



Material Safety Data Sheet

Print Date 19-May-2011

Revision Date 19-May-2011

Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Common name	SERIES 1078 PART A
Product code	1078-01MTA
Trade name	FLUORONAR METALLIC BRIGHT ALUM
Product Class	FLUOROPOLYMER PAINT
Manufacturer	Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency telephone	800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!

FLAMMABLE LIQUID AND VAPOR.
HARMFUL OR FATAL IF SWALLOWED.
HARMFUL IF INHALED.
MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA.
MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

Potential health effects

Principle Routes of Exposure Eye contact, Inhalation, Skin contact.

Acute effects

Eyes	Moderately irritating to the eyes.
Skin	Irritating to skin.
Inhalation	Irritating to respiratory system.
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.

See Section 11 for additional Toxicological information.

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

Interactive effects Use of alcoholic beverages may enhance toxic effects.

Potential environmental effects See Section 12 for additional Ecological Information

Target Organ Effects Blood, Central nervous system, Gastrointestinal tract, Eyes, Kidney, Liver, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
XYLENE	1330-20-7	30 - 60
P-CHLOROBENZOTRIFLUORIDE	98-56-6	5 - 10
ALUMINUM FLAKE	7429-90-5	5 - 10
N-BUTYL ACETATE	123-86-4	1 - 5
TREATED MICA (RESPIRABLE DUST)	12001-26-2	1 - 5
ETHYL BENZENE	100-41-4	1 - 5
1,2,4-TRIMETHYLBENZENE	95-63-6	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:	Move to fresh air. Oxygen or artificial respiration if needed.

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 ₂) - Foam - Dry chemical
Hazardous decomposition products	Oxides of carbon, hydrocarbons. Oxides of nitrogen. Oxides of Aluminum. 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.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
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.
Other information	Not applicable

7. HANDLING AND STORAGE

Handling

Close container after each use. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. If splashes are likely to occur, wear goggles. Wear protective gloves/clothing. Do not burn, or use a cutting torch on, the empty drum. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

Storage

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	: 100 ppm TWA : 150 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 150 ppm STEL; 655 mg/m ³ STEL	TWA: 100 ppm TWAEV; 434 mg/m ³ TWAEV STEL: 150 ppm STEV; 651 mg/m ³ STEV	TWA: 100 ppm TWA STEL: 150 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 150 ppm STEL; 655 mg/m ³ STEL
P-CHLOROBENZOTRIFLUORIDE	TWA: 2.5 mg/m ³		TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	
ALUMINUM FLAKE	: 1 mg/m ³ TWA (respirable fraction)	: 15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)	TWA: 5 mg/m ³ TWAEV (as Al) TWA: 10 mg/m ³ TWAEV	TWA: 1 mg/m ³ TWA (respirable)	: 5 mg/m ³ TWA : 10 mg/m ³ TWA (dust)
N-BUTYL ACETATE	: 150 ppm TWA : 200 ppm STEL	: 150 ppm TWA; 710 mg/m ³ TWA : 200 ppm STEL; 950 mg/m ³ STEL	TWA: 150 ppm TWAEV; 713 mg/m ³ TWAEV STEL: 200 ppm STEV; 950 mg/m ³ STEV	TWA: 150 ppm TWA STEL: 200 ppm STEL	: 150 ppm TWA; 710 mg/m ³ TWA : 200 ppm STEL; 950 mg/m ³ STEL
TREATED MICA (RESPIRABLE DUST)	: 3 mg/m ³ TWA (respirable fraction)	: 3 mg/m ³ TWA (<1% Crystalline silica, respirable dust)	TWA: 3 mg/m ³ TWAEV (respirable dust, containing no asbestos and less than 1% crystalline silica)	TWA: 3 mg/m ³ TWA (respirable)	: 3 mg/m ³ TWA (respirable fraction)
ETHYL BENZENE	: 100 ppm TWA : 125 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 125 ppm STEL; 545 mg/m ³ STEL	TWA: 100 ppm TWAEV; 434 mg/m ³ TWAEV STEL: 125 ppm STEV; 543 mg/m ³ STEV	TWA: 100 ppm TWA STEL: 125 ppm STEL	: 100 ppm TWA; 435 mg/m ³ TWA : 125 ppm STEL; 545 mg/m ³ STEL
1,2,4-TRIMETHYLBENZENE	TWA: 25 ppm		TWA: 25 ppm TWA: 123 mg/m ³	TWA: 25 ppm TWA: 123 mg/m ³	TWA: 125 mg/m ³ TWA: 25 ppm STEL: 170 mg/m ³ STEL: 35 ppm

Engineering measures

Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Skin protection

Lightweight protective clothing, Apron, Impervious gloves

Eye/face protection

If splashes are likely to occur, wear 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

Flash point	29°C / 85.0°F
Boiling range	118 - 142°C / 244.0 - 288.0°F
Upper explosion limit	No information available
Lower explosion limit	No information available
Evaporation rate	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.15835 g/cm ³
Density	9.63921 lbs/gal
Volatile organic compounds (VOC) content	3.824 lbs/gal
Volatile by weight	43.5290 %
Volatile by volume	55.2340 %

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	Conditions to avoid	Heat, flames and sparks. Contact with water liberates highly flammable gases.
Incompatible products	Strong oxidizing agents. Bases. Acids. Caustics. Alkalines.	Possibility of hazardous reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
XYLENE	4300 mg/kg (Rat)	1700 mg/kg (Rabbit)	5000 ppm (Rat) 4 h 47635 mg/L (Rat) 4 h
P-CHLOROBENZOTRIFLUORIDE	13 g/kg (Rat)	2 mg/kg (Rabbit)	33 mg/L (Rat) 4 h
N-BUTYL ACETATE	10768 mg/kg (Rat)	17600 mg/kg (Rabbit)	390 ppm (Rat) 4 h
ETHYL BENZENE	3500 mg/kg (Rat)	15354 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 h
1,2,4-TRIMETHYLBENZENE	3400 mg/kg (Rat)	3160 mg/kg (Rabbit)	18 g/m ³ (Rat) 4 h
DEFOAMER	17 g/kg (Rat)	2 g/kg (Rabbit)	

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
ETHYL BENZENE	A3	Group 2B		X	

Mutagenicity	No information available
Reproductive effects	No information available
Developmental effects	No information available
Teratogenicity	No information available
Target Organ Effects	Blood, Central nervous system, Gastrointestinal tract, Eyes, Kidney, Liver, Respiratory system, Skin.

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
P-CHLOROBENZOTRIFLUORIDE			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
N-BUTYL ACETATE	EC50 = 674.7 mg/L 72 h	LC50 17-19 mg/L Pimephales promelas 96 h LC50= 100 mg/L Lepomis macrochirus 96 h LC50= 62 mg/L Leuciscus idus 96 h	EC50 = 70.0 mg/L 5 min EC50 = 82.2 mg/L 15 min EC50 = 98.9 mg/L 30 min EC50 = 959 mg/L 18 h	EC50 = 72.8 mg/L 24 h
ETHYL BENZENE	EC50 = 4.6 mg/L 72 h EC50 > 438 mg/L 96 h EC50 2.6 - 11.3 mg/L 72 h EC50 1.7 - 7.6 mg/L 96 h	LC50 11.0-18.0 mg/L Oncorhynchus mykiss 96 h LC50= 4.2 mg/L Oncorhynchus mykiss 96 h LC50 7.55-11 mg/L Pimephales promelas 96 h LC50= 32 mg/L Lepomis macrochirus 96 h LC50 9.1-15.6 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
1,2,4-TRIMETHYLBENZENE		LC50 7.19-8.28 mg/L Pimephales promelas 96 h LC50= 7.72 mg/L Pimephales promelas 96 h		EC50 = 6.14 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	Complies
ENCS	Does not Comply
KECL	Complies
PICCS	Does not Comply
AICS	Does not Comply

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

Component
XYLENE
ETHYL BENZENE

United States of America Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
XYLENE	1330-20-7	30 - 60	1.0 % de minimis concentration
ALUMINUM FLAKE	7429-90-5	5 - 10	1.0 % de minimis concentration (dust or fume only)
ETHYL BENZENE	100-41-4	1 - 5	0.1 % de minimis concentration
1,2,4-TRIMETHYLBENZENE	95-63-6	0.1 - 1	1.0 % de minimis concentration

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	100 lb RQ			X
P-CHLOROBENZOTRIFLUORIDE		X		
N-BUTYL ACETATE	5000 lb RQ			X
ETHYL BENZENE	1000 lb RQ	X	X	X

CERCLA

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

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
XYLENE	X	X	X	X	X
P- CHLOROBENZOTRIFLUORI DE		X	X		X
ALUMINUM FLAKE	X	X	X		X
N-BUTYL ACETATE	X	X	X		X
TREATED MICA (RESPIRABLE DUST)	X	X	X		X
ETHYL BENZENE	X	X	X	X	X
1,2,4-TRIMETHYLBENZENE	X	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
ALUMINUM FLAKE	Part 1, Group 1 Substance (dust or fume)
N-BUTYL ACETATE	Part 5 Substance
ETHYL BENZENE	Part 1, Group 1 Substance
1,2,4-TRIMETHYLBENZENE	Part 1, Group 1 Substance; Part 5 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 19-May-2011

Revision Note No information available

HMIS (Hazardous Material Information System) Health 2 Flammability 3 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 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 MSDS



Material Safety Data Sheet

Print Date 26-May-2011

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Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Common name	SERIES 700/1070 PART B
Product code	B700-1070B
Trade name	F700/F701/1070 CONVERTER
Product Class	POLYISOCYANATE PAINT
Manufacturer	Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency telephone	800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

COMBUSTIBLE LIQUID AND VAPOR.
HARMFUL OR FATAL IF SWALLOWED.
HARMFUL IF INHALED.
MAY CAUSE ALLERGIC RESPIRATORY REACTION; EFFECTS MAY BE PERMANENT.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
MAY CAUSE LUNG INJURY.
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	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. 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.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Central nervous system. Skin disorders. Respiratory disorders.

Interactive effects Use of alcoholic beverages may enhance toxic effects.

Potential environmental effects See Section 12 for additional Ecological Information

Target Organ Effects Central nervous system, Eyes, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER	28182-81-2	60 - 100
PETROLEUM SOLVENT (NAPHTHA)	64742-95-6	5 - 10
N-BUTYL ACETATE	123-86-4	5 - 10
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	822-06-0	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:	Move to fresh air. Oxygen or artificial respiration if needed.

5. FIRE-FIGHTING MEASURES

Flammable properties	Combustible material.
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 ₂) - Foam - Dry chemical
Hazardous decomposition products	Oxides of carbon, hydrocarbons. Oxides of nitrogen. Hydrogen cyanide.

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.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
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.
Other information	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. Use only in an area containing flame proof equipment. 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)
N-BUTYL ACETATE	: 150 ppm TWA : 200 ppm STEL	: 150 ppm TWA; 710 mg/m ³ TWA : 200 ppm STEL; 950 mg/m ³ STEL	TWA: 150 ppm TWAEV; 713 mg/m ³ TWAEV STEL: 200 ppm STEV; 950 mg/m ³ STEV	TWA: 150 ppm TWA STEL: 200 ppm STEL	: 150 ppm TWA; 710 mg/m ³ TWA : 200 ppm STEL; 950 mg/m ³ STEL
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	: 0.005 ppm TWA		TWA: 0.005 ppm TWAEV; 0.034 mg/m ³ TWAEV	TWA: 0.005 ppm TWA (designated substance regulation, listed under Isocyanates, organic compounds); 0.005 ppm TWA (applies to workplaces to which the designated substance regulation does not apply) CEV: 0.02 ppm Ceiling (designated substances regulation)	

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

Flash point

38°C / 100.4°F

Boiling range

118 - 128°C / 244.0 - 262.0°F

Upper explosion limit

No information available

Lower explosion limit

No information available

Evaporation rate

No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.12354 g/cm ³
Density	9.34955 lbs/gal
Volatile organic compounds (VOC) content	.935 lbs/gal
Volatile by weight	10.0000 %
Volatile by volume	13.9009 %

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	Conditions to avoid	Heat, flames and sparks. Amines.
Incompatible products	Strong oxidizing agents. Caustics. Water, alcohols, amines, strong bases, metal components, surface active materials.	Possibility of hazardous reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
HEXAMETHYLENE DIISOCYANATE (HDI) POLYMER			18500 mg/m ³ (Rat) 1 h
PETROLEUM SOLVENT (NAPHTHA)	8400 mg/kg (Rat)	2000 mg/kg (Rabbit)	3400 ppm (Rat) 4 h 5.2 mg/L (Rat) 4 h
N-BUTYL ACETATE	10768 mg/kg (Rat)	17600 mg/kg (Rabbit)	390 ppm (Rat) 4 h
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	710 mg/kg (Rat)	570 mg/kg (Rabbit)	0.15 mg/L (Rat) 4 h 0.29 mg/L (Rat) 1 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

Mutagenicity	No information available
Reproductive effects	No information available
Developmental effects	No information available
Teratogenicity	No information available
Target Organ Effects	Central nervous system, Eyes, Respiratory system, Skin.
Endocrine Disruptor Information	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
PETROLEUM SOLVENT (NAPTHA)		LC50= 9.22 mg/L Oncorhynchus mykiss 96 h		EC50 = 6.14 mg/L 48 h
N-BUTYL ACETATE	EC50 = 674.7 mg/L 72 h	LC50 17-19 mg/L Pimephales promelas 96 h LC50= 100 mg/L Lepomis macrochirus 96 h LC50= 62 mg/L Leuciscus idus 96 h	EC50 = 70.0 mg/L 5 min EC50 = 82.2 mg/L 15 min EC50 = 98.9 mg/L 30 min EC50 = 959 mg/L 18 h	EC50 = 72.8 mg/L 24 h
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER		LC50= 26.1 mg/L Brachydanio rerio 96 h	EC50 = 53.2 mg/L 5 min EC50 = 25.5 mg/L 15 min EC50 = 15.7 mg/L 30 min	

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 PAINT IN OIL

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
CHINA	Complies
ENCS	Does not Comply
KECL	Complies
PICCS	Complies
AICS	Complies

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

Component
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER

United States of America Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	822-06-0	0.1 - 1	1.0 % de minimis concentration (listed under Chemical Category N120, Diisocyanates)

SARA 311/312 Hazardous Categorization

Chronic Health Hazard yes

Disclaimer

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

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End of MSDS