

# SAFETY DATA SHEET

Issue Date 25-Nov-2014

Revision Date 03-Sep-2013

Revision Number 4

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Common Name** SERIES 90-97 PART A  
**Product Code** F090-0097A  
**Trade name** TNEME-ZINC REDDISH GRAY  
**Product Class** POLYMERIC DIISOCYANATE PAINT

**Manufacturer** Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372  
**Emergency Telephone** Tnemec Regulatory Dept: 816-474-3400

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

#### DANGER

FLAMMABLE LIQUID AND VAPOR  
HARMFUL IF INHALED  
MAY CAUSE LUNG INJURY.  
MAY CAUSE ALLERGIC RESPIRATORY REACTION; EFFECTS MAY BE PERMANENT.  
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.  
HARMFUL OR FATAL IF SWALLOWED  
MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA.  
MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.

#### Potential Health Effects

**Principle Routes of Exposure** Eye Contact, Inhalation, Skin Contact.

#### **Acute Effects**

**Eyes**

Moderately irritating to the eyes. Risk of serious damage to eyes.

**Skin**

Irritating to skin. May cause sensitization by skin contact.

**Inhalation**

Irritating to respiratory system. MAY CAUSE ALLERGIC RESPIRATORY REACTION.

**Ingestion**

Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. May be harmful if swallowed.

#### **Chronic Effects**

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).

See Section 11 for additional Toxicological Information

**Aggravated Medical Conditions** Central nervous system. Gastrointestinal tract. Liver disorders. Skin disorders. Respiratory disorders. Kidney disorders.

**Interactions with Other Chemicals** Use of alcoholic beverages may enhance toxic effects.

**Potential Environmental Effects** See Section 12 for additional Ecological Information.

**Target organ effects** Central nervous system, Gastrointestinal tract, Eyes, liver, Lungs, respiratory system, Skin, blood, kidney

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Hazardous Components

Component	CAS-No	Weight-%
XYLENE	1330-20-7	30 - 60
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER	-	10 - 30
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	101-68-8	5 - 10
ETHYL BENZENE	100-41-4	5 - 10
POLYMERIC MDI	9016-87-9	1 - 5
IRON OXIDE FUME	1309-37-1	1 - 5
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	1 - 5
TREATED MICA (RESPIRABLE DUST)	12001-26-2	1 - 5
DIPHENYLMETHANE-2,2-DIISOCYANATE MONOMER	26447-40-5	1 - 5
SILANE, DICHLORODIMETHYL-, REACTION PRODUCTS WITH SILICA	68611-44-9	1 - 5
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.1 - 1

### 4. FIRST AID MEASURES

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes.

**Skin contact** Wash off immediately with soap and plenty of water

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

**Inhalation** Remove to fresh air Oxygen or artificial respiration if needed If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

### 5. FIRE-FIGHTING MEASURES

**Flammable properties** FLAMMABLE.

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment Contact with water may cause violent frothing. Use: Carbon dioxide (CO2) - Foam - Dry chemical

**Hazardous Decomposition Products** Oxides of carbon, hydrocarbons. Oxides of nitrogen. Hydrogen cyanide. Isocyanates.

#### Specific hazards arising from the chemical

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

#### Protective equipment and precautions for firefighters

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

### 6. ACCIDENTAL RELEASE MEASURES

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

<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
<b>Methods for cleaning up</b>	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.
<b>Other information</b>	Not applicable

**7. HANDLING AND STORAGE**

**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.

**Storage**

Close container after each use. Keep away from heat, sparks and flame. VAPORS MAY CAUSE FLASH FIRE. Use only in an area containing flame proof equipment. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure guidelines**

Component	ACGIH TLV	OSHA PEL	Quebec TWAEV	Ontario TWAEV	Mexico OEL (TWA)
XYLENE	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 150 ppm STEL: 655 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 434 mg/m <sup>3</sup> STEL: 150 ppm STEL: 651 mg/m <sup>3</sup>	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 150 ppm STEL: 655 mg/m <sup>3</sup>
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m <sup>3</sup>	TWA: 0.005 ppm TWA: 0.051 mg/m <sup>3</sup>	TWA: 0.005 ppm CEV: 0.02 ppm	
ETHYL BENZENE	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 125 ppm STEL: 545 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 434 mg/m <sup>3</sup> STEL: 125 ppm STEL: 543 mg/m <sup>3</sup>	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 125 ppm STEL: 545 mg/m <sup>3</sup>
IRON OXIDE FUME	TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>  TWA: 15 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>
CRYSTALLINE SILICA (QUARTZ)	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>
TREATED MICA (RESPIRABLE DUST)	TWA: 3 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup>
DIPHENYLMETHANE-2,2-DIISOCYANATE MONOMER		Ceiling: 0.02 ppm Ceiling: 0.2 mg/m <sup>3</sup>			TWA: 0.02 ppm TWA: 0.2 mg/m <sup>3</sup> TWA: 0.005 ppm TWA: 0.051 mg/m <sup>3</sup>
CRYSTALLINE SILICA (QUARTZ)	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>

**Engineering measures** Ensure adequate ventilation, especially in confined areas

**Personal Protective Equipment**

**Skin protection**  
**Eye/face protection**  
**Respiratory Protection**

Lightweight protective clothing, Apron, Impervious gloves  
 Safety glasses with side-shields  
 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** Do not eat, drink or smoke when using this product Remove and wash contaminated clothing before re-use

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Flash Point</b>	26 °C / 78.0 °F
<b>Boiling point / boiling range</b>	135 - 142.000 °C / 275.0 - 288.0 °F
<b>Upper explosion limit</b>	No information available
<b>Lower explosion limit</b>	No information available
<b>Evaporation rate</b>	No information available
<b>Vapor pressure @20 °C (kPa)</b>	No information available
<b>Vapor density</b>	No information available
<b>Specific gravity</b>	1.07993 g/cm3
<b>Density</b>	8.98664 lbs/gal
<b>Volatile organic compounds (VOC) content</b>	3.827 lbs/gal
<b>Total volatiles weight percent</b>	42.5790 %
<b>Total volatiles volume percent</b>	52.7651 %

**10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable	<b>Conditions to Avoid</b>	Heat, flames and sparks. Amines.
<b>Incompatible Products</b>	Strong oxidizing agents. Water, alcohols, amines, strong bases, metal components, surface active materials. Acids.	<b>Possibility of Hazardous Reactions</b>	None under normal processing

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
XYLENE	= 3500 mg/kg ( Rat )	> 1700 mg/kg ( Rabbit ) > 4350 mg/kg ( Rabbit )	= 29.08 mg/L ( Rat ) 4 h = 5000 ppm ( Rat ) 4 h
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER			490 mg/m <sup>3</sup> , 4h (rat)
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	= 31600 mg/kg ( Rat ) = 9200 mg/kg ( Rat )		= 369 mg/m <sup>3</sup> ( Rat ) 4 h
ETHYL BENZENE	= 3500 mg/kg ( Rat )	= 15400 mg/kg ( Rabbit )	= 17.2 mg/L ( Rat ) 4 h
POLYMERIC MDI	= 49 g/kg ( Rat )	> 9400 mg/kg ( Rabbit )	= 490 mg/m <sup>3</sup> ( Rat ) 4 h
IRON OXIDE FUME	> 10000 mg/kg ( Rat )		
CRYSTALLINE SILICA (QUARTZ)	= 500 mg/kg ( Rat )		

DIPHENYLMETHANE-2,2-DIISOCYANATE MONOMER	> 7400 mg/kg ( Rat )	> 6200 mg/kg ( Rabbit )	= 0.369 mg/L ( Rat ) 4 h
CRYSTALLINE SILICA (QUARTZ)	= 500 mg/kg ( Rat )		

**Irritation** No information available  
**Corrosivity** No information available.  
**Sensitization** No information available.

**Chronic Toxicity**

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

Component	ACGIH	IARC	NTP	OSHA	Mexico
XYLENE		Group 3			
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER		Group 3			
ETHYL BENZENE	A3	Group 2B		X	
POLYMERIC MDI		Group 3			
IRON OXIDE FUME		Group 3			
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
DIPHENYLMETHANE-2,2-DIISOCYANATE MONOMER		Group 3			
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	

**Mutagenicity** No information available.  
**Reproductive effects** No information available.  
**Developmental effects** No information available.  
**Teratogenicity** No information available.  
**Target organ effects** Central nervous system, Gastrointestinal tract, Eyes, liver, Lungs, respiratory system, Skin, blood, kidney.  
**Endocrine Disruptor Information** No information available

12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Component	Toxicity to algae	Toxicity to fish	Toxicity to Microorganisms	Toxicity to daphnia
XYLENE		LC50= 13.4 mg/L Pimephales promelas 96 h LC50 2.661 - 4.093 mg/L Oncorhynchus mykiss 96 h LC50 13.5 - 17.3 mg/L Oncorhynchus mykiss 96 h LC50 13.1 - 16.5 mg/L Lepomis macrochirus 96 h LC50= 19 mg/L Lepomis macrochirus 96 h LC50 7.711 - 9.591 mg/L Lepomis macrochirus 96 h LC50 23.53 - 29.97 mg/L Pimephales promelas 96 h LC50= 780 mg/L Cyprinus carpio 96 h LC50 > 780 mg/L Cyprinus carpio 96 h LC50 30.26 - 40.75 mg/L Poecilia reticulata 96 h	EC50 = 0.0084 mg/L 24 h	EC50 = 3.82 mg/L 48 h LC50 = 0.6 mg/L 48 h

ETHYL BENZENE	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 EC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	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	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	1.8 - 2.4: 48 h Daphnia magna mg/L EC50
DIPHENYLMETHANE-2,2-DIISOCYANATE MONOMER	3230: 96 h Skeletonema costatum mg/L EC50			1000: 24 h Daphnia magna mg/L EC50

### 13. DISPOSAL CONSIDERATIONS

**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** Ground Transportation only. Call TNEMEC Traffic Department - 816-474-3400 for other modes of Transportation.

**Proper Shipping Name** UN1263, PAINT, 3, PGIII, ERG 128

### 15. REGULATORY INFORMATION

**International Inventories**

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

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

- Component  
 XYLENE  
 DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER  
 ETHYL BENZENE

HAPS Data

**United States of America Federal Regulations**

**SARA 313**

Component	CAS-No	Weight-%	SARA 313 - Threshold Values
XYLENE	1330-20-7	30 - 60	1.0
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	101-68-8	5 - 10	1.0
ETHYL BENZENE	100-41-4	5 - 10	0.1

POLYMERIC MDI	9016-87-9	1 - 5	1.0
DIPHENYLMETHANE-2,2-DIISOCYANATE MONOMER	26447-40-5	1 - 5	1.0

**SARA 311/312 Hazardous Categorization**

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

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
XYLENE 1330-20-7 ( 30 - 60 )	100 lb			X
ETHYL BENZENE 100-41-4 ( 5 - 10 )	1000 lb	X	X	X

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs
XYLENE	100 lb	
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	5000 lb	
ETHYL BENZENE	1000 lb	

**United States of America State Regulations**

**California Prop. 65**

This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65
ETHYL BENZENE	100-41-4	Carcinogen
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	Carcinogen
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	Carcinogen

**California SCAQMD Rule 443**

Contains Photochemically Reactive Solvent

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
XYLENE	X	X	X	X	
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	X	X	X	X	
ETHYL BENZENE	X	X	X	X	
POLYMERIC MDI		X			
IRON OXIDE FUME	X	X	X		
CRYSTALLINE SILICA (QUARTZ)	X	X	X	X	
TREATED MICA (RESPIRABLE DUST)	X	X	X		
DIPHENYLMETHANE-2,2-DIISOCYANATE MONOMER	X	X		X	
CRYSTALLINE SILICA (QUARTZ)	X	X	X	X	

**Other international regulations**

**CANADA**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**WHMIS Classification**  
 B2 Flammable liquid  
 D2A Very toxic materials



Component	NPRI
XYLENE	Part 1, Group 1 Substance; Part 5 Substance
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	Part 1, Group 1 Substance
ETHYL BENZENE	Part 1, Group 1 Substance

**Legend**  
 NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

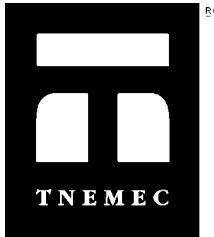
**Revision Date** 03-Sep-2013

**Revision Note** No information available

**HMIS (Hazardous Material Information System)**      **Health** 3\*                      **Flammability** 3                      **Reactivity** 2

**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**



# SAFETY DATA SHEET

Issue Date 25-Nov-2014

Revision Date 27-Mar-2013

Revision Number 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Common Name</b>	SERIES 90-97 PART B
<b>Product Code</b>	F090-0097B
<b>Trade name</b>	TNEME-ZINC ZINC PIGMENT
<b>Product Class</b>	ZINC METAL PIGMENT
<b>Manufacturer</b>	TNEMEC Company, Inc. 123 West 23rd Avenue North Kansas City, MO 64116-3064 816-474-3400
<b>Emergency Telephone</b>	Tnemec Regulatory Dept: 816-474-3400

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

#### WARNING

Harmful by inhalation  
MAY CAUSE HEADACHE AND DIZZINESS.  
MAY CAUSE FLU-LIKE SYMPTOMS.  
MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.

#### Potential Health Effects

**Principle Routes of Exposure** Inhalation.

#### **Acute Effects**

**Eyes**

May cause slight irritation.

**Skin**

Substance may cause slight skin irritation.

**Inhalation**

May cause irritation of respiratory tract. Inhalation of metallic zinc dust may result in symptoms known as metal fume fever. Symptoms include chills, fever, muscular pain, nausea and vomiting.

**Ingestion**

Gastrointestinal discomfort.

#### **Chronic Effects**

Avoid repeated exposure

See Section 11 for additional Toxicological Information

**Aggravated Medical Conditions** No information available.

**Interactions with Other Chemicals** No information available.

**Potential Environmental Effects** See Section 12 for additional Ecological Information.

**Target organ effects** respiratory system

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Hazardous Components**

Component	CAS-No	Weight-%
ZINC (TOTAL DUST)	7440-66-6	60 - 100
ZINC OXIDE (TOTAL DUST)	1314-13-2	1 - 5

**4. FIRST AID MEASURES**

<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water
<b>Ingestion</b>	If swallowed, do not induce vomiting. Get medical attention immediately.
<b>Inhalation</b>	Remove to fresh air Oxygen or artificial respiration if needed

**5. FIRE-FIGHTING MEASURES**

<b>Flammable properties</b>	No information available.
<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment Do NOT use water jet. Use: Carbon dioxide (CO2) - Foam - Dry chemical

**Hazardous Decomposition Products** Zinc oxide fume.

**Specific hazards arising from the chemical**

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

**Protective equipment and precautions for firefighters**

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

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions</b>	Avoid contact with eyes, skin and clothing. Use personal protective equipment. Remove all sources of ignition.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
<b>Methods for cleaning up</b>	Shovel or sweep up.
<b>Other information</b>	Not applicable

**7. HANDLING AND STORAGE**

**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

**Storage**

Keep away from heat, sparks and flame Keep in a dry place Keep container tightly closed

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Component	ACGIH TLV	OSHA PEL	Quebec TWAEV	Ontario TWAEV	Mexico OEL (TWA)
ZINC OXIDE (TOTAL DUST)	TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>  TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>

**Engineering measures** Ensure adequate ventilation, especially in confined areas

**Personal Protective Equipment**

**Skin protection** Lightweight protective clothing, Apron, Impervious gloves  
**Eye/face protection** Tightly fitting safety goggles  
**Respiratory Protection** **Use only with adequate ventilation.** Do not breathe dust, vapors or spray mist. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH 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**

<b>Flash Point</b>	Not applicable
<b>Boiling point / boiling range</b>	-18 - -18.000 °C / .0 - .0 °F
<b>Upper explosion limit</b>	No information available
<b>Lower explosion limit</b>	No information available
<b>Evaporation rate</b>	No information available
<b>Vapor pressure @20 °C (kPa)</b>	No information available
<b>Vapor density</b>	No information available
<b>Specific gravity</b>	7.06595 g/cm <sup>3</sup>
<b>Density</b>	58.79932 lbs/gal
<b>Volatile organic compounds (VOC) content</b>	.000 lbs/gal
<b>Total volatiles weight percent</b>	.0000 %
<b>Total volatiles volume percent</b>	.0000 %

**10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable	<b>Conditions to Avoid</b>	Heat, flames and sparks.
<b>Incompatible Products</b>	Strong oxidizing agents. Bases. Acids. Water. Product may release hydrogen.	<b>Possibility of Hazardous Reactions</b>	None under normal processing

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
ZINC OXIDE (TOTAL DUST)	> 5000 mg/kg ( Rat )		

**Irritation** No information available  
**Corrosivity** No information available.  
**Sensitization** No information available.

**Chronic Toxicity**

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

**Mutagenicity** No information available.

**Reproductive effects** No information available.  
**Developmental effects** No information available.  
**Teratogenicity** No information available.  
**Target organ effects** respiratory system.  
**Endocrine Disruptor Information** No information available

**12. ECOLOGICAL INFORMATION**

Ecotoxicity

Component	Toxicity to algae	Toxicity to fish	Toxicity to Microorganisms	Toxicity to daphnia
ZINC (TOTAL DUST)	0.11 - 0.271: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 0.09 - 0.125: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	30: 96 h Cyprinus carpio mg/L LC50 7.8: 96 h Cyprinus carpio mg/L LC50 static 0.24: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.59: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 2.66: 96 h Pimephales promelas mg/L LC50 static 3.5: 96 h Lepomis macrochirus mg/L LC50 static 0.45: 96 h Cyprinus carpio mg/L LC50 semi-static 0.41: 96 h Oncorhynchus mykiss mg/L LC50 static 2.16 - 3.05: 96 h Pimephales promelas mg/L LC50 flow-through 0.211 - 0.269: 96 h Pimephales promelas mg/L LC50 semi-static		0.139 - 0.908: 48 h Daphnia magna mg/L EC50 Static

**13. DISPOSAL CONSIDERATIONS**

**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** Ground Transportation only. Call TNEMEC Traffic Department - 816-474-3400 for other modes of Transportation.

**Proper Shipping Name** ZINC PIGMENT

**15. REGULATORY INFORMATION**

International Inventories

**TSCA** Complies  
**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies

IECSC Complies  
 ENCS Does not comply  
 KECL Complies  
 PICCS Complies  
 AICS Complies

**United States of America Federal Regulations**

**SARA 313**

Component	CAS-No	Weight-%	SARA 313 - Threshold Values
ZINC (TOTAL DUST)	7440-66-6	60 - 100	1.0
ZINC OXIDE (TOTAL DUST)	1314-13-2	1 - 5	1.0

**SARA 311/312 Hazardous Categorization**

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

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
ZINC (TOTAL DUST) 7440-66-6 ( 60 - 100 )		X	X	
ZINC OXIDE (TOTAL DUST) 1314-13-2 ( 1 - 5 )		X		

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs
ZINC (TOTAL DUST)	1000 lb	

**United States of America State Regulations**

**California Prop. 65**

This product contains the following Proposition 65 chemicals:

**California SCAQMD Rule 443**

Contains Photochemically Reactive Solvent

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
ZINC (TOTAL DUST)	X	X	X		
ZINC OXIDE (TOTAL DUST)	X	X	X		

**Other international regulations**

**CANADA**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**WHMIS Classification**

Non-controlled

Component	NPRI
ZINC (TOTAL DUST)	Part 1, Group 1 Substance

**Legend**

NPRI - National Pollutant Release Inventory

**16. OTHER INFORMATION**

**Revision Date** 27-Mar-2013

**Revision Note** No information available

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