin and mucous membranes.
  - On the eye: Irritating effect.
- Sensitization: May cause sensitisation by inhalation and skin contact.

- IARC (International Agency for Research on Cancer):
  - None of the ingredients are listed.
- NTP (National Toxicology Program):
  - None of the ingredients are listed.
- OSHA-Ca (Occupational Safety & Health Administration):
  - None of the ingredients are listed.
### 47.0 Probable route(s) of exposure:
- Ingestion.
- Eye contact.
- Skin contact.
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity: Suspected of causing cancer.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT-single exposure: May cause respiratory irritation.
- STOT-repeated exposure: May cause damage to organs through prolonged or repeated exposure.
- Aspiration hazard: Based on available data, the classification criteria are not met.

### 12 Ecological information

- **Toxicity**
- Aquatic toxicity: No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential** No relevant information available.
- **Mobility in soil** No relevant information available.
- **Additional ecological information**
- **General notes:** 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 relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:** Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
  - **Recommendation:** Disposal must be made according to official regulations. Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

### 14 Transport information

- **UN-Number**

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - United States (USA)
  - **SARA**
    - Section 302 (extremely hazardous substances): None of the ingredients are listed.
    - Section 355 (extremely hazardous substances): None of the ingredients are listed.
    - Section 313 (Specific toxic chemical listings): 101-68-8 4,4'-methylenediphenyl disiocyanate
    - **TSCA (Toxic Substances Control Act)**
      - All ingredients are listed.

  - **Proposition 65 (California)**
    - Chemicals known to cause cancer: None of the ingredients are listed.
    - Chemicals known to cause developmental toxicity for females: None of the ingredients are listed.
    - Chemicals known to cause developmental toxicity for males: None of the ingredients are listed.
    - Chemicals known to cause developmental toxicity: None of the ingredients are listed.

  - **EPA (Environmental Protection Agency):**

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*Note: The above text is a continuation of a safety data sheet.*
### 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.

- **Date of preparation / last revision**: May 14, 2018 / -

- **Abbreviations and acronyms**:
  - ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bio-accumulable, Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - OSHA: Occupational Safety & Health Administration
  - Acute Tox. 4: Acute toxicity – Category 4
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  - Resp. Sens. 1: Respiratory sensitisation – Category 1
  - Skin Sens. 1: Skin sensitisation – Category 1
  - Carc. 2: Carcinogenicity – Category 2
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  - STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- **Sources**
  - Website, European Chemicals Agency (echa.europa.eu)
  - Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
  - Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
  - Safety Data Sheets, Individual Manufacturers

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