1. IDENTIFICATION

Product identifier
Product Code S295-0000A
Product Name CRU CLEAR

Other means of identification
Common Name SERIES 295 PART A

Recommended use of the chemical and restrictions on use
Recommended Use industrial paint.
Uses advised against Consumer use, For professional use only. Not for residential use.

Details of the supplier of the safety data sheet

Manufacturer Address
Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372

Emergency telephone number
Company Phone Number Tnemec Regulatory Dept: 816-474-3400
24 Hour Emergency Phone Number 800-535-5053 (Infotrac)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Flammable Liquids</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard statements
Harmful if swallowed
Causes serious eye irritation
May cause an allergic skin reaction
May cause damage to organs through prolonged or repeated exposure
Flammable liquid and vapor
Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/mixing/equipment
Use only non-sparking tools
Take precautionary measures against static discharge

Response
Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
In case of fire: Use CO2, dry chemical, or foam for extinction

Storage
Store in a well-ventilated place. Keep cool
Keep away from children

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other information
May be harmful in contact with skin
Toxic to aquatic life with long lasting effects
SEE SAFETY DATA SHEET

Acute Toxicity
51.03359856 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE</td>
<td>108-65-6</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>2-HEPTANONE</td>
<td>-</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>HEXYL ACETATE</td>
<td>142-92-7</td>
<td>1 - 10%</td>
</tr>
<tr>
<td>BIS (PENTAMETHYLPYRIDYL) SEBACATE</td>
<td>41556-26-7</td>
<td>1 - 10%</td>
</tr>
</tbody>
</table>
Description of first aid measures

General advice If symptoms persist, call a physician.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation Remove to fresh air. Oxygen or artificial respiration if needed.

Ingestion If swallowed, do not induce vomiting. Get medical attention immediately.

Self-protection of the first aider Use personal protective equipment. Avoid contact with eyes, skin and clothing.

Notes to physician Treat symptomatically.

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

Unsuitable extinguishing media Water.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating gases and vapours In the event of fire and/or explosion do not breathe fumes


Protective equipment and precautions for firefighters
Use water spray to cool unopened containers. In the event of fire, wear self-contained breathing apparatus. Keep away from heat/sparks/open flames/hot surfaces. MAY CAUSE HEAT AND PRESSURE BUILD-UP IN CLOSED CONTAINERS. Solvent vapors are heavier than air and may spread along floors. Flash back possible over considerable distance.

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes, skin and clothing. Use personal protective equipment. Remove all sources of ignition.

Environmental Precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up
Methods for containment

Remove all sources of ignition. Spills may be collected with inert, absorbent material for proper disposal. Use non-sparking tools, protective gloves, goggles and clothing, adequate ventilation, avoid the breathing of vapors and use respiratory protective devices. Transfer absorbent material to suitable containers for proper disposal.

Methods for cleaning up

If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Avoid contact with eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible products


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA: 50 ppm</td>
<td>TWA: 100 ppm</td>
<td>800 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 465 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-HEPTANONE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XYLENE</td>
<td>TWA: 100 ppm</td>
<td>TWA: 100 ppm</td>
<td></td>
</tr>
<tr>
<td>1330-20-7</td>
<td>STEL: 150 ppm</td>
<td>TWA: 435 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 150 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 655 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Sufficient ventilation, in volume and pattern, should be provided through both local and general exhaust to keep the air contaminant concentration below current applicable OSHA Permissible Exposure Limits (PEL) and ACGIH’s Threshold Limit Values (TLV). Appropriate ventilation should be employed to remove hazardous decomposition products formed during welding or flame cutting operations of surfaces coated with this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Use chemical resistant splash type goggles. If splashes are likely to occur, wear face-shield.

Skin and body protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection

Use only with adequate ventilation. Do not breathe vapors, spray mist, or dust. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist or dust levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer’s directions for respirator use.
General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust created by cutting, sanding, or grinding.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>clear</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Values</td>
<td>Remarks</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>138 °C / 280.0 °F</td>
<td>Pensky Martens - Closed Cup</td>
</tr>
<tr>
<td>Flash point</td>
<td>52 °C / 125.0 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.02960 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Insoluble in cold water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>625 centipoises</td>
<td></td>
</tr>
<tr>
<td>Other Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>8.56781 lbs/gal</td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>4.023 lbs/gal</td>
<td></td>
</tr>
<tr>
<td>Total volatiles weight percent</td>
<td>46.9590 %</td>
<td></td>
</tr>
<tr>
<td>Total volatiles volume percent</td>
<td>53.5160 %</td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Strong oxidizing agents, Acids, Bases, Alkalis

Hazardous decomposition products
11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Eye contact
Causes serious eye irritation.

Skin contact
May cause sensitization of susceptible persons.

Ingestion
Harmful if swallowed.

Component | LD50 Oral | LD50 Dermal | LC50 Inhalation
--- | --- | --- | ---
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE 108-65-6 | = 8532 mg/kg (Rat) > 5 g/kg (Rabbit) | | |
2-HEPTANONE | = 1600 mg/kg (Rat) = 1670 mg/kg (Rat) | = 12.6 mL/kg (Rabbit) = 12600 µL/kg (Rabbit) | > 2000 ppm (Rat) 4 h |
HEXYL ACETATE 142-92-7 | = 41500 µL/kg (Rat) > 5 g/kg (Rabbit) | | |
BIS (PENTAMETHYLPIPERIDYL) SEBACATE 41556-26-7 | = 2615 mg/kg (Rat) | | |
XYLENE 1330-20-7 | = 3500 mg/kg (Rat) > 1700 mg/kg (Rabbit) > 4350 mg/kg (Rabbit) | = 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h |

Information on toxicological effects

Symptoms
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity
NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Sensitization
May cause sensitization of susceptible persons.

Mutagenicity
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYLENE 1330-20-7</td>
<td></td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproductive effects
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
Causes damage to organs through prolonged or repeated exposure

Target organ effects
blood, Central nervous system, Eyes, hematopoietic system, kidney, liver, Lungs, respiratory system, Skin, Gastrointestinal tract, Peripheral Nervous System (PNS).

Aspiration hazard
Based on product level data, this product does not meet the requirement to be classified as an aspiration hazard. However, this product contains an ingredient that may cause aspiration if swallowed.

Acute Toxicity
51.03359856 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life with long lasting effects

49.26111 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.
**Persistence and degradability**
No information available.

**Bioaccumulation**
No information available.

**Mobility in Environmental Media**

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE 108-65-6</td>
<td>0.43</td>
</tr>
<tr>
<td>2-HEPTANONE</td>
<td>1.98</td>
</tr>
<tr>
<td>BIS (PENTAMETHYLPIPERIDYL) SEBACATE 41556-26-7</td>
<td>0.37</td>
</tr>
<tr>
<td>XYLENE 1330-20-7</td>
<td>2.77</td>
</tr>
</tbody>
</table>

**Other Adverse Effects**
No information available

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal Methods**
Keep container tightly closed. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

**Contaminated packaging**
Empty containers should be taken to an approved waste handling site for recycling or disposal.

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYLENE 1330-20-7</td>
<td>Included in waste stream: F039</td>
<td></td>
<td></td>
<td>U239</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>CAWAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYLENE 1330-20-7</td>
<td>Toxic Ignitable</td>
</tr>
</tbody>
</table>
14. TRANSPORT INFORMATION

DOT

Proper Shipping Name  paint in oil Not regulated

IATA

UN/ID no. 1263
Proper Shipping Name paint
Hazard Class 3
Packing Group III
ERG Code 366

Additional information  Call TNEMEC Traffic Department - 816-474-3400 for additional information or other modes of Transportation.

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Complies/Complies to</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Component  HAPS Data  XYLENE

United States of America

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Component</th>
<th>SARA 313 - Threshold Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYLENE - 1330-20-7</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous

Categorization

Acute Health Hazard  Yes
Chronic Health Hazard  Yes
Fire Hazard  Yes
Sudden Release of Pressure Hazard  No
Reactive Hazard  No

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
</table>
CERCLA

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYLENE 1330-20-7</td>
<td>100 lb</td>
<td></td>
<td>RQ 100 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 45.4 kg final RQ</td>
</tr>
</tbody>
</table>

United States of America

California Prop. 65
This product does not contain any Proposition 65 chemicals

California SCAQMD Rule 443
Contains Photochemically Reactive Solvent

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-HEPTANONE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>XYLENE 1330-20-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA
Health 2
Flammability 2
Instability 1
Physical hazard "

HMIS (Hazardous Material Information System)
Health 2*
Flammability 2
Reactivity 1

Prepared By
Tnemec Regulatory Dept: 816-474-3400

Revision Date
20-Feb-2015

Disclaimer
For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

To the best of our knowledge, the information contained herein is accurate. However, neither the Tnemec Company or any of its subsidiaries assume any liability whatsoever for the accuracy of completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

End of MSDS
1. IDENTIFICATION

Product identifier
Product Code S291-0291B
Product Name S291/S294/S295 CONVERTER

Other means of identification
Common Name SERIES 290/291/294/295, PART B

Recommended use of the chemical and restrictions on use
Recommended Use industrial paint.
Uses advised against Consumer use, For professional use only. Not for residential use.

Details of the supplier of the safety data sheet
Manufacturer Address Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372

Emergency telephone number
Company Phone Number Tnemec Regulatory Dept: 816-474-3400
24 Hour Emergency Phone Number 800-535-5053 (Infotrac)

2. HAZARDS IDENTIFICATION

Classification
OSHA Regulatory Status This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Acute toxicity - Inhalation (Vapors)</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements
Harmful if inhaled
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction

Appearance clear Physical state liquid Odor odorless
Precautionary Statements

Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Response
Get medical advice/attention if you feel unwell
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Storage
Keep away from children

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other information
SEE SAFETY DATA SHEET
Acute Toxicity
35.8 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER</td>
<td>28182-81-2</td>
<td>60 - 100%</td>
</tr>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER</td>
<td>822-06-0</td>
<td>0.1 - 1%</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice
If symptoms persist, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion
If swallowed, do not induce vomiting. Get medical attention immediately.

Self-protection of the first aider
Use personal protective equipment. Avoid contact with eyes, skin and clothing.

Most important symptoms and effects, both acute and delayed

Notes to physician
Treat symptomatically.
5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Dry chemical. Carbon dioxide. Foam.

Unsuitable extinguishing media Water.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating gases and vapours. In the event of fire and/or explosion do not breathe fumes.


Protective equipment and precautions for firefighters
Use water spray to cool unopened containers. In the event of fire, wear self-contained breathing apparatus. Keep away from heat/sparks/open flames/hot surfaces. MAY CAUSE HEAT AND PRESSURE BUILD-UP IN CLOSED CONTAINERS.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid contact with eyes, skin and clothing. Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation.

Environmental Precautions

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment
Remove all sources of ignition. Spills may be collected with inert, absorbent material for proper disposal. Use non-sparking tools, protective gloves, goggles and clothing, adequate ventilation, avoid the breathing of vapors and use respiratory protective devices. Transfer absorbent material to suitable containers for proper disposal.

Methods for cleaning up
If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling
Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible products

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Control parameters

Exposure guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0</td>
<td>TWA: 0.005 ppm</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering measures
Sufficient ventilation, in volume and pattern, should be provided through both local and general exhaust to keep the air contaminant concentration below current applicable OSHA Permissible Exposure Limits (PEL) and ACGIH’s Threshold Limit Values (TLV). Appropriate ventilation should be employed to remove hazardous decomposition products formed during welding or flame cutting operations of surfaces coated with this product.

Individual protection measures, such as personal protective equipment

Eye/face protection
Safety glasses with side-shields

Skin and body protection
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection
INDIVIDUALS WITH LUNG OR BREATHING PROBLEMS OR PRIOR REACTION TO ISOCYANATES MUST NOT BE EXPOSED TO VAPOR OR SPRAY MIST. Do not breathe vapor or spray mist. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. An airline respirator (TC 19C NIOSH/MSHA) is recommended. A vapor-particulate respirator (TC 23C NIOSH/MSHA) may be appropriate where air monitoring demonstrates vapors are less than ten times the applicable exposure limits and the isocyanate concentration is less than its applicable exposure limit. The use of an air-supplied respirator is mandatory whenever the airborne concentration of isocyanate monomer is unknown.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust created by cutting, sanding, or grinding.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state | liquid |
Appearance | clear |
Color | No information available |
Odor | odorless |
Odor threshold | No information available |

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>149 °C / 300 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Pensky Martens - Closed Cup</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.11974 g/cm3</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Insoluble in cold water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
May occur if in contact with moisture, other materials which react with isocyanates, or temperatures above 400 F

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Amines, Water, Strong bases, Alcohols, copper

Hazardous decomposition products

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
May cause sensitization of susceptible persons. Contains isocyanate monomer. If subject to spray application, engineering and administrative controls must be instituted to maintain an exposure level below .005ppm. If these controls are not adequate, the use of an air-supplied respirator is mandatory.

Eye contact
Severely irritating to eyes.

Skin contact
May cause sensitization of susceptible persons.

Ingestion
Harmful if swallowed.

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER</td>
<td></td>
<td></td>
<td>= 18500 mg/m³ (Rat) 1 h</td>
</tr>
<tr>
<td>28182-81-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER</td>
<td>738 mg/kg (Rat)</td>
<td>593 mg/kg (Rabbit)</td>
<td>= 0.06 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>822-06-0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
Skin disorders. Respiratory disorders.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Chronic Toxicity  Avoid repeated exposure. Contains isocyanates. May produce an allergic reaction.
Sensitization  May cause sensitization of susceptible persons.
Mutagenicity  No information available.
Carcinogenicity  There are no known carcinogenic chemicals in this product.
Reproductive effects  No information available.
STOT - single exposure  No information available
STOT - repeated exposure  No information available
Target organ effects  respiratory system, Skin.
Aspiration hazard  No information available.

Acute Toxicity  35.8 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

99.8 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Component</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE DlSOCYANATE (HDI) MONOMER 822-06-0</td>
<td>26.1: 96 h BrachydaniO rerio mg/L LC50 static</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility in Environmental Media

Other Adverse Effects  No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Methods  Keep container tightly closed. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

Contaminated packaging  Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT  Proper Shipping Name  paint in oil

IATA  Proper Shipping Name  Not regulated

Additional information  Call TNEMEC Traffic Department - 816-474-3400 for additional information or other modes of Transportation.

15. REGULATORY INFORMATION

International Inventories
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Component: HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER

United States of America

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Component</th>
<th>SARA 313 - Threshold Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER - 822-06-0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous

Categorization

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CERCLA

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER - 822-06-0</td>
<td>100 lb</td>
<td></td>
<td>RQ 100 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 45.4 kg final RQ</td>
</tr>
</tbody>
</table>

United States of America

California Prop. 65
None of the ingredients are listed with California Proposition 65.

California SCAQMD Rule 443
Contains Photochemically Reactive Solvent

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER - 822-06-0</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION
NFPA Health 2 Flammability 0 Instability 1 Physical hazard *
HMIS (Hazardous Material Information System) Health 2* Flammability 0 Reactivity 1

Prepared By Tnemec Regulatory Dept: 816-474-3400
Revision Date 22-Jun-2015
Revision Summary 9 4 5 6 7 10 8 11 14 15

Disclaimer
For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

To the best of our knowledge, the information contained herein is accurate. However, neither the Tnemec Company or any of its subsidiaries assume any liability whatsoever for the accuracy of completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

End of MSDS