



Material Safety Data Sheet

Print Date 15-Apr-2011

Revision Date 15-Apr-2011

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|----------------------------|---|
| Common name | SERIES 151 PART A |
| Product code | F151-1051A |
| Trade name | ELASTO-GRIP FC |
| Product Class | EPOXY PAINT |
| Manufacturer | Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372 |
| Emergency telephone | 800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400 |

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!

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.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

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 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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

| Component | CAS-No | Weight % |
|---|----------|----------|
| EPOXY RESIN | | 10 - 30 |
| PROPYLENE GLYCOL MONOMETHYL ETHER (SKIN) | 107-98-2 | 1 - 5 |
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | 124-17-4 | 1 - 5 |
| BENZYL ALCOHOL | 100-51-6 | 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 (CO ₂) - Foam - Dry chemical |
| Hazardous decomposition products | Oxides of carbon, hydrocarbons. |
| 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) |
|--|---------------------------------|---|--|--|------------------|
| PROPYLENE GLYCOL MONOMETHYL ETHER (SKIN) | : 100 ppm TWA : 150 ppm STEL | : 100 ppm TWA; 360 mg/m ³ TWA : 150 ppm STEL; 540 mg/m ³ STEL | TWA: 100 ppm TWAEV; 369 mg/m ³ TWAEV STEL: 150 ppm STEV; 553 mg/m ³ STEV | TWA: 100 ppm TWA STEL: 150 ppm STEL | |

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 range | 100 - 125°C / 212.0 - 257.0°F |
| Upper explosion limit | No information available |
| Lower explosion limit | No information available |
| Evaporation rate | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Specific Gravity | 1.03613 g/cm ³ |
| Density | 8.62217 lbs/gal |
| Volatile organic compounds (VOC) content | 1.505 lbs/gal |
| Volatile by weight | 79.2430 % |
| Volatile by volume | 82.2755 % |

10. STABILITY AND REACTIVITY

10. STABILITY AND REACTIVITY

| | | | |
|------------------------------|--|---|------------------------------|
| Chemical stability | Stable. | Conditions to avoid | Heat, flames and sparks. |
| Incompatible products | Strong oxidizing agents. Bases. Acids. Alkalines. | Possibility of hazardous reactions | None under normal processing |

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|--------------------|------------------------|--|
| PROPYLENE GLYCOL MONOMETHYL ETHER (SKIN) | 5200 mg/kg (Rat) | 13000 mg/kg (Rabbit) | 54.6 mg/L (Rat) 4 h 24 mg/L (Rat) 1 h |
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | 6500 mg/kg (Rat) | 14500 mg/kg (Rabbit) | 73.7 mg/L (Rat) 4 h |
| BENZYL ALCOHOL | 1230 mg/kg (Rat) | 2000 mg/kg (Rabbit) | 8.8 mg/L (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

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

| Component | Toxicity to algae | Toxicity to fish | Toxicity to microorganisms | Toxicity to daphnia |
|---|--------------------|---|--|------------------------|
| PROPYLENE GLYCOL MONOMETHYL ETHER (SKIN) | | LC50 4600-10000 mg/L Leuciscus idus 96 h LC50= 20.8 g/L Pimephales promelas 96 h | | EC50 = 23300 mg/L 48 h |
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | | LC50 50-70 mg/L Brachydanio rerio 96 h LC50= 77 mg/L Pimephales promelas 96 h | | LC50 = 665 mg/L 48 h |
| BENZYL ALCOHOL | EC50 = 35 mg/L 3 h | LC50= 10 mg/L Lepomis macrochirus 96 h LC50= 460 mg/L Pimephales promelas 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 |

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,WATER BASE FREEZABLE

15. REGULATORY INFORMATION

International Inventories

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

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

Component
DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE

United States of America Federal Regulations

SARA 313

| Component | CAS-No | Weight % | SARA 313 - Threshold Values |
|---|----------|----------|-----------------------------|
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | 124-17-4 | 1 - 5 | 1.0 |

SARA 311/312 Hazardous Categorization

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

CERCLA

United States of America State Regulations

California Prop. 65

This product contains the following Proposition 65 chemicals:

State Right-to-Know

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------|---------------|------------|--------------|----------|--------------|
| | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| PROPYLENE GLYCOL MONOMETHYL ETHER (SKIN) | X | X | X | | X |
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | | X | X | X | |
| BENZYL ALCOHOL | 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

D2B Toxic materials



Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 15-Apr-2011

Revision Note No information available

HMIS (Hazardous Material Information System) Health 2 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 F151-1051B
Trade Name ELASTO-GRIP FC GREEN 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

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.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

| Component | CAS-No | Weight % |
|------------------------|----------|----------|
| TETRAETHYLENEPENTAMINE | 112-57-2 | 1 - 5 |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| | | |
|--|----------|---------|
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | 124-17-4 | 1.7598 |
| MODIFIED ALIPHATIC AMINE | 90-72-2 | 0.1 - 1 |

4. FIRST AID MEASURES

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

5. FIRE-FIGHTING MEASURES

| | |
|-------------------------------------|---|
| Flammable Properties | 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.

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.

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 | 100 - 121°C / 212.0 - 250.0°F |
| 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 | 1.01152 |
| Density | 8.41737 |
| VOC Content (lbs/gal) | 1.188 |
| % Volatile by Weight | 85.1420 |
| % Volatile by Volume | 86.0443 |

10. STABILITY AND REACTIVITY

| | | | |
|------------------------------|---|---|--|
| Chemical stability | Stable. | Conditions to Avoid | Heat, flames and sparks. Epoxy constituents. |
| Incompatible Products | Strong oxidizing agents. Acids. Alkalines. Cleaning solutions such as Chromerge and Aqua Regia. | Possibility of Hazardous Reactions | None under normal processing |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|--------------------|------------------------|-----------------------|
| TETRAETHYLENEPENTAMINE | 2100 mg/kg (Rat) | 660 mg/kg (Rabbit) | |
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | 6500 mg/kg (Rat) | 14500 mg/kg (Rabbit) | 73.7 mg/L (Rat) 4 h |
| MODIFIED ALIPHATIC AMINE | 1000 mg/kg (Rat) | 1280 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

12. ECOLOGICAL INFORMATION

Ecotoxicity

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|----------------------|---|----------|-----------------------|
| TETRAETHYLENEPENTAMINE | EC50 = 2.1 mg/L 72 h | LC50= 420 mg/L Poecilia reticulata 96 h | | EC50 = 24.1 mg/L 48 h |
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | | LC50 50 - 70 mg/L Brachydanio rerio 96 h LC50= 77 mg/L Pimephales promelas 96 h | | EC50 = 665 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, WATER BASE FREEZABLE

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDL 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

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

Component

DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE

U.S. Federal Regulations

SARA 313

| Component | CAS-No | Weight % | SARA 313 - Threshold Values |
|---|----------|----------|-----------------------------|
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | 124-17-4 | 1.7598 | 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 |

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 |
|---|---------------|------------|--------------|----------|--------------|
| TETRAETHYLENEPENTAMINE | X | X | X | | |
| DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE | | 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



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 1

Disclaimer

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End of MSDS