

Safety Data Sheet

Issue Date 28-Jul-2015

Revision Date 28-Jul-2015

Revision Number 7

1. IDENTIFICATION

Product identifier

Product Code F090E0092A
Product Name TNEME-ZINC YELLOW

Other means of identification

Common Name SERIES 90E-92, PART A
UN/ID no. 1263

Recommended use of the chemical and restrictions on use

Recommended Use industrial paint.
Uses advised against Consumer use, For professional use only. Not for residential use.

Details of the supplier of the safety data sheet

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

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)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 2
Flammable Liquids	Category 2


Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Harmful if swallowed
Causes skin irritation
Causes eye irritation
May cause genetic defects
May cause cancer
May cause damage to organs
Highly flammable liquid and vapor



Appearance opaque

Physical state liquid

Odor aromatic

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
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting/mixing/equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge

Response

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

Storage

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other information

Toxic to aquatic life with long lasting effects
 Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure).
 Inhalation, ingestion, or skin absorption of methanol can cause blindness
 SEE SAFETY DATA SHEET
 Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs
 Acute Toxicity 37.52760754 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
ETHYL ALCOHOL	-	30 - 60%
ETHYL POLYSILICATE	11099-06-2	10 - 30%

CRYSTALLINE SILICA (QUARTZ)	14808-60-7	10 - 30%
TREATED MICA (RESPIRABLE DUST)	12001-26-2	1 - 10%
YELLOW IRON OXIDE	51274-00-1	1 - 10%
METHYL ALCOHOL	-	1 - 10%
ETHYL SILICATE	78-10-4	1 - 10%
TRIMETHYL BORATE	121-43-7	1 - 10%
METHYL ISOBUTYL KETONE	108-10-1	0.1 - 1%
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.1 - 1%

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

4. FIRST AID MEASURES

Description of first aid measures

General advice	If symptoms persist, call a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes. Immediate medical attention is required.
Skin contact	Wash off immediately with soap and plenty of water. Call a physician 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.
Ingestion	If swallowed, do not induce vomiting. Get medical attention immediately.
Self-protection of the first aider	Use personal protective equipment. Avoid contact with eyes, skin and clothing.

Most important symptoms and effects, both acute and delayed

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide. Foam. Dry chemical.

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

Specific hazards arising from the chemical

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

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

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Environmental Precautions

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

Methods and material for containment and cleaning up

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

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

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

Incompatible products Strong oxidizing agents. Alkaline. Amines. Acids. Nitrates. Hypochlorites. Boric acid.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
ETHYL ALCOHOL	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³	3300 ppm
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	50 mg/m ³
TREATED MICA (RESPIRABLE DUST) 12001-26-2	TWA: 3 mg/m ³	TWA: 3 mg/m ³	1500 mg/m ³
METHYL ALCOHOL	TWA: 200 ppm Skin STEL: 250 ppm	TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³ Skin	6000 ppm
ETHYL SILICATE 78-10-4	TWA: 10 ppm	TWA: 10 ppm TWA: 85 mg/m ³ TWA: 100 ppm TWA: 850 mg/m ³	700 ppm

METHYL ISOBUTYL KETONE 108-10-1	TWA: 20 ppm STEL: 75 ppm	TWA: 50 ppm TWA: 205 mg/m ³ STEL: 75 ppm STEL: 300 mg/m ³ TWA: 100 ppm TWA: 410 mg/m ³	500 ppm
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	50 mg/m ³

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

Physical state	liquid	Odor	aromatic
Appearance	opaque	Odor threshold	No information available
Color	No information available		
Property	Values	Remarks	
pH		No data available	
Melting point / freezing point		No data available	
Boiling point / boiling range	64 °C / 147.0 °F		
Flash point	12 °C / 53.0 °F	Pensky Martens - Closed Cup	
Evaporation rate		No data available	
Flammability (solid, gas)		Not applicable	
Flammability Limit in Air		No data available	
Upper flammability limit	N/A		
Lower flammability limit	2.2		
Vapor pressure		No data available	
Vapor density		No data available	
Specific gravity	1.07442	g/cm ³	
Water solubility	Insoluble in cold water		
Solubility in other solvents		No data available	
Partition coefficient: n-octanol/water		No data available	
Autoignition temperature		No data available	
Decomposition temperature		Not applicable	
Kinematic viscosity		Not applicable	
Dynamic viscosity	225 centipoises	approx	

Other Information

Density 8.96064 lbs/gal
 Volatile organic compounds (VOC) content 4.46655 lbs/gal
 Total volatiles weight percent 50.88 %
 Total volatiles volume percent 69.09 %

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Strong oxidizing agents, Alkaline, Amines, Acids, Nitrates, Hypochlorites, Boric acid

Hazardous decomposition products

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

11. TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure**

Inhalation HARMFUL BY INHALATION. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing.

Eye contact Causes serious eye irritation. Inhalation, ingestion, or skin absorption of methanol can cause blindness.

Skin contact Irritating to skin. May be absorbed through the skin in harmful amounts.

Ingestion Harmful if swallowed. May cause blindness if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
ETHYL ALCOHOL	= 7060 mg/kg (Rat)		= 124.7 mg/L (Rat) 4 h
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	= 500 mg/kg (Rat)		
METHYL ALCOHOL	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
ETHYL SILICATE 78-10-4	= 6270 mg/kg (Rat)	= 6300 µL/kg (Rabbit)	
TRIMETHYL BORATE 121-43-7	= 6140 mg/kg (Rat)	= 1980 µL/kg (Rabbit)	
METHYL ISOBUTYL KETONE 108-10-1	= 2080 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	= 8.2 mg/L (Rat) 4 h
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	= 500 mg/kg (Rat)		

Information on toxicological effects

Symptoms Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. Irritating to eyes and skin.

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

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. May cause cancer. Substances known to be mutagenic to man.

Sensitization

No information available.

Mutagenicity

May cause genetic defects.

Carcinogenicity

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

Component	ACGIH	IARC	NTP	OSHA
ETHYL ALCOHOL	A3	Group 1	Known	X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X
METHYL ISOBUTYL KETONE 108-10-1	A3	Group 2B		X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X

Reproductive effects

No information available.

STOT - single exposure

No information available

STOT - repeated exposure

No information available

Target organ effects

blood, Central nervous system, Gastrointestinal tract, Eyes, kidney, liver, Reproductive System, respiratory system, Skin.

Aspiration hazard

Not applicable.

Acute Toxicity

37.52760754 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

44.59361 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
ETHYL ALCOHOL		100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static	9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static
YELLOW IRON OXIDE 51274-00-1		EC50: > 1,000 mg/l (Golden orfe (Leuciscus idus), 48 h)	
METHYL ALCOHOL		28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through	
METHYL ISOBUTYL KETONE 108-10-1	400: 96 h Pseudokirchneriella subcapitata mg/L EC50	496 - 514: 96 h Pimephales promelas mg/L LC50 flow-through	170: 48 h Daphnia magna mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

Component	log Pow
ETHYL ALCOHOL	-0.32
METHYL ALCOHOL	-0.77
METHYL ISOBUTYL KETONE 108-10-1	1.19

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.

Component	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
METHYL ALCOHOL		Included in waste stream: F039		U154
METHYL ISOBUTYL KETONE 108-10-1		Included in waste stream: F039		U161

Component	CAWAST
ETHYL ALCOHOL	Toxic Ignitable
METHYL ALCOHOL	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

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

IATA

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

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

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL/NDSL	Complies
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	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):

Component	HAPS Data
METHYL ALCOHOL	
METHYL ISOBUTYL KETONE	

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 Title 40n of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values
METHYL ALCOHOL -	1.0
METHYL ISOBUTYL KETONE - 108-10-1	1.0

SARA 311/312 Hazardous

Categorization

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

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs	RQ
METHYL ALCOHOL	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
METHYL ISOBUTYL KETONE 108-10-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

United States of America

California Prop. 65

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

Component	California Prop. 65
ETHYL ALCOHOL -	Carcinogen Developmental
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen
METHYL ALCOHOL -	Developmental
METHYL ISOBUTYL KETONE - 108-10-1	Carcinogen Developmental
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen

California SCAQMD Rule 443
 Contains Photochemically Reactive Solvent

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
ETHYL ALCOHOL	X	X	X
ETHYL POLYSILICATE 11099-06-2			X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	X	X
TREATED MICA (RESPIRABLE DUST) 12001-26-2	X	X	X
METHYL ALCOHOL	X	X	X
ETHYL SILICATE 78-10-4	X	X	X
TRIMETHYL BORATE 121-43-7	X	X	X
METHYL ISOBUTYL KETONE 108-10-1	X	X	X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	X	X

16. OTHER INFORMATION

NFPA	Health 2	Flammability 3	Instability 1	Physical hazard *
HMIS (Hazardous Material Information System)	Health 2*	Flammability 3	Reactivity 1	

Prepared By Tnemec Regulatory Dept: 816-474-3400
 Revision Date 28-Jul-2015

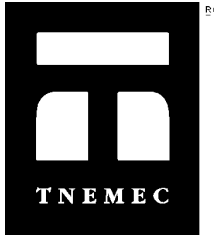
Revision Summary
 9 4 5 7 10 8 11 14 1

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



Safety Data Sheet

Issue Date 03-Jun-2015

Revision Date 03-Jun-2015

Revision Number 3

1. IDENTIFICATION

Product identifier

Product Code F090E0092B
Product Name TNEME-ZINC GRAY

Other means of identification

Common Name SERIES 90E-92 PART B

Recommended use of the chemical and restrictions on use

Recommended Use industrial paint.
Uses advised against Consumer use, For professional use only. Not for residential use.

Details of the supplier of the safety data sheet

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

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

EMERGENCY OVERVIEW

Hazard statements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Appearance dark grey

Physical state powder

Odor odorless

Precautionary Statements

Prevention

Do not handle until all safety precautions have been read and understood

Response

Get medical advice/attention if you feel unwell

Storage

Keep away from children

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

May cause respiratory irritation

May cause skin and eye irritation

May form combustible dust concentrations in air

Other information

Very toxic to aquatic life with long lasting effects

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

SEE SAFETY DATA SHEET

Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

*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. Carbon dioxide. Foam. Dry chemical.

Unsuitable extinguishing media Water.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapours In the event of fire and/or explosion do not breathe fumes Dusts or fumes may form explosive mixtures in air

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. Zinc oxide fume.

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 away from heat, sparks and flame. Keep container tightly closed in a dry and well-ventilated place.

Incompatible products Water. Strong oxidizing agents. Acids. Bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure guidelines**

NIOSH IDLH: *Immediately Dangerous to Life or Health*

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 Tightly fitting safety 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

Physical state	powder	Odor	odorless
Appearance	dark grey	Odor threshold	No information available
Color	No information available		

Property	Values	Remarks
pH		No data available
Melting point / freezing point		No data available
Boiling point / boiling range	72 °C / 162 °F	No information available
Flash point	No information available	
Evaporation rate		No data available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No data available
Upper flammability limit	N/A	
Lower flammability limit	N/A	
Vapor pressure		No data available
Vapor density		No data available
Specific gravity	7.05028	g/cm3
Water solubility	Insoluble in cold water	
Solubility in other solvents		No data available
Partition coefficient: n-octanol/water		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available

Other Information

Density	58.79932 lbs/gal
Volatile organic compounds (VOC) content	0 lbs/gal
Total volatiles weight percent	0 %
Total volatiles volume percent	0 %

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

Water, Strong oxidizing agents, Acids, Bases

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. Zinc oxide fume.

11. TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure**

Inhalation	May cause irritation of respiratory tract.
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin.
Ingestion	Harmful if swallowed.

Information on toxicological effects

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

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

Chronic Toxicity	Avoid repeated exposure.
Sensitization	No information available.
Mutagenicity	No information available.
Carcinogenicity	There are no known carcinogenic chemicals in this product.
Reproductive effects	No information available.
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Aspiration hazard	No information available.
Acute Toxicity	0 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Very toxic to aquatic life with long lasting effects

0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

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.

California Hazardous Waste Status

This product contains one or more substances that are listed with the State of California as a hazardous waste

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name zinc dust 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

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

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 Title 40n of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazardous**Categorization**

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

CERCLAUnited States of AmericaCalifornia Prop. 65

This product does not contain any Proposition 65 chemicals

California SCAQMD Rule 443

Does Not Contain Photochemically Reactive Solvent

State Right-to-Know

16. OTHER INFORMATION

<u>NFPA</u>	Health 2	Flammability 1	Instability 1	Physical hazard -
<u>HMIS (Hazardous Material Information System)</u>	Health 2	Flammability 1	Reactivity 1	

Prepared By

Tnemec Regulatory Dept: 816-474-3400

Revision Date

03-Jun-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 MSDS