



# Material Safety Data Sheet

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Revision Number: 0

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Code** F094-0H20  
**Trade Name** HYDRO-ZINC GREENISH GRAY  
**Contact Manufacturer** Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372  
**Emergency Telephone Number** 800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### **DANGER!**

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.  
FLAMMABLE LIQUID AND VAPOR.

#### **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. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Inhalation of metallic zinc dust may result in symptoms known as metal fume fever. Symptoms include chills, fever, muscular pain, nausea and vomiting.

**Ingestion**

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. 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 %
ZINC (TOTAL DUST)	7440-66-6	60 - 100
BENZENE, 1-CHLORO-4-(TRIFLUOROMETHYL)-	98-56-6	13.463
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER		5 - 10
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	101-68-8	2.134
ZINC OXIDE (TOTAL DUST)	1314-13-2	1 - 5
XYLENE	1330-20-7	1.632
IRON OXIDE FUME	1309-37-1	1 - 5
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.7419
ETHYL BENZENE	100-41-4	0.408

## 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**

Move 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 (CO<sub>2</sub>) - Foam - Dry chemical**Hazardous Decomposition Products**

Oxides of carbon, hydrocarbons. Oxides of nitrogen. Hydrogen cyanide. Oxides of sulphur. Zinc oxide fume. Chlorine. Fluorine.

**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 skin, eyes 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 skin, eyes 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)
BENZENE, 1-CHLORO-4-(TRIFLUOROMETHYL)-	TWA: 2.5 mg/m <sup>3</sup>		TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup>	
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	TWA: 0.005 ppm	Ceiling: 0.2 mg/m <sup>3</sup> Ceiling: 0.02 ppm	TWA: 0.051 mg/m <sup>3</sup> TWA: 0.005 ppm	TWA: 0.2 µmol/m <sup>3</sup> TWA: 0.005 ppm CEV: 0.02 ppm CEV: 0.8 µmol/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 0.005 ppm TWA: 0.051 mg/m <sup>3</sup> TWA: 0.02 ppm
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>
XYLENE	TWA: 100 ppm STEL: 150 ppm	TWA: 435 mg/m <sup>3</sup> TWA: 100 ppm STEL: 150 ppm STEL: 655 mg/m <sup>3</sup>	TWA: 434 mg/m <sup>3</sup> TWA: 100 ppm STEL: 150 ppm STEL: 651 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 150 ppm STEL: 650 mg/m <sup>3</sup>	TWA: 435 mg/m <sup>3</sup> TWA: 100 ppm STEL: 150 ppm STEL: 655 mg/m <sup>3</sup>
IRON OXIDE FUME	TWA: 1 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> STEL: 2 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>
ETHYL BENZENE	TWA: 100 ppm STEL: 125 ppm	TWA: 435 mg/m <sup>3</sup> TWA: 100 ppm STEL: 545 mg/m <sup>3</sup> STEL: 125 ppm	TWA: 434 mg/m <sup>3</sup> TWA: 100 ppm STEL: 125 ppm STEL: 543 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 125 ppm STEL: 540 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 125 ppm STEL: 545 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**

Safety glasses with side-shields

**Respiratory Protection**

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

**General Hygiene Considerations**

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Flash Point</b>	28°C / 82.0°F
<b>Boiling Point/Range</b>	138 - 142°C / 280.0 - 288.0°F
<b>Upper Exposure Limits</b>	No information available
<b>Lower Exposure Limits</b>	No information available
<b>Evaporation Rate</b>	No information available
<b>Vapour Pressure</b>	No information available
<b>Vapour Density</b>	No information available
<b>Specific Gravity</b>	2.99415
<b>Density</b>	24.91579
<b>VOC Content (lbs/gal)</b>	.811
<b>% Volatile by Weight</b>	15.7480
<b>% Volatile by Volume</b>	37.7620

## 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. Bases. Water. Amines. 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
BENZENE, 1-CHLORO-4-(TRIFLUOROMETHYL)-	13 g/kg ( Rat )	2 mg/kg ( Rabbit )	33 mg/L ( Rat ) 4 h

## 11. TOXICOLOGICAL INFORMATION

DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	9200 mg/kg ( Rat )		
ZINC OXIDE (TOTAL DUST)	5000 mg/kg ( Rat )		
XYLENE	4300 mg/kg ( Rat )	1700 mg/kg ( Rabbit )	47635 mg/L ( Rat ) 4 h 5000 ppm ( Rat ) 4 h
IRON OXIDE FUME	10000 mg/kg ( Rat )		
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg ( Rat )		
ETHYL BENZENE	3500 mg/kg ( Rat )	15354 mg/kg ( Rabbit )	17.2 mg/L ( Rat ) 4 h

**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
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	
ETHYL BENZENE	A3	Group 2B		X	

**Mutagenic Effects** 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	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
ZINC (TOTAL DUST)	EC50 = 30 µg/L 96 h	LC50= 6.4 mg/L Pimephales promelas 96 h		EC50 = 5 µg/L 72 h
BENZENE, 1-CHLORO-4-(TRIFLUOROMETHYL)-			EC50 = 11.1 mg/L 5 min EC50 = 13.4 mg/L 15 min EC50 = 14.3 mg/L 30 min	EC50 = 3.68 mg/L 48 h
XYLENE		LC50= 13.4 mg/L Pimephales promelas 96 h LC50= 8.05 mg/L Oncorhynchus mykiss 96 h LC50= 16.1 mg/L Lepomis macrochirus 96 h LC50= 26.7 mg/L Pimephales promelas 96 h	EC50 = 0.0084 mg/L 24 h	EC50 = 3.82 mg/L 48 h LC50 = 0.6 mg/L 48 h

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
ETHYL BENZENE	EC50 = 4.6 mg/L 72 h EC50 > 438 mg/L 96 h	LC50= 14.0 mg/L Oncorhynchus mykiss 96 h LC50= 9.09 mg/L Pimephales promelas 96 h LC50= 150.0 mg/L Lepomis macrochirus 96 h LC50= 4.2 mg/L Oncorhynchus mykiss 96 h LC50= 32 mg/L Lepomis macrochirus 96 h LC50= 48.5 mg/L Pimephales promelas 96 h LC50= 9.6 mg/L Poecilia reticulata 96 h	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	EC50 1.8 - 2.4 mg/L 48 h

**13. DISPOSAL CONSIDERATIONS**

**Waste 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 for local recycling, recovery or waste 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/NDL	Complies
EINECS/ELINCS	Does not Comply
CHINA	Does not Comply
ENCS	Does not Comply
KECL	Does not Comply
PICCS	Does not Comply
AICS	Does not Comply

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

<b>Component</b>
XYLENE
ETHYL BENZENE

**U.S. Federal Regulations**

**SARA 313**

Component	CAS-No	Weight %	SARA 313 - Threshold Values
ZINC (TOTAL DUST)	7440-66-6	60 - 100	1.0
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	101-68-8	2.134	1.0
ZINC OXIDE (TOTAL DUST)	1314-13-2	1 - 5	1.0
XYLENE	1330-20-7	1.632	1.0
ETHYL BENZENE	100-41-4	0.408	0.1

**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
ZINC (TOTAL DUST)		X	X	
BENZENE, 1-CHLORO-4-(TRIFLUOROMETHYL)-		X		
ZINC OXIDE (TOTAL DUST)		X		
XYLENE	100 lb			X
ETHYL BENZENE	1000 lb	X	X	X

**CERCLA**

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

**U.S. State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals:

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

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
ZINC (TOTAL DUST)	X	X	X		X
BENZENE, 1-CHLORO-4-(TRIFLUOROMETHYL)-		X	X		X
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	X	X	X	X	X
ZINC OXIDE (TOTAL DUST)	X	X	X		X
XYLENE	X	X	X	X	X
IRON OXIDE FUME	X	X	X		X
CRYSTALLINE SILICA (QUARTZ)	X	X	X		X
ETHYL BENZENE	X	X	X	X	X

**Other International Regulations**

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**  
 B2 Flammable liquid  
 D2A Very toxic materials



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

**Legend**  
 NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

**Revision Date:** 29-Dec-2009

**Revision Summary** No information available

**HMIS**                                      **Health** 0                                      **Flammability** 0                                      **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**