1. IDENTIFICATION

Product identifier
Product Code
S206-33GRA
Product Name
SUB-FLEX EP GRAY

Other means of identification
Common Name
SERIES 206 or 206SC, 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 Statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>1</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>2</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>1</td>
</tr>
</tbody>
</table>

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Suspected of causing cancer
Causes damage to organs through prolonged or repeated exposure
May be corrosive to metals
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
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not eat, drink or smoke when using this product

Response
Immediately call a POISON CENTER or doctor/physician
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 or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage
Store locked up
Keep away from children

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

Hazards not otherwise classified (HNOC)
Other information
Toxic to aquatic life with long lasting effects
SEE SAFETY DATA SHEET
Acute Toxicity 57.81418049 % 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>TITANIUM DIOXIDE (TOTAL DUST)</td>
<td>13463-67-7</td>
<td>1 - 10%</td>
</tr>
<tr>
<td>TALC (RESPIRABLE DUST)</td>
<td>14807-96-6</td>
<td>1 - 10%</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. Call a physician immediately.

Skin contact
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.

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
Close container after each use. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. If splashes are likely to occur, wear goggles. Wear protective gloves/clothing. Do not burn, or use a cutting torch on, the empty drum. 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>TITANIUM DIOXIDE (TOTAL DUST)</td>
<td>TWA: 10 mg/m³</td>
<td>TWA: 10 mg/m³</td>
<td>5000 mg/m³</td>
</tr>
<tr>
<td>13463-67-7</td>
<td>TWA: 15 mg/m³</td>
<td></td>
<td></td>
</tr>
<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>
</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.

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>Physical state</th>
<th>Odor</th>
<th>Odor threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>liquid</td>
<td>Slight</td>
<td>No information available</td>
</tr>
<tr>
<td>opaque</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No information available</td>
<td></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. Amines.

Incompatible materials
Acids, Bases, Amines, Strong oxidizing agents, Hypochlorites, Peroxides

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. Inhalation of vapors in high concentration may cause irritation of respiratory system.

Eye contact
Causes serious eye damage.

Skin contact
Causes severe skin burns. 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>TITANIUM DIOXIDE (TOTAL DUST)</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13463-67-7</td>
<td></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

Corrosivity
Causes severe damage to eyes and skin. May be corrosive to metals.

Chronic Toxicity
May cause cancer. Skin sensitizer.

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>TITANIUM DIOXIDE (TOTAL DUST)</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>13463-67-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TALC (RESPIRABLE DUST)</td>
<td></td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14807-96-6</td>
<td></td>
<td></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
Central Vascular System (CVS), Eyes, Lungs, respiratory system, Skin.

Aspiration hazard
No information available.

Acute Toxicity
57.81418049 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life with long lasting effects

0.97401 % 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)</td>
<td></td>
<td>100: 96 h</td>
<td></td>
</tr>
<tr>
<td>14807-96-6</td>
<td></td>
<td>Brachydanio</td>
<td>LC50 semi-static</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 Not regulated

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

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Does not comply</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>Does not comply</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):

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:

SARA 311/312 Hazardous
Categorization

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Yes/No</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

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>TITANIUM DIOXIDE (TOTAL DUST) - 13463-67-7</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>TALC (RESPIRABLE DUST) - 14807-96-6</td>
<td>*</td>
</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>TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TALC (RESPIRABLE DUST) 14807-96-6</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>3</td>
<td></td>
<td>0</td>
<td>0</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>3*</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Prepared By Tnemec Regulatory Dept: 816-474-3400
Revision Date 22-Sep-2015
Revision Summary 9 4 5 7 10 8 11 14 15 1

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 SDS
1. IDENTIFICATION

Product identifier
Product Code S206-0206B
Product Name SUB-FLEX EP CONVERTER

Other means of identification
Common Name SERIES 206 OR 206SC, PART B
UN/ID no. 3066

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

Distributor Tnemec Company, Inc. 86 Boul, des Entreprises, Ste. 203 Boisbriand, Quebec Canada J7G 2T3

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></th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>4</td>
</tr>
<tr>
<td>Acute toxicity - Dermal</td>
<td>4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>1 Sub-category B</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>1</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>1</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>2</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>1</td>
</tr>
</tbody>
</table>

Label elements

EMERGENCY OVERVIEW

Danger
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
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Response
Immediately call a POISON CENTER or doctor/physician
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 or doctor/physician
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Storage
Store locked up
Keep away from children

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

Hazards not otherwise classified (HNOC)

Other information
Acute Toxicity 5.43937 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS
### 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. Call a physician immediately.

**Skin contact**
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.

**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.

### 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
Close container after each use. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. If splashes are likely to occur, wear goggles. Wear protective gloves/clothing. Do not burn, or use a cutting torch on, the empty drum. 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

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.
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>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>opaque</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>amine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>72 °C / 162 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.96541</td>
<td>g/cm³</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Insoluble in cold water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td></td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>115 centipoises</td>
<td>approx</td>
<td></td>
</tr>
<tr>
<td>Other Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>8.05155 lbs/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatile organic compounds (VOC) content</td>
<td>0.09742 lbs/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total volatiles weight percent</td>
<td>1.21 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total volatiles volume percent</td>
<td>1.23 %</td>
<td></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. Epoxy constituents.

Incompatible materials
Water, alcohols, amines, strong bases, metal components, surface active materials, Acids, Strong oxidizing agents, Hypochlorites, Nitrous acid and other nitrosating agents, Peroxides, Hydroxyl Compounds

Hazardous decomposition products
11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

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

**Eye contact**
Causes serious eye damage.

**Skin contact**
Causes severe skin burns. 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>NONYLPHENOL 84852-15-3</td>
<td>= 1300 mg/kg (Rat)</td>
<td>= 2031 mg/kg (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>MODIFIED ALIPHATIC AMINE 9046-10-0</td>
<td>= 242 mg/kg (Rat)</td>
<td>= 360 mg/kg (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>MODIFIED ALIPHATIC AMINE 140-31-8</td>
<td>= 2140 µL/kg (Rat)</td>
<td>= 880 µL/kg (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>BENZYL ALCOHOL 100-51-6</td>
<td>= 1230 mg/kg (Rat)</td>
<td>= 2 g/kg (Rabbit)</td>
<td>= 8.8 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>MODIFIED ALIPHATIC AMINE 1761-71-3</td>
<td>= 1000 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. Respiratory disorders.

**Corrosivity**
Causes severe damage to eyes and skin. May be corrosive to metals.

**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. Substances known to impair fertility. May cause sensitization by inhalation and skin contact.

**Sensitization**
May cause sensitization of susceptible persons.

**Mutagenicity**
No information available.

**Carcinogenicity**
There are no known carcinogenic chemicals in this product.

**Reproductive effects**
Suspected of damaging fertility or the unborn child.

**STOT - single exposure**
No information available

**STOT - repeated exposure**
Causes damage to organs through prolonged or repeated exposure, kidney, liver, Respiratory system, EYES, Skin, Central Nervous System (CNS), Gastrointestinal tract (GI)

**Aspiration hazard**
No information available.

**Acute Toxicity**
5.43937 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

36.67891 % 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>NONYLPHENOL 84852-15-3</td>
<td></td>
<td>0.135: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td></td>
</tr>
<tr>
<td>Pseudokirchneriella subcapitata mg/L EC50 static 0.16 - 0.72</td>
<td>0.135: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td>0.14: 48 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
<tr>
<td>Pseudokirchneriella subcapitata mg/L EC50 static 1.3: 72 h Desmodesmus subspicatus mg/L EC50</td>
<td></td>
<td></td>
<td></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>NONYLPHENOL</td>
<td>5.4</td>
</tr>
<tr>
<td>84852-15-3</td>
<td></td>
</tr>
<tr>
<td>MODIFIED ALIPHATIC AMINE</td>
<td>-1.48</td>
</tr>
<tr>
<td>140-31-8</td>
<td></td>
</tr>
<tr>
<td>BENZYL ALCOHOL</td>
<td>1.1</td>
</tr>
<tr>
<td>100-51-6</td>
<td></td>
</tr>
<tr>
<td>MODIFIED ALIPHATIC AMINE</td>
<td>2.03</td>
</tr>
<tr>
<td>1761-71-3</td>
<td></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.

---

#### 14. TRANSPORT INFORMATION

**DOT**

- **UN/ID no.** 3066
- **Proper Shipping Name** paint
- **Hazard Class** 8
- **Packing Group** II
- **Emergency Response Guide Number** 153

**IATA**

- **UN/ID no.** 3066
- **Proper Shipping Name** paint
- **Hazard Class** 8
- **Packing Group** II
- **ERG Code** 855
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>Regulation</th>
<th>Compliance</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>Complies</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

### 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:

#### Component  
Nonylphenol - 84852-15-3

<table>
<thead>
<tr>
<th>Component</th>
<th>SARA 313 - Threshold Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonylphenol</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazardous**  
**Categorization**

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</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

**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>Modified Aliphatic Amines 140-31-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Benzyl Alcohol 100-51-6</td>
<td>X</td>
<td></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>Reactivity</th>
<th>Physical hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>HMIS (Hazardous Material Information System)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared By: Tnemec Regulatory Dept: 816-474-3400
Revision Date: 23-Sep-2015
Revision Summary: 9 4 5 7 10 8 11 14 15 1

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 or 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 SDS
1. IDENTIFICATION

Product identifier
Product Code: S211-0214
Product Name: FUMED SILICA S C MORTAR

Other means of identification
Common Name: SERIES 211-214

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>Toxicity</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 1</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 swallowed
Harmful if inhaled
Causes serious eye irritation
May cause cancer
Causes damage to organs
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
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray

Response
IF exposed: Call a POISON CENTER or doctor/physician
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Storage
Store locked up
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
0.000102 % 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>CRYSSTALLINE SILICA (QUARTZ)</td>
<td>14808-60-7</td>
<td>30 - 60%</td>
</tr>
<tr>
<td>CRYSSTALLINE SILICA (QUARTZ)</td>
<td>14808-60-7</td>
<td>30 - 60%</td>
</tr>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT</td>
<td>68131-74-8</td>
<td>1 - 10%</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: 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: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: No information available.

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.

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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: Shovel or sweep up.

7. HANDLING AND STORAGE

Precautions for safe handling:
Handling
Close container after each use. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. Tightly fitting safety goggles. Wear protective gloves/clothing. 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
Incompatible with oxidizing agents.

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>CRYSTALLINE 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>CRYSTALLINE 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>
</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.

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>powder</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>light grey</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>72 °C / 162 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</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**
Incompatible with oxidizing agents

**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 dioxide (CO2). Hydrocarbons.

### 11. TOXICOLOGICAL INFORMATION

#### Information on Likely Routes of Exposure

- **Inhalation**
  Harmful if inhaled. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs.

- **Eye contact**
  Severely irritating to eyes.

- **Skin contact**
  Irritating to skin.

- **Ingestion**
  Harmful if swallowed.

#### LD50 Oral, LD50 Dermal, LC50 Inhalation

<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)</td>
<td>= 500 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14808-60-7
Information on toxicological effects

Symptoms
Respiratory disorders. Eye Damage.

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

Chronic Toxicity
Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure).

Sensitization
No information available.

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>CRYSSTALINE SILICA (QUARTZ) 14808-60-7</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
<tr>
<td>CRYSSTALINE 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>
</tbody>
</table>

Reproductive effects
No information available.

STOT - single exposure
Eyes, Respiratory system

STOT - repeated exposure
Causes damage to organs through prolonged or repeated exposure blood, Central nervous system, Central Vascular System (CVS), Eyes, kidney, liver, Lungs, Nasal Cavities, prostate, respiratory system, Skin.

Aspiration hazard
Not applicable.

Acute Toxicity
0.000102 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity
98.08407 % 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: SILICA, N.O.I.-20-P.C.F., GREATER (ITEM 176370, SUB 3)

**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: Complies
- ENCS: Does not comply
- IECSC: Complies
- KECL: Complies
- PICCS: Complies
- AICS: Complies

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):

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT</td>
<td></td>
</tr>
</tbody>
</table>

**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>CRYSRTALINE SILICA (QUARTZ) - 14808-60-7</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>CRYSRTALINE 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>
</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>CRYSRTALINE SILICA (QUARTZ) 14808-60-7</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CRYSRTALINE SILICA (QUARTZ) 14808-60-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>COAL FIRED FLY ASH BI-PRODUCT 68131-74-8</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**16. OTHER INFORMATION**

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

Prepared By: Tnemec Regulatory Dept: 816-474-3400
Revision Date: 27-Jan-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