Material Safety Data Sheet

Preparation Date: 04-Jan-2010 **Revision Date:** 29-Dec-2009 **Revision Number:** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code S281-11WHA
Trade Name TNEME-GLAZE WHITE

Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNEMEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

HARMFUL IF INHALED.
CAUSES SKIN AND EYE BURNS.
HARMFUL OR FATAL IF SWALLOWED.
MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA.
MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.

Potential Health Effects

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

Acute Effects

Eyes Causes burns.
Skin Causes burns. May cause sensitization by skin contact.
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 Skin disorders.

Interactions with Other Chemicals Use of alcoholic beverages may enhance toxic effects.

Potential Environmental Effects See Section 12 for additional Ecological information

Target Organ Effects Eyes, Lungs, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %

3. COMPOSITION/INFORMATION ON INGREDIENTS

BISPHENOL A TYPE EPOXY RESIN		30 - 60
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	10 - 30
BARIUM SULFATE (TOTAL DUST)	7727-43-7	10 - 30
AMORPHOUS SILICA	7631-86-9	1 - 5
ALUMINUM OXIDES	1344-28-1	1 - 5
NONYLPHENOL	84852-15-3	1 - 5

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 No information available

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 (CO2) - Foam - Dry chemical

Hazardous Decomposition Products Oxides of carbon, hydrocarbons. Aldehydes. Ketones. Silicon.

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.

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
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)	TWA: 10 mg/m^3	TWA: 10 mg/m^3 TWA: 15 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3 STEL: 20 mg/m^3
BARIUM SULFATE (TOTAL DUST)	TWA: 10 mg/m^3 TWA: 0.5 mg/m^3	TWA: 5 mg/m^3 TWA: 10 mg/m^3 TWA: 15 mg/m^3	TWA: 10 ppm TWA: 5 ppm TWA: 0.5 mg/m^3	TWA: 10 mg/m^3	TWA: 0.5 mg/m^3
ALUMINUM OXIDES	TWA: 1 mg/m^3	TWA: 10 mg/m^3 TWA: 5 mg/m^3 TWA: 15 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3	TWA: 10 mg/m^3

Engineering Measures Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Skin Protection Lightweight protective clothing, Apron, Impervious gloves

Eye/face Protection Goggles. If splashes are likely to occur, wear face-shield.

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	Not applicable
Method	Pensky Martens - Closed Cup
Boiling Point/Range	No information available
Upper Exposure Limits	No information available
Lower Exposure Limits	No information available
Evaporation Rate	No information available
Vapour Pressure	No information available
Vapour Density	No information available
Specific Gravity	1.56834
Density	13.05098
VOC Content (lbs/gal)	.039
% Volatile by Weight	.3030
% Volatile by Volume	.6143

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	**Conditions to Avoid**	Heat, flames and sparks. Amines. Contact with water liberates toxic gas (methanol).
Incompatible Products	Strong oxidizing agents. Bases. Acids. Amines.	**Possibility of Hazardous Reactions**	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)		
AMORPHOUS SILICA	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.2 mg/L (Rat) 1 h
ALUMINUM OXIDES	5000 mg/kg (Rat)		
NONYLPHENOL	580 mg/kg (Rat)	2031 mg/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
TITANIUM DIOXIDE (TOTAL DUST)		Group 2B		X	

Mutagenic Effects No information available
Reproductive Effects No information available
Developmental Effects No information available
Teratogenicity No information available
Target Organ Effects Eyes, Lungs, Respiratory system, Skin.
Endocrine Disruptor Information No information available

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
BISPHENOL A TYPE EPOXY RESIN	Group III Chemical		
NONYLPHENOL	Group II Chemical	Medium Exposure Concern	

12. ECOLOGICAL INFORMATION

Ecotoxicity

.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
AMORPHOUS SILICA	EC50 = 440 mg/L 72 h	LC50= 5000 mg/L Brachydanio rerio 96 h		EC50 = 7600 mg/L 48 h
NONYLPHENOL	EC50 = 0.41 mg/L 96 h	LC50= 0.135 mg/L Pimephales promelas 96 h		EC50 = 0.14 mg/L 48 h EC50 = 0.140 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 PAINT IN OIL

15. REGULATORY INFORMATION

International Inventories

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

U.S. Federal Regulations

SARA 313

SARA 311/312 Hazardous Categorization

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

CERCLA

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
TITANIUM DIOXIDE (TOTAL DUST)	X	X	X		X
BARIUM SULFATE (TOTAL DUST)	X	X	X		X
AMORPHOUS SILICA	X		X		
ALUMINUM OXIDES	X	X	X		X
NONYLPHENOL	X		X		

Other International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D2B Toxic materials
E Corrosive material

Component	NPRI
ALUMINUM OXIDES	Part 1, Group 1 Substance (fibrous form)
NONYLPHENOL	Part 1, Group 1 Substance

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary No information available

HMIS **Health** 3 **Flammability** 1 **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 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

Preparation Date: 30-Dec-2009 **Revision Date:** 29-Dec-2009 **Revision Number:** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code S281-0210B
Trade Name S281/S210 CONVERTER

Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNEMEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

CAUSES SKIN AND EYE BURNS.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.
HARMFUL IF INHALED.
HARMFUL OR FATAL IF SWALLOWED.
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 Causes burns.
Skin Causes burns. May cause sensitization by skin contact.
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 No information available

Interactions with Other Chemicals Use of alcoholic beverages may enhance toxic effects.

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
1,3-BENZENEDIMETHANAMINE, REACTION PRODUCTS WITH STYRENE	404362-22-7	60 - 100

3. COMPOSITION/INFORMATION ON INGREDIENTS

POLYOXYPROPYLENETRIAMINE	39423-51-3	10 - 30
BENZYL ALCOHOL	100-51-6	12.823
NONYLPHENOL	84852-15-3	1 - 5

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 No information available

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 (CO2) - Foam - Dry chemical

Hazardous Decomposition Products Oxides of carbon, hydrocarbons. Oxides of nitrogen. Aldehydes. Ketones.

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.

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
Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

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.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Flash Point	Not applicable
Method	Pensky Martens - Closed Cup
Boiling Point/Range	No information available
Upper Exposure Limits	No information available
Lower Exposure Limits	No information available
Evaporation Rate	No information available
Vapour Pressure	No information available
Vapour Density	No information available
Specific Gravity	1.03469
Density	8.61019
VOC Content (lbs/gal)	.110
% Volatile by Weight	1.2820
% Volatile by Volume	1.2691

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	**Conditions to Avoid**	Heat, flames and sparks.
Incompatible Products	Strong oxidizing agents. Bases. Acids.	**Possibility of Hazardous Reactions**	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
BENZYL ALCOHOL	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h
NONYLPHENOL	580 mg/kg (Rat)	2031 mg/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

Mutagenic Effects No information available
Reproductive Effects No information available
Developmental Effects No information available
Teratogenicity No information available
Target Organ Effects No information available
Endocrine Disruptor Information No information available

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
NONYLPHENOL	Group II Chemical	Medium Exposure Concern	

12. ECOLOGICAL INFORMATION

Ecotoxicity

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Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
BENZYL ALCOHOL	EC50 = 35 mg/L 3 h	LC50= 460 mg/L Pimephales promelas 96 h LC50= 10 mg/L Lepomis macrochirus 96 h	EC50 = 63.7 mg/L 5 min EC50 = 63.7 mg/L 15 min EC50 = 71.4 mg/L 30 min EC50 = 50 mg/L 5 min	EC50 = 23 mg/L 48 h
NONYLPHENOL	EC50 = 0.41 mg/L 96 h	LC50= 0.135 mg/L Pimephales promelas 96 h		EC50 = 0.14 mg/L 48 h EC50 = 0.140 mg/L 48 h

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CHINA Complies
ENCS Does not Comply
KECL Complies
PICCS Does not Comply
AICS Does not Comply

U.S. Federal Regulations

SARA 313

SARA 311/312 Hazardous Categorization

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

CERCLA

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
BENZYL ALCOHOL	X		X		
NONYLPHENOL	X		X		

Other International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D2B Toxic materials
E Corrosive material

Component	NPRI
NONYLPHENOL	Part 1, Group 1 Substance

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary No information available

HMIS **Health** 3 **Flammability** 1 **Reactivity** 1

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End of MSDS