1. IDENTIFICATION

Product identifier
Product Code  N446-0000A
Product Name  PERMASHIELD CLEAR

Other means of identification
Common Name  SERIES 446, PART A
UN/ID no.  1263

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 Publication</th>
<th>OSHA Reg Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Flammable Liquids</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
Causes damage to organs through prolonged or repeated exposure
Flammable liquid and vapor
**Precautionary Statements**

**Prevention**
- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- In case of inadequate ventilation wear respiratory protection
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- 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**
- IF exposed or concerned: Get medical advice/attention
- 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 INHALED: If breathing is difficult, 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
- In case of fire: Use CO2, dry chemical, or foam for extinction

**Storage**
- Store locked up
- 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**
- Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure).
- Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs
- SEE SAFETY DATA SHEET
- Acute Toxicity: 23.1182674 % 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>TALC (RESPIRABLE DUST)</td>
<td>14807-96-6</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>Ingredient</td>
<td>Concentration</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) POL</td>
<td>10 - 30%</td>
<td></td>
</tr>
<tr>
<td>METHYL N-AMYL KETONE</td>
<td>110-43-0</td>
<td></td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) POL</td>
<td>1 - 10%</td>
<td></td>
</tr>
<tr>
<td>PETROLEUM HYDROCARBON RESIN</td>
<td>64742-16-1</td>
<td></td>
</tr>
<tr>
<td>CRYSTALLINE SILICA (QUARTZ)</td>
<td>14808-60-7</td>
<td></td>
</tr>
<tr>
<td>HYDROCARBONS, C9-UNSATURATED, POLYMERIZED</td>
<td>71302-83-5</td>
<td></td>
</tr>
<tr>
<td>AROMATIC HYDROCARBON MIXTURE</td>
<td>64742-95-6</td>
<td></td>
</tr>
<tr>
<td>ETHYL ACETATE</td>
<td>141-78-6</td>
<td></td>
</tr>
<tr>
<td>1,2,4-TRIMETHYLBENZENE</td>
<td>95-63-6</td>
<td></td>
</tr>
<tr>
<td>1,3,5-TRIMETHYLBENZENE</td>
<td>108-67-8</td>
<td></td>
</tr>
<tr>
<td>P-TOLUENESULFONYL ISOCYANATE</td>
<td>4083-64-1</td>
<td></td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) MONOMER</td>
<td>584-84-9</td>
<td></td>
</tr>
<tr>
<td>CUMENE (SKIN)</td>
<td>98-82-8</td>
<td></td>
</tr>
<tr>
<td>ETHYL BENZENE</td>
<td>100-41-4</td>
<td></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 thoroughly with plenty of water for at least 15 minutes. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

**Skin contact**
Wash off immediately with soap and plenty of water. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

**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**
Carbon dioxide. Foam. Dry chemical.

**Unsuitable extinguishing media**
Do not use a solid water stream as it may scatter and spread fire.

**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.

**Hazardous combustion products**
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.

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.

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>TALC (RESPIRABLE DUST)</td>
<td>TWA: 2 mg/m³</td>
<td>TWA: 2 mg/m³</td>
<td>1000 mg/m³</td>
</tr>
<tr>
<td>14807-96-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>METHYL N-AMYL KETONE</td>
<td>TWA: 50 ppm</td>
<td>TWA: 100 ppm</td>
<td>800 ppm</td>
</tr>
<tr>
<td>110-43-0</td>
<td></td>
<td>TWA: 465 mg/m³</td>
<td></td>
</tr>
<tr>
<td>CRYSTALLINE SILICA (QUARTZ)</td>
<td>TWA: 0.025 mg/m³</td>
<td>TWA: 0.1 mg/m³</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>14808-60-7</td>
<td></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
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. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. 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 | aromatic |
| Odor threshold | No information available |
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. Amines.

Incompatible materials
Strong oxidizing agents, Acids, Water, alcohols, amines, strong bases, metal components, surface active materials, 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. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. 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. May cause sensitization by inhalation.
**Eye contact**
Causes serious eye irritation.

**Skin contact**
Irritating to skin. 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>METHYL N-AMYL KETONE</td>
<td>110-43-0</td>
<td>= 1600 mg/kg (Rat) = 1670 mg/kg (Rat)</td>
<td>= 12.6 mL/kg (Rabbit) = 12600 µL/kg (Rabbit)</td>
</tr>
<tr>
<td>CRYSTALLINE SILICA (QUARTZ)</td>
<td>14808-60-7</td>
<td>= 500 mg/kg (Rat)</td>
<td></td>
</tr>
<tr>
<td>AROMATIC HYDROCARBON MIXTURE</td>
<td>64742-95-6</td>
<td>= 8400 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
</tr>
<tr>
<td>ETHYL ACETATE</td>
<td>141-78-6</td>
<td>= 5620 mg/kg (Rat)</td>
<td>&gt; 18000 mg/kg (Rabbit) &gt; 20 mL/kg (Rabbit)</td>
</tr>
<tr>
<td>1,2,4-TRIMETHYLBENZENE</td>
<td>95-63-6</td>
<td>= 3280 mg/kg (Rat)</td>
<td>&gt; 3160 mg/kg (Rabbit)</td>
</tr>
<tr>
<td>1,3,5-TRIMETHYLBENZENE</td>
<td>108-67-8</td>
<td>= 5000 mg/kg (Rat)</td>
<td></td>
</tr>
<tr>
<td>P-TOLUENESULFONYL ISOCYANATE</td>
<td>4083-64-1</td>
<td>= 2234 mg/kg (Rat)</td>
<td></td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) MONOMER</td>
<td>584-84-9</td>
<td>= 5800 mg/kg (Rat)</td>
<td>&gt; 16 mL/kg (Rabbit)</td>
</tr>
<tr>
<td>CUMENE (SKIN)</td>
<td>98-82-8</td>
<td>= 1400 mg/kg (Rat)</td>
<td>= 12300 µL/kg (Rabbit)</td>
</tr>
<tr>
<td>ETHYL BENZENE</td>
<td>100-41-4</td>
<td>= 3500 mg/kg (Rat)</td>
<td>= 15400 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders. Respiratory disorders. Irritating to eyes and skin.

**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. Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure). May cause sensitization by inhalation and skin contact. Substances known to be mutagenic to man.

May cause genetic defects.

Substances known to be mutagenic to man.

May cause sensitization of susceptible persons.

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>TALC (RESPIRABLE DUST)</td>
<td>14807-96-6</td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRYSTALLINE SILICA (QUARTZ)</td>
<td>14808-60-7</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) MONOMER</td>
<td>584-84-9</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CUMENE (SKIN)</td>
<td>98-82-8</td>
<td>Group 2B</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
<tr>
<td>ETHYL BENZENE</td>
<td>100-41-4</td>
<td>A3</td>
<td>Group 2B</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 blood, Central nervous system, Central Vascular System (CVS), Eyes, Lungs, Peripheral Nervous System (PNS), respiratory system, Skin.

**Target organ effects**

**Aspiration hazard**
No information available.
Acute Toxicity

23.1182674 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

55.34462 % 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>TALC (RESPIRABLE DUST) 14807-96-6</td>
<td>100: 96 h Brachydanio rerio g/L LC50 semi-static</td>
<td></td>
<td></td>
</tr>
<tr>
<td>METHYL N-AMYL KETONE 110-43-0</td>
<td>126 - 137: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AROMATIC HYDROCARBON MIXTURE 64742-95-6</td>
<td>9.22: 96 h Oncorhynchus mykiss mg/L LC50</td>
<td>6.14: 48 h Daphnia magna mg/L EC50 Static</td>
<td></td>
</tr>
<tr>
<td>ETHYL ACETATE 141-78-6</td>
<td>3300: 48 h Desmodesmus subspicatus mg/L EC50</td>
<td>352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through</td>
<td>560: 48 h Daphnia magna mg/L EC50 Static</td>
</tr>
<tr>
<td>1,2,4-TRIMETHYLBENZENE 95-63-6</td>
<td>7.19 - 8.28: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td></td>
<td>6.14: 48 h Daphnia magna mg/L EC50 Static</td>
</tr>
<tr>
<td>1,3,5-TRIMETHYLBENZENE 108-67-8</td>
<td>3.48: 96 h Pimephales promelas mg/L LC50</td>
<td>50: 24 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
<tr>
<td>CUMENE (SKIN) 98-82-8</td>
<td>2.6: 72 h Pseudokirchneriella subcapitata mg/L EC50</td>
<td>2.7: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 6.04 - 6.61: 96 h Pimephales promelas mg/L LC50 flow-through 4.8: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 5.1: 96 h Poecilia reticulata mg/L LC50 semi-static</td>
<td>0.6: 48 h Daphnia magna mg/L EC50 7.9 - 14.1: 48 h Daphnia magna mg/L EC50 Static</td>
</tr>
<tr>
<td>ETHYL BENZENE 100-41-4</td>
<td>4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L LC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static</td>
<td>11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 32: 96 h Lepomis macrochirus mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 9.6: 96 h Poecilia reticulata mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static</td>
<td>1.8 - 2.4: 48 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

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>METHYL N-AMYL KETONE 110-43-0</td>
<td>1.98</td>
</tr>
<tr>
<td>ETHYL ACETATE 141-78-6</td>
<td>0.6</td>
</tr>
<tr>
<td>1,2,4-TRIMETHYLBENZENE 95-63-6</td>
<td>3.63</td>
</tr>
<tr>
<td>CUMENE (SKIN) 98-82-8</td>
<td>3.55</td>
</tr>
<tr>
<td>ETHYL BENZENE 100-41-4</td>
<td>3.118</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>ETHYL ACETATE</td>
<td>141-78-6</td>
<td>Included in waste stream:</td>
<td>F039</td>
<td>U112</td>
</tr>
<tr>
<td>CUMENE (SKIN)</td>
<td>98-82-8</td>
<td></td>
<td></td>
<td>U055</td>
</tr>
<tr>
<td>ETHYL BENZENE</td>
<td>100-41-4</td>
<td>Included in waste stream:</td>
<td>F039</td>
<td></td>
</tr>
</tbody>
</table>

Component          | CAWAST    |
-------------------|-----------|
ETHYL ACETATE      | Toxic     |
                   | Ignitable |
TOLUENE DIISOCYANATE (TDI) MONOMER | Ignitable |
                   | Reactive  |
CUMENE (SKIN)      | Toxic     |
                   | Ignitable |
ETHYL BENZENE      | Toxic     |
                   | Ignitable |

14. TRANSPORT INFORMATION

DOT
UN/ID no.          | 1263     |
Proper Shipping Name | paint   |
Hazard Class        | 3        |
Packing Group       | III      |
Emergency Response Guide | 128   |
Number

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
TSCA                | Complies  |
DSL/NDSL            | Complies  |
EINECS/ELINCS       | Does not comply |
ENCS                | Does not comply |
IECSC               | Complies  |
KECL                | Complies  |
PICCS               | Does not comply |
AICS                | Does not comply |
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
IECS - 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
--- | ---
TOLUENE DIISOCYANATE (TDI) MONOMER | CUMENE (SKIN) | ETHYL BENZENE

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>1,2,4-TRIMETHYLBENZENE - 95-63-6</td>
<td>1.0</td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) MONOMER - 584-84-9</td>
<td>0.1 1.0</td>
</tr>
<tr>
<td>CUMENE (SKIN) - 98-82-8</td>
<td>1.0</td>
</tr>
<tr>
<td>ETHYL BENZENE - 100-41-4</td>
<td>0.1</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous
Categorization

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

<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>
<tbody>
<tr>
<td>ETHYL BENZENE - 100-41-4</td>
<td>1000 lb</td>
<td>X</td>
<td>X</td>
<td>X</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>ETHYL ACETATE - 141-78-6</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) MONOMER - 584-84-9</td>
<td>100 lb</td>
<td>100 lb</td>
<td>RQ 100 lb final RQ</td>
</tr>
<tr>
<td>CUMENE (SKIN) - 98-82-8</td>
<td>5000 lb</td>
<td></td>
<td>RQ 45.4 kg final RQ</td>
</tr>
<tr>
<td>ETHYL BENZENE - 100-41-4</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ</td>
</tr>
</tbody>
</table>

United States of America

California Prop. 65
WARNING! This product contains a chemical known in the State of California to cause cancer

<table>
<thead>
<tr>
<th>Component</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRYSSTALLINE SILICA (QUARTZ) - 14808-60-7</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>CUMENE (SKIN) - 98-82-8</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>ETHYL BENZENE - 100-41-4</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>
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>TALC (RESPIRABLE DUST) 14807-96-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>METHYL N-AMYL KETONE 110-43-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CRYSTALLINE SILICA (QUARTZ) 14808-60-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ETHYL ACETATE 141-78-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1,2,4-TRIMETHYLBENZENE 95-63-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1,3,5-TRIMETHYLBENZENE 108-67-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TOLUENE DIISOCYANATE (TDI) MONOMER 584-84-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CUMENE (SKIN) 98-82-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ETHYL BENZENE 100-41-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>*</td>
</tr>
</tbody>
</table>

HMIS (Hazardous Material Information System)

Prepared By: Tnemec Regulatory Dept: 816-474-3400
Revision Date: 02-Jul-2015
Revision Summary: 9 4 5 7 10 8 11 14
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: N446-1221B
Product Name: PERMASHIELD BLACK

Other means of identification
Common Name: SERIES 446, 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>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Inhalation (Vapors)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements
Harmful if inhaled
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
Causes damage to organs through prolonged or repeated exposure
Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Response
IF exposed or concerned: Get medical advice/attention
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

Storage
Store locked up
Keep away from children

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

Hazards not otherwise classified (HNOC)
If product is in liquid or paste form, physical or health hazards listed related to dust are not considered significant. However, product may contain substances that could be potential hazards if caused to become airborne due to grinding, sanding or other abrasive processes.

Other information
Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure).
Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs
SEE SAFETY DATA SHEET

Acute Toxicity
59.68114 % 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>CRystalline Silica (Quartz)</td>
<td>14808-60-7</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>Iron Oxide Fume</td>
<td>1317-61-9</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>Coal Fired Fly Ash Bi-Product</td>
<td>68131-74-8</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>14808-60-7</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 eye irritation persists, consult a specialist.

Skin contact
Wash off immediately with soap and plenty of water. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

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.

Most important symptoms and effects, both acute and delayed

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide. Foam. Dry chemical.

Unsuitable extinguishing media
Do not use a solid water stream as it may scatter and spread fire.

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.

Hazardous combustion products
Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Carbon oxides. Hydrocarbons.

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.

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**

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

**Incompatible products**

Strong oxidizing agents. Acids.

### 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>CRYSSTALINE SILICA (QUARTZ) 14808-60-7</td>
<td>TWA: 0.025 mg/m³</td>
<td>TWA: 0.1 mg/m³</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT 68131-74-8</td>
<td>TWA: 1 mg/m³</td>
<td>-</td>
<td>100 mg/m³ 10 mg/m³</td>
</tr>
<tr>
<td>CRYSSTALINE SILICA (QUARTZ) 14808-60-7</td>
<td>TWA: 0.025 mg/m³</td>
<td>TWA: 0.1 mg/m³</td>
<td>50 mg/m³</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**

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**
Physical state: liquid
Appearance: opaque
Color: No information available

Odor: aromatic
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>No data available</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
<td>No data available</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>1.28903</td>
<td>g/cm³</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></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>52000 centipoises</td>
<td>approx</td>
</tr>
</tbody>
</table>

Other Information

Density: 10.72670 lbs/gal
Volatile organic compounds (VOC) content: .082 lbs/gal
Total volatiles weight percent: .7580 %
Total volatiles volume percent: 1.1169 %

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

Hazardous decomposition products
Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Carbon oxides. Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
HARMFUL BY INHALATION.

Eye contact
Irritating to eyes.
Skin contact
Harmful in contact with skin. May cause sensitization by skin contact.

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>CRYSTALLINE SILICA (QUARTZ) 14808-60-7</td>
<td>= 500 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRON OXIDE FUME 1317-61-9</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT 68131-74-8</td>
<td>&gt; 2000 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRYSTALLINE SILICA (QUARTZ) 14808-60-7</td>
<td>= 500 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders. Irritating to eyes and skin.

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. Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure). Substances known to be mutagenic to man. Skin sensitizer.

Sensitization
May cause sensitization of susceptible persons.

Mutagenicity
May cause genetic defects.

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>CRYSTALLINE SILICA (QUARTZ) 14808-60-7</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT 68131-74-8</td>
<td></td>
<td>Group 1</td>
<td>Known</td>
<td></td>
</tr>
<tr>
<td>CRYSTALLINE SILICA (QUARTZ) 14808-60-7</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

Reproductive effects
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
Gastrointestinal tract. Eyes, liver, Lungs, respiratory system. Skin, kidney, Nasal Cavities.

Target organ effects
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
59.68114 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity
56.579079 % 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>COAL FIRED FLY ASH BI-PRODUCT 68131-74-8</td>
<td></td>
<td></td>
<td>140 - 2000: 24 h Daphnia magna mg/L EC50</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.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAWAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT</td>
<td>Toxic</td>
</tr>
<tr>
<td>68131-74-8</td>
<td>Corrosive</td>
</tr>
</tbody>
</table>

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 - Complies
- DSL/NDSL - Complies
- EINECS/ELINCS - Does not comply
- ENCS - Does not comply
- IECSC - Does not comply
- KECL - Does not comply
- PICCS - Does not comply
- AICS - Does not comply

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
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- Component: COAL FIRED FLY ASH BI-PRODUCT
- HAPS Data

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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>COAL FIRED FLY ASH BI-PRODUCT - 68131-74-8</td>
<td>1.0 0.1</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous

Categorization

- Acute Health Hazard: Yes
- Chronic Health Hazard: Yes
- Fire Hazard: No
- 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>
<tbody>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT 68131-74-8</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA

United States of America

California Prop. 65
WARNING! This product contains a chemical known in the State of California to cause cancer

<table>
<thead>
<tr>
<th>Component</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRYSSTALLINE SILICA (QUARTZ) - 14808-60-7</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT - 68131-74-8</td>
<td>Carcinogen</td>
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</tr>
</tbody>
</table>

California SCAQMD Rule 443
Does Not Contain 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>CRYSSTALLINE SILICA (QUARTZ) 14808-60-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
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<td>X</td>
<td></td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS (Hazardous Material Information System)</th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2*</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Prepared By: Tnemec Regulatory Dept: 816-474-3400
Revision Date: 06-Jul-2015
Revision Summary: 9 2 4 5 7 10 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.
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End of MSDS