

Safety Data Sheet

Issue Date 26-Jun-2015

Revision Date 26-Jun-2015

Revision Number 6

1. IDENTIFICATION

Product identifier

Product Code F406-0406A
Product Name ELASTO-SHIELD ISO

Other means of identification

Common Name SERIES 406 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

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 (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Harmful if inhaled
Causes skin irritation
Causes serious eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of causing cancer
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure

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

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
 Immediately call a POISON CENTER or doctor/physician
 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 locked up
 Store in a well-ventilated place. Keep container tightly closed
 Keep away from children

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other information**

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI)	9016-87-9	30 - 60%
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	101-68-8	30 - 60%
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER	26447-40-5	10 - 30%
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	101-68-8	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	Show this safety data sheet to the doctor in attendance.
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. 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. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Avoid breathing vapors or mists.

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

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. Hydrocarbons. Carbon oxides. Nitrogen oxides (NOx). Hydrogen cyanide.

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.

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, amines, strong bases, metal components, surface active materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER 101-68-8	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	75 mg/m ³
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER 26447-40-5	-	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER) 101-68-8	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	75 mg/m ³

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 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	amber	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	1.23508	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		No data available	
Kinematic viscosity		No data available	
Dynamic viscosity	480 centipoises	approx	
Other Information			
Density	10.30057 lbs/gal		
Volatile organic compounds (VOC) content	0.03605 lbs/gal		
Total volatiles weight percent	0.35 %		
Total volatiles volume percent	0.36 %		

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. Amines. Protect from water.

Incompatible materials

Water, alcohols, amines, strong bases, metal components, surface active materials

Hazardous decomposition products

Carbon oxides. Hydrocarbons. Nitrogen oxides (NOx). Hydrogen cyanide.

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

Inhalation	May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. May cause sensitization of susceptible persons.
Eye contact	Causes serious eye damage.
Skin contact	Irritating to skin. May cause sensitization by skin contact.
Ingestion	Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI) 9016-87-9	= 49 g/kg (Rat)	> 9400 mg/kg (Rabbit)	= 490 mg/m ³ (Rat) 4 h
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER 101-68-8	= 31600 mg/kg (Rat) = 9200 mg/kg (Rat)		= 369 mg/m ³ (Rat) 4 h
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER 26447-40-5	> 7400 mg/kg (Rat)	> 6200 mg/kg (Rabbit)	= 0.369 mg/L (Rat) 4 h
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER) 101-68-8	= 31600 mg/kg (Rat) = 9200 mg/kg (Rat)		= 369 mg/m ³ (Rat) 4 h

Information on toxicological effects

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

Sensitization May cause sensitization of susceptible persons.

Mutagenicity No information available.

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

Component	ACGIH	IARC	NTP	OSHA
POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI) 9016-87-9		Group 3		
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER 101-68-8		Group 3		
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER 26447-40-5		Group 3		
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER) 101-68-8		Group 3		

Reproductive effects No information available.

STOT - single exposure Eyes, Skin, Respiratory system
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure
Target organ effects Eyes, respiratory system.
Aspiration hazard No information available.

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER 26447-40-5	3230: 96 h Skeletonema costatum mg/L EC50		1000: 24 h Daphnia magna mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

Component	log Pow
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER 26447-40-5	4.5

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, water base freezable

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 Does not comply

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

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
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	
DIPHENYLMETHANE DIISOCYANATE (VOLATILE 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 and Title 40n of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values
POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI) - 9016-87-9	1.0
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER - 101-68-8	1.0
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER - 26447-40-5	1.0
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER) - 101-68-8	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
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER 101-68-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER) 101-68-8	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
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER - 26447-40-5	

California SCAQMD Rule 443

Contains Photochemically Reactive Solvent

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI) 9016-87-9	X		
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER 101-68-8	X	X	X
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER 26447-40-5	X	X	
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER) 101-68-8	X	X	X

16. OTHER INFORMATION

NFPA	Health 3	Flammability 0	Instability 1	Physical hazard *
HMIS (Hazardous Material Information System)	Health 3*	Flammability 0	Reactivity 1	

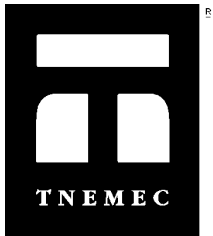
Prepared By Tnemec Regulatory Dept: 816-474-3400
 Revision Date 26-Jun-2015
 Revision Summary
 9 4 5 7 10 8 11 14

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 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 No data available

Revision Date 10-Apr-2015

Revision Number 9

1. IDENTIFICATION

Product identifier

Product Code F406-WH06B
Product Name ELASTO-SHIELD OFF WHITE

Other means of identification

Common Name SERIES 406 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 considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1


Label elements

EMERGENCY OVERVIEW

Danger

Hazard statements

Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
Causes damage to organs through prolonged or repeated exposure



Appearance opaque
Physical state liquid
Odor amine

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

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
- Immediately call a POISON CENTER or doctor/physician
- 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

Storage

- 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

- May be harmful if swallowed
- May be harmful in contact with skin
- Toxic to aquatic life with long lasting effects
- SEE SAFETY DATA SHEET
- Acute Toxicity 61.88338 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - 30%
POLYPROPYLENE GLYCOL	25322-69-4	1 - 10%
2,-METHYL-1,3-PROPANEDIOL	2163-42-0	1 - 10%
DIETHYLTOLUENEDIAMINE	68479-98-1	1 - 10%
SODIUM OXIDE	1313-59-3	1 - 10%
POTASSIUM OXIDE	12136-45-7	1 - 10%
CALCIUM OXIDE	1305-78-8	1 - 10%
AMORPHOUS SILICA	7631-86-9	1 - 10%
ALUMINUM OXIDES	1344-28-1	1 - 10%
PETROLEUM SOLVENT (NAPHTHA)	64742-95-6	1 - 10%

STODDARD SOLVENT (MINERAL SPIRITS)	8052-41-3	1 - 10%
FATTY ACIDS	147900-93-4	1 - 10%
ZIRCONIUM OXIDE	1314-23-4	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	Show this safety data sheet to the doctor in attendance.
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

Carbon dioxide (CO₂). 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

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. Hydrocarbons. Carbon oxides. Nitrogen oxides (NO_x). Hydrogen cyanide.

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.

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 Close container after each use. Avoid contact with eyes, skin 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.

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, amines, strong bases, metal components, surface active materials. Strong oxidizing agents. Alkaline.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 15 mg/m ³	5000 mg/m ³
CALCIUM OXIDE 1305-78-8	TWA: 2 mg/m ³	TWA: 5 mg/m ³	25 mg/m ³
AMORPHOUS SILICA 7631-86-9	-	TWA: 6 mg/m ³	3000 mg/m ³
ALUMINUM OXIDES 1344-28-1	TWA: 1 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³ TWA: 15 mg/m ³	
STODDARD SOLVENT (MINERAL SPIRITS) 8052-41-3	TWA: 100 ppm	TWA: 100 ppm TWA: 525 mg/m ³ TWA: 500 ppm TWA: 2900 mg/m ³	20000 mg/m ³
ZIRCONIUM OXIDE 1314-23-4	TWA: 5 mg/m ³	-	25 mg/m ³

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 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	amine
Appearance	opaque	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	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	1.14028	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		No data available
Kinematic viscosity		No data available
Dynamic viscosity	2700 centipoises	approx

Other Information

Density	9.50996 lbs/gal
Volatile organic compounds (VOC) content	0.27198 lbs/gal
Total volatiles weight percent	2.86 %
Total volatiles volume percent	4.01 %

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. Isocyanates. Reacts with air to form peroxides.

Incompatible materials

Water, alcohols, amines, strong bases, metal components, surface active materials, Strong oxidizing agents, Alkaline

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. Nitrogen oxides (NOx). Hydrogen cyanide.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation	May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
Eye contact	Causes serious eye damage.
Skin contact	Irritating to skin. May cause sensitization by skin contact.
Ingestion	Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	> 10000 mg/kg (Rat)		
POLYPROPYLENE GLYCOL 25322-69-4	> 2 g/kg (Rat)		
DIETHYLTOLUENEDIAMINE 68479-98-1	= 485 mg/kg (Rat) = 472 mg/kg (Rat)	= 700 mg/kg (Rabbit)	
CALCIUM OXIDE 1305-78-8	= 500 mg/kg (Rat)		
AMORPHOUS SILICA 7631-86-9	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 2.2 mg/L (Rat) 1 h
ALUMINUM OXIDES 1344-28-1	> 5000 mg/kg (Rat)		
PETROLEUM SOLVENT (NAPTHA) 64742-95-6	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (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

Irritation The absorption of this product into the body may lead to the formation of methaemoglobine that, in sufficient concentration, causes cyanosis.

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.

Sensitization May cause sensitization of susceptible persons.

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
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7		Group 2B		X
AMORPHOUS SILICA 7631-86-9		Group 3		

PETROLEUM SOLVENT (NAPTHA) 64742-95-6				
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Reproductive effects No information available.
STOT - single exposure No information available
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure
Target organ effects Central Vascular System (CVS), Eyes, kidney, liver, Lungs, respiratory system, Skin, Central nervous system.
Aspiration hazard No information available.
Acute Toxicity 61.88338 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

10.3368 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
CALCIUM OXIDE 1305-78-8		1070: 96 h Cyprinus carpio mg/L LC50 static	
AMORPHOUS SILICA 7631-86-9	440: 72 h Pseudokirchneriella subcapitata mg/L EC50	5000: 96 h Brachydanio rerio mg/L LC50 static	7600: 48 h Ceriodaphnia dubia mg/L EC50
PETROLEUM SOLVENT (NAPTHA) 64742-95-6		9.22: 96 h Oncorhynchus mykiss mg/L LC50	6.14: 48 h Daphnia magna mg/L EC50

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.

Component	CAWAST
CALCIUM OXIDE 1305-78-8	Corrosive

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name paint in oil

IATA

Proper Shipping Name Not regulated

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

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

Component	SARA 313 - Threshold Values
ALUMINUM OXIDES - 1344-28-1	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

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
TITANIUM DIOXIDE (TOTAL DUST) - 13463-67-7	Carcinogen
PETROLEUM SOLVENT (NAPHTHA) - 64742-95-6	.

California SCAQMD Rule 443

Contains Photochemically Reactive Solvent

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
TITANIUM DIOXIDE (TOTAL DUST) 13463-67-7	X	X	X
POTASSIUM OXIDE 12136-45-7	X		
CALCIUM OXIDE 1305-78-8	X	X	X
AMORPHOUS SILICA 7631-86-9	X	X	X
ALUMINUM OXIDES 1344-28-1	X	X	X
STODDARD SOLVENT (MINERAL SPIRITS) 8052-41-3	X	X	X
ZIRCONIUM OXIDE 1314-23-4		X	

16. OTHER INFORMATION

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

Prepared By Tnemec Regulatory Dept: 816-474-3400
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 9 4 5 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 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