

## Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: July 31, 2017

Revision: July 31, 2017

### 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%
5285-60-9	4,4'-methylenebis[N-sec-butylaniline]	<5%
	⚠ Acute Tox. 4, H302	

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7631-86-9	precipitated silica (silica - amorphous)	<5%
872-50-4	N-methyl-2-pyrrolidone	≤1%
	⚠ Acute Tox. 3, H331	
	⚠ Repr. 1B, H360	
	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	
	Flam. Liq. 4, H227	
1333-86-4	carbon black	≤1%

#### Additional information:

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

### 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.

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- **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.

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### 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/m <sup>3</sup> *total dust
REL (USA)	See Pocket Guide App. A
TLV (USA)	Long-term value: 10 mg/m <sup>3</sup> withdrawn from NIC
EL (Canada)	Long-term value: 10* 3** mg/m <sup>3</sup> *total dust;**respirable fraction; IARC 2B
EV (Canada)	Long-term value: 10 mg/m <sup>3</sup> total dust
LMPE (Mexico)	Long-term value: 10 mg/m <sup>3</sup> A4

##### 7631-86-9 precipitated silica (silica - amorphous)

NIOSH REL (USA)	Long-term value: 6 mg/m <sup>3</sup>
OSHA PEL (USA)	Long-term value: 80 mg/m <sup>3</sup>

##### 872-50-4 N-methyl-2-pyrrolidone

WEEL (USA)	Long-term value: 10 ppm Skin
EV (Canada)	Long-term value: 400 mg/m <sup>3</sup>

##### 1333-86-4 carbon black

PEL (USA)	Long-term value: 3.5 mg/m <sup>3</sup>
REL (USA)	Long-term value: 3.5* mg/m <sup>3</sup> *0.1 in presence of PAHs; See Pocket Guide Apps.A+C
TLV (USA)	Long-term value: 3* mg/m <sup>3</sup> *inhalable fraction
EL (Canada)	Long-term value: 3 mg/m <sup>3</sup> IARC 2B
EV (Canada)	Long-term value: 3.5 mg/m <sup>3</sup>
LMPE (Mexico)	Long-term value: 3* mg/m <sup>3</sup> 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
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- **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

- **Information on basic physical and chemical properties**

- **Appearance:**
  - **Form:** Liquid
  - **Color:** According to product specification
- **Odor:** Light
- **Odor threshold:** Not determined.
- **pH-value:** 10 - 12
- **Melting point/Melting range:** Not determined.
- **Boiling point/Boiling range:** >200°C (>392 °F)
- **Flash point:** >190°C (>374 °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.

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- **Explosion limits**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
- **Oxidizing properties:** Non-oxidizing.
- **Vapor pressure at 20°C (68 °F):** <1.3 hPa (<1 mm Hg)
- **Density:** 1.02 - 1.05 g/cm<sup>3</sup> (8.512 - 8.762 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility in / Miscibility with Water:** Fully miscible.
- **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**  
 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

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**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.

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**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:**

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**
**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.

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**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):**

872-50-4 | N-methyl-2-pyrrolidone

**· TSCA (Toxic Substances Control Act)**

All ingredients are listed.

**· Proposition 65 (California)**
**· 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:**

872-50-4 | N-methyl-2-pyrrolidone

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency):**

None of the ingredients are listed.

**· IARC (International Agency for Research on Cancer):**

13463-67-7 | titanium dioxide

2B

1333-86-4 | carbon black

2B

**· 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.

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**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, Toxique

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety &amp; 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/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

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

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**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.
- Eye Irrit. 2A H319 Causes serious eye 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 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

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**Hazard statements:**

- 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 and eye protection.
- P284 In case of inadequate ventilation wear respiratory protection.
- P302+P352 IF ON SKIN: Wash with plenty of 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.
- P314 Get medical advice/attention if you feel unwell.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- 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:**

101-68-8	4,4'-methylenediphenyl diisocyanate ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373 ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	>75%
108-32-7	propylene carbonate ⚠ Eye Irrit. 2A, H319	<25%

**Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
 For the wording of the listed Hazard Statements refer to section 16.

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### 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.
- Suspected 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 cortical steroid inhalants.

### 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

- Foam
- Carbon dioxide

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- 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.

### 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.

· **Environmental precautions**

- Ensure adequate ventilation.
- Isolate area and prevent access.

· **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.

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- Do not store together with oxidizing and acidic materials.
- 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:

##### 101-68-8 4,4'-methylenediphenyl diisocyanate

PEL (USA)	Ceiling limit value: 0.2 mg/m <sup>3</sup> , 0.02 ppm
REL (USA)	Long-term value: 0.05 mg/m <sup>3</sup> , 0.005 ppm Ceiling limit value: 0.2* mg/m <sup>3</sup> , 0.02* ppm *10-min
TLV (USA)	Long-term value: 0.051 mg/m <sup>3</sup> , 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.

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- Body protection:** Protective work clothing
- Limitation and supervision of exposure into the environment**  
No relevant information available.
- Risk management measures**  
Organizational measures should be in place for all activities involving this product.

### 9 Physical and chemical properties

#### Information on basic physical and chemical properties

##### Appearance:

**Form:** Liquid

**Color:** Pale.

**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/cm<sup>3</sup> (10.014 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.

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### 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.  
Reacts 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:

**101-68-8 4,4'-methylenediphenyl diisocyanate**

Oral	LD50	2200 mg/kg (mouse)
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##### · 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.

##### · Probable route(s) of exposure:

- Ingestion.
- Inhalation.
- Eye contact.
- Skin contact.

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#### · Acute effects (acute toxicity, irritation and corrosivity):

Harmful if inhaled.

Irritating to eyes, respiratory system and skin.

- **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:

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.

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- **UN proper shipping name**  
· DOT, ADR, IMDG, IATA Not regulated.
- **Transport hazard class(es)**  
· DOT, ADR, IMDG, IATA  
· 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 355 (extremely hazardous substances):**

None of the ingredients are listed.

**Section 313 (Specific toxic chemical listings):**

101-68-8 | 4,4'-methylenediphenyl diisocyanate

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

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D, CBD

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**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, Toxique

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety &amp; 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)

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Safety Data Sheets, Individual Manufacturers

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