



Material Safety Data Sheet

Preparation Date: 04-Jan-2010

Revision Date: 29-Dec-2009

Revision Number: 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code S206-33GRA
Trade Name SUB-FLEX EP GRAY
Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!

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.
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT.

Potential Health Effects

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

Acute Effects

Eyes Irritating to eyes.
Skin Irritating to skin. 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 No information available

Potential Environmental Effects See Section 12 for additional Ecological information

Target Organ Effects Central Vascular System, Eyes, Lungs, Respiratory system

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
BISPHENOL A TYPE EPOXY RESIN		30 - 60

3. COMPOSITION/INFORMATION ON INGREDIENTS

PROPRIETARY		10 - 30
ALKYL GLYCIDYL ETHER	68609-97-2	10 - 30
TITANIUM DIOXIDE (TOTAL DUST)	13463-67-7	5 - 10
BISPHENOL A TYPE EPOXY RESIN	25068-38-6	5 - 10
TALC (RESPIRABLE DUST)	14807-96-6	1 - 5
ALUMINUM OXIDES	1344-28-1	0.1 - 1
XYLENE	1330-20-7	0.1678

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 (CO ₂) - Foam - Dry chemical

Hazardous Decomposition Products Oxides of carbon, hydrocarbons. Oxides of nitrogen. Hydrogen cyanide. Aldehydes.

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
TALC (RESPIRABLE DUST)	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 3 mg/m ³	TWA: 2 mg/m ³	TWA: 2 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
XYLENE	TWA: 100 ppm STEL: 150 ppm	TWA: 435 mg/m ³ TWA: 100 ppm STEL: 150 ppm STEL: 655 mg/m ³	TWA: 434 mg/m ³ TWA: 100 ppm STEL: 150 ppm STEL: 651 mg/m ³	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 150 ppm STEL: 650 mg/m ³	TWA: 435 mg/m ³ TWA: 100 ppm STEL: 150 ppm STEL: 655 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

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	Not applicable
Boiling Point/Range	No information available.0.0
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	1.20109
Density	9.99491
VOC Content (lbs/gal)	.061
% Volatile by Weight	.6060
% Volatile by Volume	.8708

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
ALKYL GLYCIDYL ETHER	17100 mg/kg (Rat)		
TITANIUM DIOXIDE (TOTAL DUST)	10000 mg/kg (Rat)		
BISPHENOL A TYPE EPOXY RESIN	11400 mg/kg (Rat)		
ALUMINUM OXIDES	5000 mg/kg (Rat)		
XYLENE	4300 mg/kg (Rat)	1700 mg/kg (Rabbit)	47635 mg/L (Rat) 4 h 5000 ppm (Rat) 4 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

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	Central Vascular System, Eyes, Lungs, Respiratory system.
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		
BISPHENOL A TYPE EPOXY RESIN	Group III Chemical		

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
TALC (RESPIRABLE DUST)		LC50> 100 g/L Brachydanio rerio 96 h		
XYLENE		LC50= 13.4 mg/L Pimephales promelas 96 h LC50= 8.05 mg/L Oncorhynchus mykiss 96 h LC50= 16.1 mg/L Lepomis macrochirus 96 h LC50= 26.7 mg/L Pimephales promelas 96 h	EC50 = 0.0084 mg/L 24 h	EC50 = 3.82 mg/L 48 h LC50 = 0.6 mg/L 48 h

13. DISPOSAL CONSIDERATIONS

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

Component
XYLENE

U.S. Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
XYLENE	1330-20-7	0.1678	1.0

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

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

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
XYLENE	100 lb	

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
TALC (RESPIRABLE DUST)	X	X	X		X
ALUMINUM OXIDES	X	X	X		X
XYLENE	X	X	X	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



Component	NPRI
ALUMINUM OXIDES	Part 1, Group 1 Substance (fibrous form)
XYLENE	Part 1, Group 1 Substance; Part 5 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date: 29-Dec-2009

Revision Summary: No information available

HMIS Health 0 Flammability 0 Reactivity 0

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 S206-0206B
Trade Name SUB-FLEX EP CONVERTER
Contact Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency Telephone Number 800-535-5053 (INFOTRAC) - TNE MEC 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 No information available

Interactions with Other Chemicals No information available

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
NONYLPHENOL	84852-15-3	30 - 60
MODIFIED ALIPHATIC AMINE	9046-10-0	30 - 60

3. COMPOSITION/INFORMATION ON INGREDIENTS

MODIFIED ALIPHATIC AMINE	140-31-8	10 - 30
BENZYL ALCOHOL	100-51-6	8.3338
CYCLOHEXANAMINE	1761-71-3	5 - 10

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 (CO ₂) - Foam - Dry chemical
Hazardous Decomposition Products	Oxides of carbon, hydrocarbons. Oxides of nitrogen. Aldehydes. Ammonia. Ketones. Nitric acid, nitrosamine. Phenolics.

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

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

.96753

Density

8.05133

VOC Content (lbs/gal)

.097

% Volatile by Weight

1.2050

% Volatile by Volume

1.2255

10. STABILITY AND REACTIVITY

Chemical stability

Stable.

Conditions to Avoid

Heat, flames and sparks. Epoxy constituents.

Incompatible Products

Strong oxidizing agents. Bases. Acids. Metals . Hypochlorites. Nitrous acid and other nitrosating agents. Peroxides. Hydroxyl Compounds. 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
NONYLPHENOL	580 mg/kg (Rat)	2031 mg/kg (Rabbit)	

11. TOXICOLOGICAL INFORMATION

MODIFIED ALIPHATIC AMINE	242 mg/kg (Rat)	360 mg/kg (Rabbit)	
MODIFIED ALIPHATIC AMINE	2140 mg/kg (Rat)	880 mg/kg (Rabbit)	
BENZYL ALCOHOL	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h
CYCLOHEXANAMINE	1000 mg/kg (Rat)		

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 Disrupters - Evaluated Substances	Japan - Endocrine Disruptor Information
NONYLPHENOL	Group II Chemical	Medium Exposure Concern	

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
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
MODIFIED ALIPHATIC AMINE	EC50 = 495 mg/L 72 h	LC50= 2190 mg/L Pimephales promelas 96 h LC50> 1000 mg/L Poecilia reticulata 96 h LC50>= 100 mg/L Oncorhynchus mykiss 96 h	EC50 > 10000 mg/L 17 h	EC50 = 32 mg/L 48 h
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
CYCLOHEXANAMINE		LC50 46 - 100 mg/L Leuciscus idus 96 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 UN3066, PAINT, 8, PGII, ERG 153

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
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 RegulationsSARA 313SARA 311/312 Hazardous Categorization

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

CERCLAU.S. State RegulationsCalifornia Proposition 65

This product contains the following Proposition 65 chemicals:

State Right-to-Know

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

Other International RegulationsCanada

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** 0 **Reactivity** 0

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