1 Identification

- Product identifier
  
  - Trade name: Spal Pro RS-88 Part A Polyol
  
  - Product code: No other identifiers
  
  - Recommended use and restriction on use
    
    - Recommended use: Component of a Control Joint Polyurethane System
    
    - Restrictions on use: None
  
  - 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
  
  The product is not classified as hazardous according to the Globally Harmonized System (GHS).

- Label elements
  
  - GHS label elements: Not regulated.
  
  - Hazard pictograms: Not regulated.
  
  - Signal word: Not regulated.
  
  - Hazard statements: Not regulated.
  
  - Precautionary statements: Not regulated.
  
  - Other hazards: There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- Components:
  
  - 13463-67-7 titanium dioxide <10%
  
  - 5205-80-9 N-methyl-2-pyrrolidone Acute Tox. 4, H302
  
  - 7631-86-9 precipitated silica (silica - amorphous) ≤1%
  
  - 872-50-4 N-methyl-2-pyrrolidone Acute Tox. 3, H331
  Repr. 1B, H300
  Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335
  Flam. Liq. 4, H227 ≤1%
  
  - 1333-86-4 carbon black ≤1%

4 First-aid measures

- Description of first aid measures
  
  - After inhalation: Respiration of particulates is unlikely during normal usage.
  Supply fresh air; consult doctor in case of complaints.
  
  - After skin contact: 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.
  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:
    Gastric or intestinal disorders when ingested.
    Nausea in case of ingestion.
    Slight irritant effect on skin and mucous membranes.
    Slight irritant effect on eyes.
  
  - Indication of any immediate medical attention and special treatment needed: Treat symptomatically.

5 Fire-fighting measures

- Extinguishing media
  
  - Suitable extinguishing agents:
    Foam
    Water spray
    Fire-extinguishing powder
    Carbon dioxide
    Gaseous extinguishing agents
  
  - For safety reasons unsuitable extinguishing agents: Water stream.
  
  - Special hazards arising from the substance or mixture
    Formation of toxic gases is possible during heating or in case of fire.
45.2.2 Advice for firefighters
- Protective equipment:
  - Wear self-contained respiratory protective device.
  - Wear fully protective suit.
- Additional information:
  - Use large quantities of foam as it is partially destroyed by the product.
  - Cool endangered product with water spray.

6 Accidental release measures
- Personal precautions, protective equipment and emergency procedures
  - Use personal protective equipment as required.
  - For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
  - Ensure adequate ventilation.
- 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:
    - Prevent formation of aerosols.
    - Use only in well ventilated areas.
    - Avoid splashes or spray in enclosed areas.
    - Keep out of reach of children.
- Information about protection against explosions and fires:
  - No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage
  - Requirements to be met by storerooms and receptacles:
    - Avoid storage near extreme heat, ignition sources or open flame.
  - Information about storage in one common storage facility:
    - Store away from foodstuffs.
    - Store away from oxidizing agents.
- Further information about storage conditions:
  - Keep containers tightly sealed.
- Specific end use(s):
  - No relevant information available.

8 Exposure controls/personal protection
- Control parameters
  - Components with limit values that require monitoring at the workplace:
    - 13463-67-7 titanium dioxide
      - PEL (USA) Long-term value: 15 mg/m³ *total dust
      - REL (USA) See Pocket Guide App. A
      - TLV (USA) Long-term value: 10 mg/m³ withdrawn from NIC
      - EL (Canada) Long-term value: 10 mg/m³ *total dust;**respirable fraction; IARC 2B
      - EV (Canada) Long-term value: 10 mg/m³ total dust
      - LMPE (Mexico) Long-term value: 10 mg/m³ A4
    - 7631-86-9 precipitated silica (silica - amorphous)
      - NIOSH REL (USA) Long-term value: 6 mg/m³
      - OSHA PEL (USA) Long-term value: 80 mg/m³
    - 872-50-4 N-methyl-2-pyrrolidone
      - WEEL (USA) Long-term value: 1 ppm Skin
      - EV (Canada) Long-term value: 400 mg/m³
    - 1333-86-4 carbon black
      - PEL (USA) Long-term value: 3.5 mg/m³
      - REL (USA) Long-term value: 3.5 mg/m³ *0.1 in presence of PAHs; See Pocket Guide Apps. A+C
      - TLV (USA) Long-term value: 3 mg/m³ *inhalable fraction
      - EL (Canada) Long-term value: 3 mg/m³ IARC 2B
      - EV (Canada) Long-term value: 3.5 mg/m³
      - LMPE (Mexico) Long-term value: 3 mg/m³ A3, *fracción inhalable
  - Ingredients with biological limit values:
    - 872-50-4 N-methyl-2-pyrrolidone
      - BEI (USA) 100 mg/L Medium: urine
      - Time: end of shift Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone
45.2.2 · Exposure controls
   Personal protective equipment:
   · 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: Not required under normal conditions of use.
   · Protection of hands:
   - Protective gloves
   The glove material has to be impermeable and resistant to the product / the substance / the preparation.
   · Eye protection:
   - Safety glasses
   Follow relevant national guidelines concerning the use of protective eyewear.
   · Body protection: Protective work clothing
   · Limitation and supervision of exposure into the environment
   No relevant information available.

9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance: Liquid</td>
</tr>
<tr>
<td>Color: According to product specification</td>
</tr>
<tr>
<td>Odor: Light</td>
</tr>
<tr>
<td>Odor threshold: Not determined.</td>
</tr>
<tr>
<td>pH-value: 10 - 12</td>
</tr>
<tr>
<td>Melting point/Melting range: Not determined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range: &gt;200°C (&gt;392 °F)</td>
</tr>
<tr>
<td>Flash point: &gt;190°C (&gt;374 °F)</td>
</tr>
<tr>
<td>Flammability (solid, gaseous): Not applicable.</td>
</tr>
<tr>
<td>Auto-ignition temperature: Not determined.</td>
</tr>
<tr>
<td>Decomposition temperature: Not determined.</td>
</tr>
<tr>
<td>Danger of explosion: Product does not present an explosion hazard.</td>
</tr>
</tbody>
</table>

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 |
| Reacts with strong acids and oxidizing agents. |
| Reacts with diisocyanate resins. |
| Toxic fumes may be released if heated above the decomposition point. |
| Conditions to avoid: Excessive heat. |
| Incompatible materials |
| Strong acids |
| Oxidizers |
| Hazardous decomposition products |
| Under fire conditions only: |
| Carbon monoxide and carbon dioxide |
| Nitrogen oxides |

(Cont'd. on page 6)
11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - 872-50-4 N-methyl-2-pyrrolidone
      - Oral LD50 4150 mg/kg (rat)
      - Dermal LD50 >5000 mg/kg (rat)
      - Inhalative LC50/4h >5.1 mg/l (rat)
  - Primary irritant effect:
    - On the skin: Based on available data, the classification criteria are not met.
    - On the eye: Based on available data, the classification criteria are not met.
  - Sensitization: Sensitization possible through skin contact.

- IARC (International Agency for Research on Cancer):
  - 13463-67-7 titanium dioxide 2B
  - 1333-86-4 carbon black 2B

- NTP (National Toxicology Program):
  - None of the ingredients are listed.

- OSHA-Ca (Occupational Safety & Health Administration):
  - None of the ingredients are listed.

- Probable route(s) of exposure:
  - Ingestion.
  - Eye contact.
  - Skin contact.
  - Germ cell mutagenicity: Based on available data, the classification criteria are not met.
  - Carcinogenicity:
    - Based on available data, the classification criteria are not met.
    - Contains known or suspect carcinogens when inhaled. Product is in non-inhalable form and is nonclassifiable as a carcinogen.
  - Reproductive toxicity: Based on available data, the classification criteria are not met.
  - STOT-single exposure: Based on available data, the classification criteria are not met.
  - STOT-repeated exposure: Based on available data, the classification criteria are not met.
  - 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.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    - 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.

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA: Not regulated.

- UN proper shipping name
  - DOT, ADR, IMDG, IATA: Not regulated.

- Transport hazard class(es)
  - DOT, ADR, IMDG, IATA: Not regulated.
  - Class: Not regulated.

- Packing group
  - DOT, ADR, IMDG, IATA: Not regulated.

- Environmental hazards
  - Marine pollutant: No

- Special precautions for user
  - Not applicable.

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  - Not applicable.
### 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 315 (extremely hazardous substances):**
  - None of the ingredients are listed.

  **Section 313 (Specific toxic chemical listings):**
  - 872-50-4 N-methyl-2-pyrrolidone

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

- **Chemicals known to cause cancer:**
  - Reference to chemical component(s) listed below are based on unbound respirable particles and are not generally applicable to product as supplied.

  - 13463-67-7 Titanium dioxide
  - 1333-86-4 Carbon black

- **Chemicals known to cause reproductive toxicity for females:**
  - None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for males:**
  - None of the ingredients are listed.

- **Chemicals known to cause developmental toxicity:**
  - None of the ingredients are listed.

- **Carcinogenic categories**
  - None of the ingredients are listed.

  **EPA (Environmental Protection Agency):**
  - None of the ingredients are listed.

  **IARC (International Agency for Research on Cancer):**
  - 13463-67-7 Titanium dioxide
  - 1333-86-4 Carbon black

  **NIOSH-Ca (National Institute for Occupational Safety and Health):**
  - 13463-67-7 Titanium dioxide
  - 1333-86-4 Carbon black

- **Canadian Domestic Substances List (DSL):**
  - All ingredients are listed.

### 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**
  - July 31, 2017

- **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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bio-accumulable, Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety and Health
  - OSHA: Occupational Safety & Health Administration
  - Flam. Liq. 4: Flammable liquids – Category 4
  - Acute Tox. 4: Acute toxicity – Category 4
  - Acute Tox. 3: Acute toxicity – Category 3
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  - Repr. 1B: Reproductive toxicity – Category 1B
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

- **Sources**
  - Website, European Chemicals Agency (echa.europa.eu)
  - Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/register/registry/substreg/home/overview/home.do)
  - Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
  - 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. +1 813-248-0573
Website: www.chemtelinc.com
## 1 Identification

- **Product identifier**
  - **Trade name:** Spal Pro RS-88 Part B ISO
  - **Product code:** No other identifiers
- **Recommended use and restriction on use**
  - Recommended use: Component of a Control Joint Polyurethane System
  - 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.
  - Resp. Sens. 1 H334 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 RE2 H373 May cause damage to organs through prolonged or repeated exposure.

## 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures

<table>
<thead>
<tr>
<th>Components</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>101-68-8 4,4'-methyleneedianiline</td>
<td>&gt;75%</td>
</tr>
<tr>
<td>108-32-7 propylene carbonate</td>
<td>&lt;25%</td>
</tr>
</tbody>
</table>

- **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
4 First-aid measures

- Description of first aid measures
- After inhalation:
  - Supply fresh air.
  - Seek immediate medical advice.
  - Provide oxygen treatment if affected person has difficulty breathing.
  - If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- After skin contact:
  - 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:
  - Asthma attacks
  - Breathing difficulty
  - Dizziness
  - Coughing
  - Allergic reactions
  - Irritating to eyes, respiratory system and skin.
  - Gastric or intestinal disorders when ingested.
  - Nausea in case of ingestion.
  - Cyanosis
- Danger:
  - Danger of impaired breathing.
  - May cause damage to organs through prolonged or repeated exposure.
  - Harmful if inhaled.
  - Suspended of causing cancer.
- Indication of any immediate medical attention and special treatment needed:
  - Contains isocyanates. May produce an allergic reaction.
  - Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
  - 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.
  - If medical advice is needed, have product container or label at hand.
  - In cases of irritation to the lungs, initial treatment with corticosteroid inhalants.

Gaseous extinguishing agents
- Water spray
- Fire-extinguishing powder
- 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.
    - Wear fully protective suit.
  - Additional information: Cool endangered product with water spray.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    - Foam
    - Carbon dioxide

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Use respiratory protective device against the effects of fumes/dust/aerosol.
  - Use personal protective equipment as required.
  - 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:
    - Prevent formation of aerosols.
    - Avoid splashes or spray in enclosed areas.
    - Use only in well ventilated areas.
  - Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage
  - Requirements to be met by storerooms and receptacles:
    - Provide ventilation for receptacles.
    - Avoid storage near extreme heat, ignition sources or open flame.
    - Protect from humidity and water.
  - Information about storage in one common storage facility:
    - Store away from foodstuffs.
8 Exposure controls/personal protection

- Control parameters
  - Components with limit values that require monitoring at the workplace:
    - 4,4'-methylene diphenyl diisocyanate
      - PEL (USA) Ceiling limit value: 0.2 mg/m³, 0.02 ppm
      - REL (USA) Long-term value: 0.05 mg/m³, 0.005 ppm
        Ceiling limit value: 0.2 mg/m³, 0.02 ppm
      - TLV (USA) Long-term value: 0.051 mg/m³, 0.005 ppm
      - EL (Canada) Long-term value: 0.005 ppm
        Ceiling limit value: 0.01 ppm
      - Skin; S
      - EV (Canada) Long-term value: 0.005 ppm
        Ceiling limit value: 0.02 ppm
      - LMPE (Mexico) Long-term value: 0.005 ppm

- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      The usual precautionary measures for handling chemicals should be followed.
      Keep away from foodstuffs, beverages and feed.
      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:
    - Protective gloves
      The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  - Eye protection:
    - Safety glasses
      Follow relevant national guidelines concerning the use of protective eyewear.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - Appearance:
    - Form: Liquid
    - Color: Pale
  - Odor:
    - Odor: Musty
    - Odor threshold: Not determined.
  - pH-value:
    - Not determined.
  - Melting point/Melting range:
    - Not determined.
  - Boiling point/Boiling range:
    - >300°C (>572 °F) (decomposes)
  - Flash point:
    - >110°C (>230 °F) (Setaflash Closed Cup)
  - Flammability (solid, gaseous):
    - Not applicable.
  - Auto-ignition temperature:
    - >600°C (>1112 °F)
  - Decomposition temperature:
    - >300°C (>572 °F)
  - 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:
    - 1.2 g/cm³ (10.314 lbs/gal)
  - 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.

- 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 water and acids.
  - Reacts with alcohols, amines, aqueous acids and alkalis.
  - Reacts with catalysts.
  - Reactions with peroxides and other radical forming substances.
- Toxic fumes may be released if heated above the decomposition point.
- Conditions to avoid:
  - Excessive heat.
- Incompatible materials:
  - Oxidizers, strong bases, strong acids

Hazardous decomposition products:
- Carbon dioxide
- Carbon monoxide
- Nitrogen oxides
- Hydrocarbons
- Hydrogen cyanide (prussic acid)
- Isocyanate

11 Toxicological information

- Information on toxicological effects:
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      - 101-88-3 4,4’-methylene diphenyl disocyanate
      - 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 sensitization 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.

- Probable route(s) of exposure:
  - Ingestion.
  - Inhalation.
  - Eye contact.
  - Skin contact.

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

- Wastetreatment methods:
  - Recommendation:
    - 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.
    - The generation of waste should be avoided or minimized whenever possible. When practical, recycle in an environmentally acceptable, regulatory compliant manner. Dispose of non-recyclable products in accordance with all applicable Federal, State, Provincial, and Local requirements.
  - Uncleaned packagings:
    - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number:
  - DOT, ADR, IMDG, IATA: Not regulated.
**45.2.2**

- **IARC (International Agency for Research on Cancer):**
  
  None of the ingredients are listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health):**
  
  None of the ingredients are listed.

- **Canadian Domestic Substances List (DSL):**
  
  All ingredients are listed.

---

**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:** July 31, 2017 / -

- **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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bio-accumulable, Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety and Health
  - OSHA: Occupational Safety & Health Administration
  - Acute Tox. 4: Acute toxicity – Category 4
  - Skin Irrt. 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
  - SDS Prepared by:
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