



# Material Safety Data Sheet

Print Date 18-May-2011

Revision Date 18-May-2011

Revision Number 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Common name</b>	SERIES 701 PART A
<b>Product code</b>	F701-11WHA
<b>Trade name</b>	HYDROFLON SG WHITE
<b>Product Class</b>	FLUOROPOLYMER PAINT
<b>Manufacturer</b>	Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
<b>Emergency telephone</b>	800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

#### DANGER!

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

<b>Eyes</b>	Moderately irritating to the eyes.
<b>Skin</b>	Irritating to skin.
<b>Inhalation</b>	Irritating to respiratory system.
<b>Ingestion</b>	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, Lungs, Respiratory system, Skin

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Hazardous Components

Component	CAS-No	Weight %
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - 30
XYLENE	1330-20-7	10 - 30
AMORPHOUS SILICA	7631-86-9	1 - 5
AMORPHOUS SILICA	7631-86-9	1 - 5
N-BUTYL ACETATE	123-86-4	1 - 5
ALUMINUM OXIDES	1344-28-1	1 - 5
ETHYL BENZENE	100-41-4	1 - 5
BARIUM SULFATE (TOTAL DUST)	7727-43-7	0.1 - 1

### 4. FIRST AID MEASURES

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

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Flammable.
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Contact with water may cause violent frothing. Use: Carbon dioxide (CO <sub>2</sub> ) - Foam - Dry chemical
<b>Hazardous decomposition products</b>	Oxides of carbon, hydrocarbons. Oxides of nitrogen.
<b>Specific hazards arising from the chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. In the event of fire and/or explosion do not breathe fumes.
<b>Protective equipment and precautions for firefighters</b>	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

<b>Personal precautions</b>	Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
<b>Methods for cleaning up</b>	If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.
<b>Other information</b>	Not applicable

## 7. HANDLING AND STORAGE

### Handling

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)
TITANIUM DIOXIDE (TOTAL DUST)	: 10 mg/m <sup>3</sup> TWA	: 10 mg/m <sup>3</sup> TWA (total dust) : 15 mg/m <sup>3</sup> TWA (total dust)	TWA: 10 mg/m <sup>3</sup> TWAEV (total dust, containing no asbestos and less than 1% crystalline silica)	TWA: 10 mg/m <sup>3</sup> TWA (total dust)	: 10 mg/m <sup>3</sup> TWA (as Ti) : 20 mg/m <sup>3</sup> STEL (as Ti)
XYLENE	: 100 ppm TWA : 150 ppm STEL	: 100 ppm TWA; 435 mg/m <sup>3</sup> TWA : 150 ppm STEL; 655 mg/m <sup>3</sup> STEL	TWA: 100 ppm TWAEV; 434 mg/m <sup>3</sup> TWAEV STEL: 150 ppm STEV; 651 mg/m <sup>3</sup> STEV	TWA: 100 ppm TWA STEL: 150 ppm STEL	: 100 ppm TWA; 435 mg/m <sup>3</sup> TWA : 150 ppm STEL; 655 mg/m <sup>3</sup> STEL
N-BUTYL ACETATE	: 150 ppm TWA : 200 ppm STEL	: 150 ppm TWA; 710 mg/m <sup>3</sup> TWA : 200 ppm STEL; 950 mg/m <sup>3</sup> STEL	TWA: 150 ppm TWAEV; 713 mg/m <sup>3</sup> TWAEV STEL: 200 ppm STEV; 950 mg/m <sup>3</sup> STEV	TWA: 150 ppm TWA STEL: 200 ppm STEL	: 150 ppm TWA; 710 mg/m <sup>3</sup> TWA : 200 ppm STEL; 950 mg/m <sup>3</sup> STEL
ALUMINUM OXIDES	TWA: 1 mg/m <sup>3</sup>	: 10 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction) : 15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	TWA: 10 mg/m <sup>3</sup> TWAEV (total dust, containing no asbestos and less than 1% crystalline silica, as Al)	TWA: 10 mg/m <sup>3</sup>	: 10 mg/m <sup>3</sup> TWA
ETHYL BENZENE	: 100 ppm TWA : 125 ppm STEL	: 100 ppm TWA; 435 mg/m <sup>3</sup> TWA : 125 ppm STEL; 545 mg/m <sup>3</sup> STEL	TWA: 100 ppm TWAEV; 434 mg/m <sup>3</sup> TWAEV STEL: 125 ppm STEV; 543 mg/m <sup>3</sup> STEV	TWA: 100 ppm TWA STEL: 125 ppm STEL	: 100 ppm TWA; 435 mg/m <sup>3</sup> TWA : 125 ppm STEL; 545 mg/m <sup>3</sup> STEL
BARIUM SULFATE (TOTAL DUST)	: 10 mg/m <sup>3</sup> TWA : 0.5 mg/m <sup>3</sup> TWA (as Ba)	: 10 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction) : 15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	TWA: 10 ppm TWAEV (total dust, containing no asbestos and less than 1% crystalline silica); 5 ppm TWAEV (respirable dust, containing no asbestos and less than 1% crystalline silica) TWA: 0.5 mg/m <sup>3</sup> TWAEV (as Ba)	TWA: 10 mg/m <sup>3</sup> TWA (total dust) TWA: 0.5 mg/m <sup>3</sup> TWA (as Ba)	TWA: 0.5 mg/m <sup>3</sup>

<b>Engineering measures</b>	Ensure adequate ventilation, especially in confined areas
<b>Personal Protective Equipment</b>	
<b>Skin protection</b> <b>Eye/face protection</b> <b>Respiratory protection</b>	Lightweight protective clothing, Apron, Impervious gloves If splashes are likely to occur, wear Goggles. <b>Use only with adequate ventilation.</b> 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.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust created by cutting, sanding, or grinding.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Flash point</b>	27°C / 81.0°F
<b>Boiling range</b>	118 - 142°C / 244.0 - 288.0°F
<b>Upper explosion limit</b>	No information available
<b>Lower explosion limit</b>	No information available
<b>Evaporation rate</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Specific Gravity</b>	1.44890 g/cm3
<b>Density</b>	12.05698 lbs/gal
<b>Volatile organic compounds (VOC) content</b>	3.246 lbs/gal
<b>Volatile by weight</b>	26.9220 %
<b>Volatile by volume</b>	44.7350 %

**10. STABILITY AND REACTIVITY**

<b>Chemical stability</b>	Stable.	<b>Conditions to avoid</b>	Heat, flames and sparks. Reacts with air to form peroxides.
<b>Incompatible products</b>	Strong oxidizing agents. Acids. Caustics.	<b>Possibility of hazardous reactions</b>	None under normal processing

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
TITANIUM DIOXIDE (TOTAL DUST)	10000 mg/kg ( Rat )		
XYLENE	4300 mg/kg ( Rat )	1700 mg/kg ( Rabbit )	5000 ppm ( Rat ) 4 h 47635 mg/L ( Rat ) 4 h
AMORPHOUS SILICA	5000 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	2.2 mg/L ( Rat ) 1 h
AMORPHOUS SILICA	5000 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	2.2 mg/L ( Rat ) 1 h
N-BUTYL ACETATE	10768 mg/kg ( Rat )	17600 mg/kg ( Rabbit )	390 ppm ( Rat ) 4 h
ALUMINUM OXIDES	5000 mg/kg ( Rat )		
ETHYL BENZENE	3500 mg/kg ( Rat )	15354 mg/kg ( Rabbit )	17.2 mg/L ( Rat ) 4 h

<b>Irritation</b>	No information available
<b>Corrosivity</b>	No information available
<b>Sensitization</b>	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
TITANIUM DIOXIDE (TOTAL DUST)		Group 2B		X	
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, Lungs, 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
AMORPHOUS SILICA	EC50 = 440 mg/L 72 h	LC50= 5000 mg/L Brachydanio rerio 96 h		EC50 = 7600 mg/L 48 h
AMORPHOUS SILICA	EC50 = 440 mg/L 72 h	LC50= 5000 mg/L Brachydanio rerio 96 h		EC50 = 7600 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

**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/NDSL	Complies
EINECS/ELINCS	Does not Comply
CHINA	Complies
ENCS	Does not Comply
KECL	Complies
PICCS	Complies
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	10 - 30	1.0 % de minimis concentration
ALUMINUM OXIDES	1344-28-1	1 - 5	1.0 % de minimis concentration (fibrous forms)
ETHYL BENZENE	100-41-4	1 - 5	0.1 % de minimis concentration
BARIUM SULFATE (TOTAL DUST)	7727-43-7	0.1 - 1	1.0

**SARA 311/312 Hazardous Categorization**

Chronic Health Hazard	yes
Acute Health Hazard	yes
Fire Hazard	yes
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
XYLENE	100 lb RQ			X

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
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
TITANIUM DIOXIDE (TOTAL DUST)	X	X	X		X
XYLENE	X	X	X	X	X
AMORPHOUS SILICA	X		X		
AMORPHOUS SILICA	X		X		
N-BUTYL ACETATE	X	X	X		X
ALUMINUM OXIDES	X	X	X		X
ETHYL BENZENE	X	X	X	X	X
BARIUM SULFATE (TOTAL DUST)	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
N-BUTYL ACETATE	Part 5 Substance
ALUMINUM OXIDES	Part 1, Group 1 Substance (fibrous form)
ETHYL BENZENE	Part 1, Group 1 Substance

**Legend**

NPRI - National Pollutant Release Inventory

**16. OTHER INFORMATION**

Revision Date

18-May-2011

Revision Note                      No information available

HMIS (Hazardous Material      Health 2                      Flammability 3                      Reactivity 1  
Information System)

**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**



# Material Safety Data Sheet

Print Date 26-May-2011

Revision Date 26-May-2011

Revision Number 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Common name</b>	SERIES 700/1070 PART B
<b>Product code</b>	B700-1070B
<b>Trade name</b>	F700/F701/1070 CONVERTER
<b>Product Class</b>	POLYISOCYANATE PAINT
<b>Manufacturer</b>	Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
<b>Emergency telephone</b>	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

<b>Eyes</b>	Moderately irritating to the eyes. Risk of serious damage to eyes.
<b>Skin</b>	Irritating to skin. May cause sensitization by skin contact.
<b>Inhalation</b>	Irritating to respiratory system. May cause allergic respiratory reaction.
<b>Ingestion</b>	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

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

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Combustible material.
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Contact with water may cause violent frothing. Use: Carbon dioxide (CO <sub>2</sub> ) - Foam - Dry chemical
<b>Hazardous decomposition products</b>	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

<b>Personal precautions</b>	Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
<b>Methods for cleaning up</b>	If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.
<b>Other information</b>	Not applicable

## 7. HANDLING AND STORAGE

### Handling

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

### Storage

Close container after each use. Keep away from heat, sparks and flame. 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 <sup>3</sup> TWA : 200 ppm STEL; 950 mg/m <sup>3</sup> STEL	TWA: 150 ppm TWAEV; 713 mg/m <sup>3</sup> TWAEV STEL: 200 ppm STEV; 950 mg/m <sup>3</sup> STEV	TWA: 150 ppm TWA STEL: 200 ppm STEL	: 150 ppm TWA; 710 mg/m <sup>3</sup> TWA : 200 ppm STEL; 950 mg/m <sup>3</sup> STEL
HEXAMETHYLENE DIISOCYANATE (HDI) MONOMER	: 0.005 ppm TWA		TWA: 0.005 ppm TWAEV; 0.034 mg/m <sup>3</sup> 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

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

## 10. STABILITY AND REACTIVITY

<b>Chemical stability</b>	Stable.	<b>Conditions to avoid</b>	Heat, flames and sparks. Amines.
<b>Incompatible products</b>	Strong oxidizing agents. Caustics. Water, alcohols, amines, strong bases, metal components, surface active materials.	<b>Possibility of hazardous reactions</b>	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 <sup>3</sup> ( 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

<b>Irritation</b>	No information available
<b>Corrosivity</b>	No information available
<b>Sensitization</b>	No information available

### Chronic toxicity

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

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

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**