

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/16/2019

Version No. 1

Reviewed on 03/16/2019

## 1 Identification

- **Trade name:** UZIN KR 518 Comp. A
- **Application of the substance / the mixture** 2-Component Joint Filler (Comp. A)
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Uzin Utz North America Inc.  
14509 E. 33rd. Place, Unit G  
Aurora, CO 80011  
Phone: +720-374-4810  
Toll-Free: +1 866-505-4810  
Fax: +1 720-374-2113
- **Information department:**  
Product safety department  
email: [msds.info@uzin-utz.com](mailto:msds.info@uzin-utz.com)
- **Emergency telephone number:**  
For Chemical Emergency Spill Leak Fire Exposure or Accident  
Call CHEMTREC Day or Night: DOMESTIC NORTH AMERICA 800-424-9300  
International, call +49 621 60 43 333

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Additional information:** Also observe SDS of component B.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS07, GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate

- **Hazard statements**

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

- **Precautionary statements**

Obtain special instructions before use.

Wear protective gloves/protective clothing/eye protection/face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

- **NFPA ratings (scale 0 - 4)**



Health = 2

Flammability = 1

Reactivity = 0

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### · HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = 2
FIRE	1	Flammability = 1
REACTIVITY	0	Reactivity = 0

### · Other hazards

NFPA Rating Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe.

NFPA is the National Fire Protection Association.

HMIS Rating Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe.

HMIS®, the Hazardous Materials Identification System, is a registered mark of the National Paint and Coatings Association (NPCA).

\* Chronic (long-term) health effects may result from repeated overexposure.

### · Results of PBT and vPvB assessment

· **PBT:** Not applicable.




· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

### · Chemical characterization: Mixtures

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

### · Hazardous ingredients:

CAS: 6846-50-0	1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	 Repr. 2, H361	25-50%
CAS: 102-60-3	1,1',1'',1'''-ethylenedinitrotetrapropan-2-ol	 Eye Irrit. 2A, H319	25-50%
CAS: 13463-67-7	Titanium dioxide	 Carc. 2, H351	5-<10%

### · Additional information:

The exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

For the wording of the listed hazard phrases refer to section 16.

## 4 First-aid measures

### · Description of first aid measures

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

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

### · After eye contact:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a doctor.

· **After swallowing:** Do not induce vomiting; immediately call for medical help.

### · Information for doctor:

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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

Also observe SDS of component B.

## 5 Fire-fighting measures

### · Extinguishing media

### · Suitable extinguishing agents:

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

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

· **Special hazards arising from the substance or mixture** No further relevant information available.

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- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.
- **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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

CAS: 102-60-3	1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol	34 mg/m <sup>3</sup>
CAS: 13463-67-7	Titanium dioxide	30 mg/m <sup>3</sup>

- **PAC-2:**

CAS: 102-60-3	1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol	370 mg/m <sup>3</sup>
CAS: 13463-67-7	Titanium dioxide	330 mg/m <sup>3</sup>

- **PAC-3:**

CAS: 102-60-3	1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol	2,200 mg/m <sup>3</sup>
CAS: 13463-67-7	Titanium dioxide	2,000 mg/m <sup>3</sup>

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Wear suitable protective clothing, gloves and eye/face protection.  
Immediately remove all soiled and contaminated clothing.  
Avoid contact with the eyes and skin.  
Keep away from foodstuffs, beverages and feed.  
Prevent formation of aerosols.  
Wash hands before breaks and at the end of work.  
Also observe SDS of component B.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Immediately remove all soiled and contaminated clothing.

Avoid contact with the eyes and skin.

Wear suitable protective clothing, gloves and eye/face protection.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Also observe the SDS of component B.

- **Respiratory protection:**

Not necessary. Ensure that room is well-ventilated during processing.

Respiratory protection required in insufficiently ventilated working areas. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended (A2-P2).

- **Protection of hands:**



Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability.

- **Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles or face protection

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

**Form:** Fluid

**Color:** Colorless

- **Odor:** Fish-like

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

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

**Boiling point/Boiling range:** Undetermined.

- **Flash point:**  $>130$  °C ( $>266$  °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

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· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapor pressure:</b> Not determined.	
· <b>Density at 20 °C (68 °F):</b> 1.01 g/cm <sup>3</sup> (8.43 lbs/gal)	
· <b>Relative density</b> Not determined.	
· <b>Vapor density</b> Not determined.	
· <b>Evaporation rate</b> Not determined.	
· <b>Solubility in / Miscibility with Water:</b> Not miscible or difficult to mix.	
· <b>Partition coefficient (n-octanol/water):</b> Not determined.	
· <b>Viscosity:</b>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <b>Other information</b> No further relevant information available.	

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.
- **Additional information:** Also observe the SDS of component B.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Specific symptoms in biological assay:**
- **Primary route(s) of entry:** Inhalation, skin contact, eye contact, ingestion.
- **Primary irritant effect:**
- **on the eye:** Irritating effect.
- **Additional toxicological information:**  
Also observe the safety data sheet of component B.  
Product is suspected to cause damage to fertility.
- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>	
CAS: 13463-67-7	Titanium dioxide
	2B

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

· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
None of the ingredients is listed.	

· <b>CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)</b>	
Repr. 2	

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### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
  
- **Additional ecological information:**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
  
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Do not allow product to reach sewage system.  
Mix both product components, allow to harden, then dispose of as construction waste.  
Disposal should be in accordance with local, state or national legislation.
- **Uncleaned packagings:**
- **Recommendation:**  
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

### 14 Transport information

- |   |                 |
|---|-----------------|
| · <b>DOT, ADR, ADN, IMDG, IATA</b>  | Void            |
| · <b>UN proper shipping name</b>  |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>  | Void            |
| · <b>DOT, ADN, IMDG, IATA</b>   |                 |
| · <b>Class</b>  | Void            |
| · <b>DOT, IMDG, IATA</b>  | Void            |
| · <b>Environmental hazards:</b>   |                 |
| · <b>Marine pollutant:</b>  | No              |
| · <b>Special precautions for user</b>   | Not applicable. |
| · <b>Transport/Additional information:</b> Not regulated as hazardous material according to the above specifications. |                 |
| · <b>UN "Model Regulation":</b>   | Void            |

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **SARA (Superfund Amendments and Reauthorization Act)**
  - **EPCRA Section 302 (Extremely Hazardous Substances):**
- |                                   |
|-----------------------------------|
| None of the ingredient is listed. |
|-----------------------------------|

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· <b>SARA Title III Section 313 (Toxic Release Inventory - TRI):</b>
None of the ingredients is listed.

· <b>TSCA (Toxic Substances Control Act):</b>
All ingredients are listed.

· <b>Proposition 65 (California)</b>
· <b>Chemicals known to cause cancer:</b>
CAS: 13463-67-7 Titanium dioxide

· <b>Chemicals known to cause reproductive toxicity for females:</b>
None of the ingredients is listed.

· <b>Chemicals known to cause reproductive toxicity for males:</b>
None of the ingredients is listed.

· <b>Chemicals known to cause developmental toxicity:</b>
None of the ingredients is listed.

· <b>Carcinogenicity categories</b>
· <b>EPA (Environmental Protection Agency)</b>
None of the ingredients is listed.

· <b>TLV (Threshold Limit Value established by ACGIH)</b>
CAS: 13463-67-7 Titanium dioxide
A4

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
CAS: 13463-67-7 Titanium dioxide

· <b>GHS label elements</b>
The product is classified and labeled according to the Globally Harmonized System (GHS).
· <b>Hazard pictograms</b> GHS07, GHS08
· <b>Signal word</b> Warning
· <b>Hazard-determining components of labeling:</b>
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate
· <b>Hazard statements</b>
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
· <b>Precautionary statements</b>
Obtain special instructions before use.
Wear protective gloves/protective clothing/eye protection/face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.

## 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.

· <b>Recommended restriction of use</b> For professional use only.
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· <b>Contact:</b>
Jim Muggleton
Phone: +1 720-374-4810
Mobile: +1 720-413-5454

· <b>Date of preparation / last revision</b> 03/16/2019 / -
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· <b>Abbreviations and acronyms:</b>
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods

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*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMS: Hazardous Materials Identification System (USA)*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*  
*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*  
*Carc. 2: Carcinogenicity – Category 2*  
*Repr. 2: Reproductive toxicity – Category 2*

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## 1 Identification

- **Trade name:** UZIN KR 518 Comp. B
- **Application of the substance / the mixture** 2-Component Joint Filler (Comp. B)
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Uzin Utz North America Inc.  
14509 E. 33rd. Place, Unit G  
Aurora, CO 80011  
Phone: +720-374-4810  
Toll-Free: +1 866-505-4810  
Fax: +1 720-374-2113
- **Information department:**  
Product safety department  
email: [msds.info@uzin-utz.com](mailto:msds.info@uzin-utz.com)
- **Emergency telephone number:**  
For Chemical Emergency Spill Leak Fire Exposure or Accident  
Call CHEMTREC Day or Night: DOMESTIC NORTH AMERICA 800-424-9300  
International, call +49 621 60 43 333

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

- Acute Tox. 4 H332 Harmful if inhaled.  
 Skin Irrit. 2 H315 Causes skin irritation.  
 Eye Irrit. 2A H319 Causes serious eye irritation.  
 Skin Sens. 1 H317 May cause an allergic skin reaction.  
 STOT SE 3 H335 May cause respiratory irritation.

- **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-determining components of labeling:**

Diphenylmethanediisocyanate, isomeres and homologues

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate

4,4'-methylenediphenyl diisocyanate

- **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

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### · Precautionary statements

Obtain special instructions before use.

Do not breathe vapours.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Store locked up.

### · NFPA ratings (scale 0 - 4)



Health = 2

Flammability = 1

Reactivity = 0

### · HMIS-ratings (scale 0 - 4)



Health = \*2

Flammability = 1

Reactivity = 0

### · Other hazards

NFPA Rating Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe.

NFPA is the National Fire Protection Association.

HMIS Rating Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe.

HMIS®, the Hazardous Materials Identification System, is a registered mark of the National Paint and Coatings Association (NPCA).

\* Chronic (long-term) health effects may result from repeated overexposure.

### · Results of PBT and vPvB assessment

· **PBT**: Not applicable.

· **vPvB**: Not applicable.

## 3 Composition/information on ingredients

### · Chemical characterization: Mixtures

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

### · Hazardous ingredients:

CAS: 9016-87-9	Diphenylmethanediisocyanate, isomeres and homologues ⚠ Resp. Sens. 1, H334; STOT RE 2, H373; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%
CAS: 101-68-8	4,4'-methylenediphenyl diisocyanate ⚠ Resp. Sens. 1, H334; STOT RE 2, H373; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%
CAS: 6846-50-0	1-isopropyl-2,2-dimethyltrimethylene diisobutyrate ⚠ Repr. 2, H361	25-50%

### · Additional information:

The exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

For the wording of the listed hazard phrases refer to section 16.

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### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air; consult doctor in case of complaints.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Call a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
Allergic reactions  
Asthma attacks
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub> extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.
- **Additional information:** Flash point: > 200°C (> 392°F).

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.
- **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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

CAS: 9016-87-9	Diphenylmethanediisocyanate, isomeres and homologues	0.15 mg/m <sup>3</sup>
CAS: 101-68-8	4,4'-methylenediphenyl diisocyanate	0.45 mg/m <sup>3</sup>

- **PAC-2:**

CAS: 9016-87-9	Diphenylmethanediisocyanate, isomeres and homologues	3.6 mg/m <sup>3</sup>
CAS: 101-68-8	4,4'-methylenediphenyl diisocyanate	5 mg/m <sup>3</sup>

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· <b>PAC-3:</b>		
CAS: 9016-87-9	Diphenylmethanediisocyanate, isomers and homologues	22 mg/m <sup>3</sup>
CAS: 101-68-8	4,4'-methylenediphenyl diisocyanate	55 mg/m <sup>3</sup>

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Wear suitable protective clothing, gloves and eye/face protection.  
Immediately remove all soiled and contaminated clothing.  
Avoid contact with the eyes and skin.  
Keep away from foodstuffs, beverages and feed.  
Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.  
Wash hands before breaks and at the end of work.
- **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:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Protect from humidity and water.  
Once opened unfinished quantities must be stored in airtight packaging conditions.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

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

PEL	Ceiling limit value: 0.2 mg/m <sup>3</sup> , 0.02 ppm
REL	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	Long-term value: 0.051 mg/m <sup>3</sup> , 0.005 ppm

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Immediately remove all soiled and contaminated clothing.  
Avoid contact with the eyes and skin.  
Wear suitable protective clothing, gloves and eye/face protection.  
Keep away from foodstuffs, beverages and feed.  
Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.  
Wash hands before breaks and at the end of work.
- **Respiratory protection:**  
Not necessary. Ensure that room is well-ventilated during processing.

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Respiratory protection required in insufficiently ventilated working areas. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended (A2-P2).

· **Protection of hands:**



Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability.

· **Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles or face protection

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Fluid

Color: Brown

· **Odor:** Light

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:**  $> 150$  °C ( $> 302$  °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**  $> 400$  °C ( $> 752$  °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure at 20 °C (68 °F):**  $< 0.0001$  hPa ( $> 0$  mm Hg)

· **Density at 20 °C (68 °F):**  $1.1$  g/cm<sup>3</sup> (9.18 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

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- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
From approx. 500 °F (260°C), polymerization and separation of CO<sub>2</sub>
- **Possibility of hazardous reactions**  
May produce violent reactions with bases and numerous organic substances including alcohols and amines. The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.
- **Conditions to avoid** Avoid heating to above 104 °F (40°C) and cooling to below 50 °F (10°C).
- **Incompatible materials:**  
Uncontrolled exothermic reactions occur with amines and alcohols.  
During storage, avoid moisture contamination.
- **Hazardous decomposition products:**  
In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, monomer isocyanates, amines and alcohols may be produced.

### 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**
  - **LD/LC50 values that are relevant for classification:**
- |  |      |                     |
|--|------|---------------------|
| <b>CAS: 101-68-8 4,4'-methylenediphenyl diisocyanate</b> |      |                     |
| Oral   | LD50 | 2,200 mg/kg (mouse) |
- **Specific symptoms in biological assay:**
  - **Primary route(s) of entry:** Inhalation, skin contact, eye contact, ingestion.
  - **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Irritating effect.
  - **Sensitization:**  
Sensitization possible through inhalation.  
Sensitization possible through skin contact.
  - **Additional toxicological information:**  
Based on the properties of the isocyanate components and considering toxicological data on similar preparations, this preparation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

CAS: 9016-87-9	Diphenylmethanediisocyanate, isomers and homologues	3
CAS: 101-68-8	4,4'-methylenediphenyl diisocyanate	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**

Repr. 2

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Do not allow product to reach sewage system.  
Mix both product components, allow to harden, then dispose of as construction waste.  
Disposal should be in accordance with local, state or national legislation.
- **Uncleaned packagings:**
- **Recommendation:**  
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

### 14 Transport information

- |  |   |
|--|---|
| · <b>DOT, ADR, ADN, IMDG, IATA</b>         | Void  |
| · <b>UN proper shipping name</b>           |   |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>         | Void  |
| · <b>DOT, ADN, IMDG, IATA</b>              |   |
| · <b>Class</b>                             | Void  |
| · <b>DOT, IMDG, IATA</b>                   | Void  |
| · <b>Environmental hazards:</b>            |   |
| · <b>Marine pollutant:</b>                 | No  |
| · <b>Special precautions for user</b>      | Not applicable.   |
| · <b>Transport/Additional information:</b> | Not regulated as hazardous material according to the above specifications.<br>Avoid heating to above 104 °F (40°C) and cooling to below 50 °F (10°C). |
| · <b>UN "Model Regulation":</b>            | Void  |

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## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendments and Reauthorization Act)

· EPCRA Section 302 (Extremely Hazardous Substances):
None of the ingredient is listed.

· SARA Title III Section 313 (Toxic Release Inventory - TRI):
CAS: 9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues
CAS: 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 is listed.

· Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

· Carcinogenicity categories	
· EPA (Environmental Protection Agency)	
CAS: 9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues	CBD
CAS: 101-68-8 4,4'-methylenediphenyl diisocyanate	D, CBD

· TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

· GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).
· Hazard pictograms GHS07, GHS08
· Signal word Danger
· Hazard-determining components of labeling:
Diphenylmethanediisocyanate, isomeres and homologues
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate
4,4'-methylenediphenyl diisocyanate
· Hazard statements
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
· Precautionary statements
Obtain special instructions before use.
Do not breathe vapours.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of soap and water.

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*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*If skin irritation or rash occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*If experiencing respiratory symptoms: Call a poison center/doctor.*

*Store locked up.*

### 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.*

· **Recommended restriction of use** For professional use only.

· **Contact:**

*Jim Muggleton*

*Phone: +1 720-374-4810*

*Mobile: +1 720-413-5454*

· **Date of preparation / last revision** 03/16/2019 / -

· **Abbreviations and acronyms:**

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*

*ICAO: International Civil Aviation Organisation*

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (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*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*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*

*Repr. 2: Reproductive toxicity – Category 2*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*