



Safety Data Sheet

Issue Date 11-Jul-2016

Revision Date 11-Jul-2016

Revision Number 9

1. IDENTIFICATION

Product identifier

Product Code S247-0000A
Product Name MCU CLEAR

Other means of identification

Common Name SERIES 247/248, 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 816-474-3400

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 - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause respiratory irritation. May cause drowsiness or dizziness

**Appearance** clear**Physical state** liquid**Odor** odorless**Precautionary Statements****Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing should not be allowed out of the workplace

Response

Get medical advice/attention if you feel unwell
 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 ON SKIN: Wash with plenty of soap and water
 Take off contaminated clothing and wash 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
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Storage

Store in a well-ventilated place. Keep container tightly closed
 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**

SEE SAFETY DATA SHEET

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER	28182-81-2	60 - 100%
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	822-06-0	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 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	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

Foam. Dry chemical. Carbon dioxide.

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

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 dioxide. Nitrogen oxides (NOx). Hydrocarbons.

Protective equipment and precautions for firefighters

Use water spray to cool unopened containers. In the event of fire, wear self-contained breathing apparatus. Keep away from heat/sparks/open flames/hot surfaces. MAY CAUSE HEAT AND PRESSURE BUILD-UP IN CLOSED CONTAINERS.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes, skin and clothing. Use personal protective equipment. Remove all sources of ignition. Keep people away from and upwind of spill/leak.

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

Water. Alcohols. Bases. Amines.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	TWA: 0.005 ppm	-	

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

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

General hygiene considerations

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties**Physical state**

liquid

Appearance

clear

Odor

odorless

Color

No information available

Odor threshold

No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		No data available
Melting point / freezing point		Literary Reference
Boiling point / boiling range	72 °C / 162 °F	
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	1.12936	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	700 centipoises	

Other Information

Density	9.41886 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

May occur if in contact with moisture, other materials which react with isocyanates, or temperatures above 400 F.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Water, Alcohols, Bases, Amines

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. Hydrocarbons. Nitrogen oxides (NOx).

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

Inhalation	HARMFUL BY INHALATION. May cause sensitization by inhalation.
Eye contact	Severely irritating to eyes.
Skin contact	Irritating to skin.
Ingestion	Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER 28182-81-2			= 18500 mg/m ³ (Rat) 1 h
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	= 710 µL/kg (Rat)	= 593 mg/kg (Rabbit)	= 0.06 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms Skin disorders. Respiratory disorders.

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

Chronic Toxicity Avoid repeated exposure. Contains isocyanates. May produce an allergic reaction.
Sensitization May cause sensitization of susceptible persons.
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.

The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION

Ecotoxicity

100 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0		26.1: 96 h Brachydanio rerio mg/L LC50 static	

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 & RELATED MATERIAL

IATA

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	Complies
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
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	

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
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER - 822-06-0	1.0

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

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs	RQ
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	100 lb		RQ 100 lb final RQ RQ 45.4 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

California SCAQMD Rule 443

Contains Photochemically Reactive Solvent

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER 822-06-0	X	X	

16. OTHER INFORMATION

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

Prepared By

Tnemec Regulatory Dept: 816-474-3400

Revision Date

11-Jul-2016

Revision Summary

9 4 5 6 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 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



Safety Data Sheet

Issue Date 02-Sep-2016

Revision Date 02-Sep-2016

Revision Number 8

1. IDENTIFICATION

Product identifier

Product Code S247-0247B
Product Name MCU PART B

Other means of identification

Common Name SERIES 247/248, 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 816-474-3400

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)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Reproductive Toxicity	Category 1A
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1
Flammable Liquids	Category 4

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing genetic defects
May damage fertility or the unborn child
Causes damage to organs
Causes damage to organs through prolonged or repeated exposure

Combustible liquid

**Appearance** clear**Physical state** liquid**Odor** Slight**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
 Contaminated work clothing should not be allowed out of the workplace
 Wear protective gloves
 Do not breathe dust/fume/gas/mist/vapors/spray
 Do not eat, drink or smoke when using this product
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Response

IF exposed: 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
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 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**

Harmful to aquatic life with long lasting effects

SEE SAFETY DATA SHEET

Acute Toxicity

3.11386 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
DIPROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	88917-22-0	60 - 100%
RESIN MODIFIER	26376-86-3	1 - 10%
2-Propenoic Acid, 2-Methyl[(nonafluoro)Sulfonyl]Amino]Ethyl Ester, Telomer	1017237-78-3	1 - 10%
TIN (ORGANIC COMPOUNDS, AS TIN)	77-58-7	1 - 10%
PROPRIETARY ESTER	-	0.1 - 1%
N-METHYLPYRROLIDONE	-	0 - 0.1%

1-Butanesulfonamide, 1,1,2,2,3,3,4,4,4-Nonafluoro-N-(2-Hydroxyethyl)-N-Meth	34454-97-2	0 - 0.1%
TOLUENE	108-88-3	0 - 0.1%
2-Proponic Acid, 2-[Methyl[(Nonofluoro)Sulfonyl]Amino]Ethyl Ester	67584-55-8	0 - 0.1%

*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	Flush immediately with large amounts of clean water under low pressure for at least 15 minutes. Consult a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, 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

Dry chemical. Carbon dioxide. Water spray. alcohol-resistant foam. Dry powder.

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. Carbon dioxide. Hydrocarbons. Nitrogen oxides (NOx). Hydrogen fluoride. Sulfur oxides.

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 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. Keep away from open flames, hot surfaces and sources of ignition. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Avoid breathing vapors or mists. Ensure adequate ventilation.

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 Oxygen. Strong acids. Strong bases. Strong oxidizing agents. Amines. Reducing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
TIN (ORGANIC COMPOUNDS, AS TIN) 77-58-7	TWA: 0.1 mg/m ³	-	25 mg/m ³
TOLUENE 108-88-3	TWA: 20 ppm	TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³ TWA: 200 ppm Ceiling: 300 ppm	500 ppm

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	Slight
Appearance	clear	Odor threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		No data available
Melting point / freezing point		No data available
Boiling point / boiling range	72 °C / 162 °F	
Flash point	85 °C / 185.0 °F	Pensky Martens - Closed Cup
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	0.98075	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	8.17946 lbs/gal
Volatile organic compounds (VOC) content	7.04333 lbs/gal
Total volatiles weight percent	86.11 %
Total volatiles volume percent	86.74 %

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

Oxygen, Strong acids, Strong bases, Strong oxidizing agents, Amines, Reducing 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. Sulfur oxides. Nitrogen oxides (NOx). Hydrogen chloride. Carbon dioxide. Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation	Contains isocyanate monomer. If subject to spray application, engineering and administrative controls must be instituted to maintain an exposure level below .005ppm. If these controls are not adequate, the use of an air-supplied respirator is mandatory. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. May cause sensitization of susceptible persons.
Eye contact	Severely irritating to eyes.
Skin contact	Irritating to skin.
Ingestion	Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
TIN (ORGANIC COMPOUNDS, AS TIN) 77-58-7	= 45 mg/kg (Rat) = 175 mg/kg (Rat)	= 630 mg/kg (Rabbit)	
N-METHYLPYRROLIDONE	= 3914 mg/kg (Rat)	= 8 g/kg (Rabbit)	> 5.1 mg/L (Rat) 4 h
TOLUENE 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders.

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. Avoid repeated exposure. Contains isocyanates. May produce an allergic reaction.

Sensitization May cause sensitization of susceptible persons.

Mutagenicity May cause genetic defects.

Carcinogenicity There are no known carcinogenic chemicals in this product.

Component	ACGIH	IARC	NTP	OSHA
TOLUENE 108-88-3		Group 3		

Reproductive effects May damage fertility or the unborn child.

STOT - single exposure Eyes, Skin, Central Nervous System (CNS), Respiratory system

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure

Target organ effects blood, Central nervous system, Eyes, kidney, liver, respiratory system, Skin, Urinary Tract, Reproductive System.

Aspiration hazard Based on product level data, this product does not meet the requirement to be classified as an aspiration hazard. However, this product contains an ingredient that may cause aspiration if swallowed.

Acute Toxicity 3.11386 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

98.55374 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
TIN (ORGANIC COMPOUNDS, AS TIN) 77-58-7		2: 48 h <i>Oryzias latipes</i> mg/L LC50	
N-METHYLPYRROLIDONE	500: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	1072: 96 h <i>Pimephales promelas</i> mg/L LC50 static 1400: 96 h <i>Poecilia reticulata</i> mg/L LC50 static 4000: 96 h <i>Leuciscus idus</i> mg/L LC50 static 832: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static	4897: 48 h <i>Daphnia magna</i> mg/L EC50
TOLUENE 108-88-3	12.5: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static 433: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	11.0 - 15.0: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 14.1 - 17.16: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 15.22 - 19.05: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 5.89 - 7.81: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 50.87 - 70.34: 96 h <i>Poecilia reticulata</i> mg/L LC50 static 12.6: 96 h <i>Pimephales promelas</i> mg/L LC50 static 28.2: 96 h <i>Poecilia reticulata</i> mg/L LC50 semi-static 5.8: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 semi-static 54: 96 h <i>Oryzias latipes</i> mg/L LC50 static	5.46 - 9.83: 48 h <i>Daphnia magna</i> mg/L EC50 Static 11.5: 48 h <i>Daphnia magna</i> mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

Component	log Pow
N-METHYLPYRROLIDONE	-0.46
TOLUENE 108-88-3	2.65

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
TOLUENE 108-88-3	U220	Included in waste streams: F005, F024, F025, F039, K015, K036, K037, K149, K151		U220

Component	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes

TOLUENE 108-88-3			Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	
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Component	CAWAST
TIN (ORGANIC COMPOUNDS, AS TIN) 77-58-7	Toxic
TOLUENE 108-88-3	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name

PAINT & RELATED MATERIAL

IATA**Additional information**

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

15. REGULATORY INFORMATION

International Inventories

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

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - 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

TOLUENE

United States of America

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

Component	SARA 313 - Threshold Values
N-METHYLPYRROLIDONE -	1.0
TOLUENE - 108-88-3	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

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
TOLUENE 108-88-3	1000 lb	X	X	X

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs	RQ
TOLUENE 108-88-3	1000 lb 1 lb		RQ 1000 lb final RQ RQ 454 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

United States of America

California Prop. 65

This product does not contain any Proposition 65 chemicals

Component	California Prop. 65
N-METHYLPYRROLIDONE -	Developmental
TOLUENE - 108-88-3	Developmental

California SCAQMD Rule 443

Does Not Contain Photochemically Reactive Solvent

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
N-METHYLPYRROLIDONE	X	X	X
TOLUENE 108-88-3	X	X	X

16. OTHER INFORMATION

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

Prepared By Tnemec Regulatory Dept: 816-474-3400
 Revision Date 02-Sep-2016
 Revision Summary
 9 4 5 7 10 8 11 14 15

Disclaimer

For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

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