1. Identification

Product identifier  
DEVCON® Flexane 94 Liquid Resin

Other means of identification
SKU#  
0321

Recommended use  
Not available.

Recommended restrictions  
None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name: ITW Performance Polymers
Address: 30 Endicott Street
City: Danvers
State: MA
Postal code: 01923
Country: United States
Website: www.itwperformancepolymers.com

Emergency phone number
Chemtrec: 800-424-9300
International: 703-527-3887

2. Hazard(s) identification

Physical hazards  
Not classified.

Health hazards
- Acute toxicity, inhalation  
  Category 2
- Skin corrosion/irritation  
  Category 2
- Serious eye damage/eye irritation  
  Category 2
- Sensitization, respiratory  
  Category 1
- Sensitization, skin  
  Category 1
- Specific target organ toxicity, single exposure  
  Category 3 respiratory tract irritation

Environmental hazards  
Not classified.

OSHA defined hazards  
Not classified.

Label elements

Signal word  
Danger

Hazard statement  
Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.

Precautionary statement

Prevention  
Do not breathe vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves. Wear respiratory protection.

Response  
If on skin: Wash with plenty of 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. Immediately call a poison center/doctor. Specific treatment is urgent (see this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage  
Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal  
Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC): None known.
Supplemental information: None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyol</td>
<td>N/A</td>
<td></td>
<td>60 - 80</td>
</tr>
<tr>
<td>4,4’-Methylenedicyclohexyl diisocyanate</td>
<td>5124-30-1</td>
<td>20 - 40</td>
<td></td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td>1 - 2.5</td>
<td></td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

GENERAL INFORMATION

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Water. Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.
7. Handling and storage

Precautions for safe handling: Do not breathe vapors or spray mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits:
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Methylenedicyclohexyl diisocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Methylenedicyclohexyl diisocyanate</td>
<td>Ceiling</td>
<td>0.11 mg/m3</td>
</tr>
</tbody>
</table>

Biological limit values: No biological exposure limits noted for the ingredient(s).

Exposure guidelines:

US - Tennessee OELs: Skin designation

4,4'-Methylenedicyclohexyl diisocyanate (CAS 5124-30-1): Can be absorbed through the skin.

Appropriate engineering controls:
Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection:
Hand protection: Wear appropriate chemical resistant gloves.
Other: Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection: Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations:
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance: Liquid.

Physical state: Liquid.

Form: Liquid.

Color: Clear.

Odor: Musty.

Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: Not available.

Initial boiling point and boiling range: 77 °F (25 °C) estimated.
Flash point
392.0 °F (200.0 °C) estimated

Evaporation rate
Not available.

Flammability (solid, gas)
Not applicable.

Upper/lower flammability or explosive limits

- Flammability limit - lower (%)
  Not available.

- Flammability limit - upper (%)
  Not available.

- Explosive limit - lower (%)
  Not available.

- Explosive limit - upper (%)
  Not available.

Vapor pressure
0.00002 hPa estimated

Vapor density
Not available.

Relative density
Not available.

Solubility(ies)
- Solubility (water)
  Not available.

Partition coefficient (n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.

Viscosity
Not available.

Other information
- Density
  1.03 g/cm³ estimated

- Explosive properties
  Not explosive.

- Flammability class
  Combustible IIIB estimated

- Oxidizing properties
  Not oxidizing.

- Specific gravity
  1.03 estimated

10. Stability and reactivity

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Contact with incompatible materials.

Incompatible materials
Alcohols. Amines.

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure
- Inhalation
  Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- Skin contact
  Causes skin irritation. May cause an allergic skin reaction.

- Eye contact
  Causes serious eye irritation.

- Ingestion
  Knowledge about health hazard is incomplete.

Symptoms related to the physical, chemical and toxicological characteristics
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects
- Acute toxicity
  Fatal if inhaled.
4,4’-Methylenedicyclohexyl diisocyanate (CAS 5124-30-1)

### Test Results

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>&gt; 10000 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
<td>0.295 mg/l, 4 Hours</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>1065 mg/kg</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation
- Causes skin irritation.

### Serious eye damage/eye irritation
- Causes serious eye irritation.

### Respiratory or skin sensitization
- **Respiratory sensitization**: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Skin sensitization**: May cause an allergic skin reaction.

### Germ cell mutagenicity
- Due to partial or complete lack of data the classification is not possible.

### Carcinogenicity
- Due to partial or complete lack of data the classification is not possible.

#### IARC Monographs. Overall Evaluation of Carcinogenicity
- Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
- Not listed.

#### US. National Toxicology Program (NTP) Report on Carcinogens
- Not listed.

### Reproductive toxicity
- Due to partial or complete lack of data the classification is not possible.

### Specific target organ toxicity - single exposure
- May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure
- Due to partial or complete lack of data the classification is not possible.

### Aspiration hazard
- Due to partial or complete lack of data the classification is not possible.

### Chronic effects
- Prolonged inhalation may be harmful.

### 12. Ecological information

#### Ecotoxicity
- The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### Persistence and degradability
- No data is available on the degradability of any ingredients in the mixture.

#### Bioaccumulative potential
- **Partition coefficient n-octanol / water (log Kow)**
  - 4,4’-Methylenedicyclohexyl diisocyanate: 6.11

#### Mobility in soil
- No data available.

### Other adverse effects
- No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

#### Disposal instructions
- Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Local disposal regulations
- Dispose in accordance with all applicable regulations.

#### Hazardous waste code
- The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

#### Waste from residues / unused products
- Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

#### Contaminated packaging
- Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code
Not established.

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration
4,4'-Methylenedicyclohexyl diisocyanate % 1.0
(CAS 5124-30-1)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance
4,4'-Methylenedicyclohexyl diisocyanate Listed.
(CAS 5124-30-1)

Toxic Substances Control Act (TSCA)
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Yes

Classified hazard categories
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Methylenedicyclohexyl diisocyanate</td>
<td>5124-30-1</td>
<td>20 - 40</td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

California Proposition 65
WARNING: This product can expose you to chemicals including FURAN, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance
Acetaldehyde (CAS 75-07-0) Listed: April 1, 1988
**FURAN (CAS 110-00-9)** Listed: October 1, 1993
**Propylene Oxide (CAS 75-56-9)** Listed: October 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

4,4’-Methylenedicyclohexyl diisocyanate (CAS 5124-30-1)

### International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### 16. Other information, including date of preparation or last revision

| Issue date | 05-21-2019 |
| Revision date | 08-22-2019 |
| Version # | 02 |
| HMIS® ratings | Health: 3  Flammability: 1  Physical hazard: 0 |
| NFPA ratings | Health: 3  Flammability: 1  Instability: 0 |

**Disclaimer**

ITW Performance Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.

**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.
## 1. Identification

<table>
<thead>
<tr>
<th>Product identifier</th>
<th>DEVCON® Flexane ® Fast Cure Liquid Curing Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other means of identification</td>
<td></td>
</tr>
<tr>
<td>SKU#</td>
<td>0304</td>
</tr>
<tr>
<td>Recommended use</td>
<td>Not available.</td>
</tr>
<tr>
<td>Recommended restrictions</td>
<td>None known.</td>
</tr>
</tbody>
</table>

### Manufacturer/Importer/Supplier/Distributor information

- **Manufacturer**
  - **Company name**: ITW Performance Polymers
  - **Address**: 30 Endicott Street, Danvers, MA 01923, United States
  - **Telephone**: Customer Service 978-777-1100
  - **Website**: www.itwperformancepolymers.com
  - **E-mail**: Not available.
  - **Contact person**: EHS Department

- **Emergency phone number**
  - **Chemtrec**: 800-424-9300
  - **International**: 703-527-3887

## 2. Hazard(s) identification

### Physical hazards
- Not classified.

### Health hazards
- **Acute toxicity, oral**: Category 4
- **Acute toxicity, dermal**: Category 4
- **Serious eye damage/eye irritation**: Category 2A
- **Specific target organ toxicity, repeated exposure**: Category 2

### Environmental hazards
- Not classified.

### OSHA defined hazards
- Not classified.

### Label elements

- **Signal word**: Warning
- **Hazard statement**: Harmful if swallowed. Harmful in contact with skin. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statement**
  - **Prevention**: Do not breathe mist/vapors. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection. Wear protective gloves/protective clothing.
  - **Response**: If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention.
  - **Storage**: Store away from incompatible materials.
  - **Disposal**: Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Hazard(s) not otherwise classified (HNOC)**: None known.
- **Supplemental information**: None.
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethyltoluenediamine</td>
<td>68479-98-1</td>
<td></td>
<td></td>
<td>60 - 80</td>
</tr>
<tr>
<td>Hydrophobic Silicon Dioxide, Amorphous</td>
<td>67762-90-7</td>
<td></td>
<td></td>
<td>2.5 - 10</td>
</tr>
<tr>
<td>Oleic Acid</td>
<td>112-80-1</td>
<td></td>
<td></td>
<td>1 - 2.5</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td></td>
<td></td>
<td>1 - 2.5</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td></td>
<td>13463-67-7</td>
<td>20 - 40</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Wash off with soap and water. Get medical advice/attention if you feel unwell. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

**Eye contact**
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Ingestion**
Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

**Most important symptoms/effects, acute and delayed**
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Prolonged exposure may cause chronic effects.

**Indication of immediate medical attention and special treatment needed**
Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**General information**
If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**
Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**
During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**
Move containers from fire area if you can do so without risk.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**
No unusual fire or explosion hazards noted.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

**Environmental precautions**
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
7. Handling and storage

Precautions for safe handling
Do not breathe mist/vapors. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide (CAS 13463-67-7)</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
</tbody>
</table>

US. OSHA Table Z-3 (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
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</thead>
<tbody>
<tr>
<td>Titanium Dioxide (CAS 13463-67-7)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 mppcf</td>
<td>Total dust.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mppcf</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide (CAS 13463-67-7)</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment
Eye/face protection
Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection
Hand protection
Wear appropriate chemical resistant gloves.

Other
Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection
Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state 
Liquid.

Form 
Liquid.

Color 
Grey

Odor 
Ammoniacal.

Odor threshold 
Not available.

pH 
Not available.

Melting point/freezing point 
Not available.

Initial boiling point and boiling range 
Not available.
Flash point 312.8 °F (156.0 °C) estimated
Evaporation rate Not available.
Flammability (solid, gas) Not applicable.

**Upper/lower flammability or explosive limits**
- Flammability limit - lower (%) Not available.
- Flammability limit - upper (%) Not available.
- Explosive limit - lower (%) Not available.
- Explosive limit - upper (%) Not available.

Vapor pressure 0.00009 hPa estimated
Vapor density Not available.
Relative density Not available.

**Solubility(ies)**
- Solubility (water) Not available.
- Partition coefficient (n-octanol/water) Not available.

**Auto-ignition temperature** Not available.
**Decomposition temperature** Not available.

Viscosity Not available.

**Other information**
- Density 1.06 g/cm3 estimated
- Explosive properties Not explosive.
- Flammability class Combustible III B estimated
- Oxidizing properties Not oxidizing.
- Specific gravity 1.06 estimated

**10. Stability and reactivity**

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.
**Chemical stability** Material is stable under normal conditions.
**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.
**Conditions to avoid** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
**Incompatible materials** Strong oxidizing agents.
**Hazardous decomposition products** No hazardous decomposition products are known.

**11. Toxicological information**

**Information on likely routes of exposure**
- **Inhalation** Prolonged inhalation may be harmful.
- **Skin contact** Harmful in contact with skin.
- **Eye contact** Causes serious eye irritation.
- **Ingestion** Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

**Information on toxicological effects**
- **Acute toxicity** Harmful in contact with skin. Harmful if swallowed.
### Test Results

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oleic Acid (CAS 112-80-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Guinea pig</td>
<td>&gt; 3000 mg/kg</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>74 g/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td>Prolonged skin contact may cause temporary irritation.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td></td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Not a respiratory sensitizer.</td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>This product is not expected to cause skin sensitization.</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classifiable as to carcinogenicity to humans.</td>
<td></td>
</tr>
</tbody>
</table>

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Titanium Dioxide (CAS 13463-67-7) 2B Possibly carcinogenic to humans.


Not listed.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

### 12. Ecological information

**Ecotoxicity**
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Persistence and degradability**
No data is available on the degradability of any ingredients in the mixture.

**Bioaccumulative potential**
No data available.

**Mobility in soil**
No data available.

**Other adverse effects**
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal instructions**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**
Dispose in accordance with all applicable regulations.

**Hazardous waste code**
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

**DOT**
Not regulated as dangerous goods.
IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not established.

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Diethyltoluenediamine (CAS 68479-98-1) 1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Yes

Classified hazard categories
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
California Proposition 65
WARNING: This product can expose you to chemicals including Titanium Dioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance
Carbon Black (CAS 1333-86-4) Listed: February 21, 2003
Titanium Dioxide (CAS 13463-67-7) Listed: September 2, 2011

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))
Titanium Dioxide (CAS 13463-67-7)

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
</tbody>
</table>
Country(s) or region | Inventory name                                      | On inventory (yes/no)*
---------------------|---------------------------------------------------|------------------------
China                | Inventory of Existing Chemical Substances in China (IECSC) | Yes                    
Europe               | European Inventory of Existing Commercial Chemical Substances (EINECS) | No                     
Europe               | European List of Notified Chemical Substances (ELINCS) | No                     
Japan                | Inventory of Existing and New Chemical Substances (ENCS) | No                     
Korea                | Existing Chemicals List (ECL)                       | Yes                    
New Zealand          | New Zealand Inventory                               | Yes                    
Philippines          | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes                    
Taiwan               | Taiwan Chemical Substance Inventory (TCSI)          | Yes                    
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes                    

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Issue date</th>
<th>05-21-2019</th>
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<tbody>
<tr>
<td>Revision date</td>
<td>05-23-2019</td>
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<tr>
<td>Version #</td>
<td>02</td>
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<td>HMIS® ratings</td>
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<tr>
<td></td>
<td>Flammability: 1</td>
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<tr>
<td></td>
<td>Physical hazard: 0</td>
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<tr>
<td>NFPA ratings</td>
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<tr>
<td></td>
<td>Flammability: 1</td>
</tr>
<tr>
<td></td>
<td>Instability: 0</td>
</tr>
<tr>
<td>Disclaimer</td>
<td>ITW Performance Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.</td>
</tr>
<tr>
<td>Revision information</td>
<td>Composition / Information on Ingredients: Component Summary</td>
</tr>
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