

GenFlex Roofing Systems Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

*** Section 1 - Chemical Product and Company Identification ***

Manufacturer Information

GenFlex Roofing Systems, LLC
250 West 96th Street
Indianapolis, IN 46260

Phone: 317-575-7190 (Non-Emergency)

Emergency # 1-800-424-9300 (CHEMTREC)
International # 1-703-527-3887 (CHEMTREC)

Product Use: Termination Bar

General Comments

NOTE: CHEMTREC telephone number is to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

*** Section 2- Hazards Identification ***

Emergency Overview

This product is a silver gray metallic solid. Under normal conditions of use, this product is not expected to create any unusual health or emergency hazards. If the product is subjected to welding, burning, grinding or machining metal particulates or elemental oxides can be generated. **DO NOT WELD, BURN, GRIND OR MACHINE THIS PRODUCT.** Breathing dust from this product may cause metal fume fever. Contact of the skin with dusts from this material may result in an allergic sensitization reaction. Inhalation of dusts from this product may result in allergic respiratory sensitization reactions. This product contains components which are cancer hazards.

Potential Health Effects: Eyes

This product may cause irritation to the eyes. Contact of molten metal causes eye burns. Vapors, fumes, or particles from this material will cause eye irritation.

Potential Health Effects: Skin

Contact with dusts or thermal processing fumes may cause irritation. Prolonged or repeated contact with processing fumes or dusts may cause an allergic skin sensitization reaction. Contact with molten metal causes skin burns.

Potential Health Effects: Ingestion

This product is harmful if swallowed. Ingestion can cause sore throat, gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration of small amounts into the lung may produce severe lung damage, including chemical pneumonitis.

Potential Health Effects: Inhalation

This product is harmful by inhalation. Dusts may cause irritation to nose, throat and respiratory system. This product may cause metal fume fever with resulting in temporary flu-like symptoms. Inhalation of vapors or fumes may cause central nervous system depression including nausea, vomiting, fatigue, dizziness and loss of coordination. Aspiration of small amounts into the lung may produce severe lung damage, including chemical pneumonitis.

HMIS Ratings: Health: 1* Fire: 0 Reactivity: 1 Pers. Prot.: safety glasses, gloves

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Approx. Percent
7440-50-8	Copper	*
7440-21-3	Silicon	*
7440-02-0	Nickel	*
7439-96-5	Manganese	*
7429-90-5	Aluminum	*
1314-13-2	Zinc oxide	*
1309-48-4	Magnesium oxide	*
1309-37-1	Iron oxide	*

GenFlex Roofing Systems

Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

Component Information/Information on Non-Hazardous Components

This product has been determined to be an (article), meeting the criteria established in 29 CFR1910.1200(b) (6) (v) and does not pose a physical hazard and/or health risk under normal conditions of use.

* Concentrations of elements in different alloys will vary in accordance with the Aluminum Industry Standards and customer specifications.

*** Section 4 - First Aid Measures ***

First Aid: Eyes

In case of contact with eyes, rinse immediately with plenty of water for 15 minutes and seek medical advice.

First Aid: Skin

For skin contact, flush with large amounts of water. If irritation persists, get medical attention. For contact with molten product, do not remove any material or clothing adhering to the skin. Flush the burned area immediately with large amounts of cold water. If it is possible, submerge the area in cold water. Immediately seek medical attention or contact a physician.

First Aid: Ingestion

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting unless instructed to do so by medical personnel.

First Aid: Inhalation

Remove immediately to fresh air. If symptoms develop or persist, seek immediate medical attention.

First Aid: Notes to Physician

*** Section 5 - Fire Fighting Measures ***

Flash Point: Not applicable

Method Used: Not applicable

Upper Flammable Limit (UFL): Not applicable

Lower Flammable Limit (LFL): Not applicable

Auto Ignition: Not applicable

Flammability Classification: Non Flammable

Rate of Burning: Not applicable

General Fire Hazards

Not expected to be a hazard in the solid form. Molten metal may react with water or other liquids to form violent spattering and/or explosion.

Hazardous Combustion Products

Fumes of aluminum oxide and the alloying metals may evolve upon melting. Decomposition of this product may yield metallic oxides.

Extinguishing Media

Dry chemical, foam, water, sand. When molten, avoid using water.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self contained breathing apparatus.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

Containment of this material should not be necessary. If dusts generate, eliminate ignition source.

Clean-Up Procedures

Collect spill using a vacuum cleaner with a HEPA filter. Place in a closed container. Clean-up personnel should wear suitable protective equipment.

Evacuation Procedures

Keep unnecessary personnel away.

GenFlex Roofing Systems

Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

Special Procedures

For molten metal, contain the flow over the floor using sand or salt flux as a dam. Do not attempt to halt the flow of molten metal with shovels or hand tools.

*** Section 7 - Handling and Storage ***

Handling Procedures

Avoid inhalation of dusts. Avoid contact with skin and eyes. Prevent the buildup of dusts from this product. Wash thoroughly after handling.

Storage Procedures

None identified.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Iron oxide (1309-37-1)

ACGIH: as Fe: 5 mg/m³ TWA (welding fumes, dust, total particulate (N.O.C.))

OSHA: fume: 10 mg/m³ TWA

NIOSH: as Fe: 5 mg/m³ TWA

Magnesium oxide (1309-48-4)

ACGIH: 10 mg/m³ TWA

OSHA: total particulate: 10 mg/m³ TWA

NIOSH: no established RELs - see Appendix D

Zinc oxide (1314-13-2)

ACGIH: fume: 5 mg/m³ TWA; dust: 10 mg/m³ TWA (The value for Zinc oxide 'dust' is for total dust containing no asbestos and < 1% crystalline silica)

fume: 10 mg/m³ STEL

OSHA: fume: 5 mg/m³ TWA; total dust: 10 mg/m³ TWA; respirable fraction: 5 mg/m³ TWA

fume: 10 mg/m³ STEL

NIOSH: fume/dust: 5 mg/m³ TWA

10 mg/m³ STEL

C 15 mg/m³ (dust)

Aluminum (7429-90-5)

ACGIH: metal dust, as Al: 10 mg/m³ TWA

OSHA: total dust, as Al: 15 mg/m³ TWA; respirable fraction, as Al: 5 mg/m³ TWA

NIOSH: total: 10 mg/m³ TWA; respirable dust: 5 mg/m³ TWA; pyro powders and welding fumes: 5 mg/m³ TWA; soluble salts and alkyls: 2 mg/m³ TWA

Manganese (7439-96-5)

ACGIH: as Mn, 0.2 mg/m³ TWA

OSHA: fume, as Mn: 1 mg/m³ TWA

compounds, as Mn: C 5 mg/m³

NIOSH: as Mn: 1 mg/m³ TWA

3 mg/m³ STEL

GenFlex Roofing Systems

Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

Nickel (7440-02-0)

ACGIH: metal, inhalable fraction: 1.5 mg/m³ TWA

OSHA: 1 mg/m³ TWA

NIOSH: as Ni: 0.015 mg/m³ TWA; NIOSH Potential Occupational Carcinogen - see Appendix A

Silicon (7440-21-3)

ACGIH: 10 mg/m³ TWA

OSHA: total dust: 10 mg/m³ TWA; respirable fraction: 5 mg/m³ TWA

NIOSH: total: 10 mg/m³ TWA; respirable dust: 5 mg/m³ TWA

Copper (7440-50-8)

ACGIH: fume: 0.2 mg/m³ TWA; dusts and mists, as Cu: 1 mg/m³ TWA

OSHA: fume, as Cu: 0.1 mg/m³ TWA

NIOSH: as Cu: 1 mg/m³ TWA (dusts and mists); 0.1 mg/m³ TWA (fume)

Engineering Controls

Under normal handling and use conditions of this product, exposure to hazardous ingredients is unlikely due to product form. The exposure limits provided are for reference purposes in the event that dusts are generated. Keep formation of airborne dusts to a minimum.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety goggles with side shields. During thermal processing, wear chemical goggles; face shield (if splashing is possible).

Personal Protective Equipment: Skin

Use impervious gloves. For molten metal, heat and flame resistant gloves and clothing should be worn.

Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively remove and prevent buildup of dusts or processing fumes, appropriate NIOSH approved respiratory protection must be provided.

Personal Protective Equipment: General

Use good industrial hygiene practices in handling this material.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Silvery white	Odor:	Odorless
Physical State:	Solid	pH:	Not available
Vapor Pressure:	Not applicable	Vapor Density:	Not applicable
Boiling Point:	970°C (Zn) - 1800°C (Al), melting range 507° C - 649° C	Solubility (H₂O):	Insoluble
Specific Gravity:	7.55	Freezing Point:	1550°C
Evaporation Rate:	Not applicable	Flash Point	Not Applicable

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Stable under normal conditions.

Chemical Stability: Conditions to Avoid

Upon melting, moisture entrapped in molten aluminum causes an exothermic chemical reaction with violent spattering and / or explosion. Solid aluminum must be preheated to eliminate moisture before adding to molten metal.

GenFlex Roofing Systems

Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

Incompatibility

None as a solid. Avoid contact between molten aluminum and metal oxides, rust, oxidized copper or nitrates. Avoid contact between molten metal and moisture. All surfaces and tools coming into contact with molten aluminum should be dry.

Concrete can deteriorate and explode on contact with molten aluminum. Areas subject to spills should be protected with firebrick or special concrete.

Hazardous Decomposition

Aluminum and aluminum alloys do not decompose, but fumes of aluminum oxide and the alloying metals may evolve when melting. Decomposition of this product may yield metallic oxides.

Hazardous Polymerization

Hazardous polymerization will not occur.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

No information available for the product.

Prolonged or repeated contact with nickel can cause allergic skin reactions including redness, itching and a rash in sensitive individuals. Prolonged or repeated inhalation of nickel compounds may also result in allergic lung reactions producing an asthma-like condition. Occupational exposure to nickel has been associated with respiratory cancers.

Chronic overexposure to aluminum can result in lung damage and has been associated with asthma-like syndrome. Accumulation of aluminum in the body may result in neurological damage, anemia and bone softening.

Chronic overexposure to fumes of copper has caused skin irritation and discoloration of the skin and hair. Chronic overexposures to iron oxide fume has resulted in a benign pneumoconiosis called siderosis. This condition has not been found to cause fibrosis or decreased pulmonary function. Siderosis has not been associated with illness or decreased life expectancy.

Iron dust, in the form of metallic iron or iron oxides, can irritate the eyes and respiratory tract from mechanical action. Chronic exposure to iron inhalation (as iron oxide) leads to accumulation in the lungs and a characteristic stippled appearance on X-rays. This condition, called siderosis, is considered benign in that it does not interfere with lung function and does not predispose to other disease.

Exposure to magnesium oxide may result in fume fever. Fume fever is a temporary flu-like condition characterized by chills, fever, muscle aches and pains, nausea and vomiting. Typically the symptoms appear within a few hours after exposure and subside within 2-3 days with no permanent effects.

Overexposure to manganese dusts may result in pneumoconiosis, a lung disease due to permanent deposition of substantial amounts of particulate matter in the lungs. Overexposure to manganese may result in CNS effects, anemia and pneumonitis which increases the risk of pneumonia. Workers exposed to manganese dusts have been reported to develop "manganism", a disorder of the central nervous system with symptoms which may include masklike facial expression, spastic gait, tremors, slurred speech, sometimes dystonia, fatigability, anorexia, asthenia, apathy and inability to concentrate. Inhalation of dusts containing manganese compounds can cause metal fume fever which involves a transient onset of flu-like symptoms. Exposure to manganese compounds may result in toxic accumulation in critical organs such as the liver, kidney and brain.

Zinc poisoning can cause anemia, lethargy and dizziness. Inhalation of zinc fumes may cause metal fume fever, a flu-like illness generally lasting 24 hours or less.

B: Component Analysis - LD50/LC50

Zinc oxide (1314-13-2)

Inhalation LC50 Mouse : 2500 mg/m³

Oral LD50 Mouse : 7950 mg/kg

GenFlex Roofing Systems

Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

Manganese (7439-96-5)

Oral LD50 Rat : 9 gm/kg

Silicon (7440-21-3)

Oral LD50 Rat : 3160 mg/kg

Carcinogenicity

A: General Product Information

No carcinogenicity data available for this product.

The carcinogenic effect of nickel has been well documented in occupationally exposed nickel refinery workers. Lung and nasal cancers were the predominant forms of cancer in the exposed workers. (car)

B: Component Carcinogenicity

Iron oxide (1309-37-1)

ACGIH: as Fe: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 1, Supplement 7; 1987 (Group 3 (not classifiable))

Nickel (7440-02-0)

ACGIH: A5 - Not Suspected as a Human Carcinogen

NIOSH: occupational carcinogen

NTP: Suspect Carcinogen; (under Nickel and Certain Nickel Compounds) (Possible Select Carcinogen)

IARC: Monograph 49; 1990 (and alloys) (Group 2B (sufficient animal data))

Epidemiology

No data available for this product.

A number of occupational health surveys and epidemiological studies have shown an association between sustained exposure to airborne manganese compounds or fumes and chronic neurologic disorders.

Asthma induced by occupational exposure to nickel has been documented. The asthma can result from either primary irritation or from an allergic response.

Contact dermatitis in workers exposed to nickel compounds is one of the most prevalent effects of nickel exposure.

Neurotoxicity

No data available for this product.

Chronic overexposure to manganese can cause "manganism". Manganism is characterized by fatigue, irritability, headaches and asthenia. Symptoms are reversible when exposure stops. Chronic overexposure to manganese compounds may result in CNS effects such as weakness, sleepiness, emotional instability and spastic gait. These effects can be permanent.

Iron magnesium zinc oxide has been shown to be toxic to embryos when given by inhalation to rats.

Mutagenicity

No data available for this product.

Teratogenicity

No information available for the product.

Other Toxicological Information

None available.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

No data available for this product.

GenFlex Roofing Systems Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Environmental Fate

No data available for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

Waste should be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Allow spills of molten metal to cool, then remelt as scrap. If spilled material becomes contaminated, decontaminate and use as scrap or contact manufacturer. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Not regulated for transportation.

International Transportation Regulations

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

None identified.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Aluminum (7429-90-5)

SARA 313: form R reporting required for 1.0% de minimis concentration (fume or dust only)

Manganese (7439-96-5)

SARA 313: form R reporting required for 1.0% de minimis concentration

Nickel (7440-02-0)

SARA 313: form R reporting required for 0.1% de minimis concentration

CERCLA: final RQ = 100 pounds (45.4 kg) (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is equal to or exceeds 0.004 inches)

Copper (7440-50-8)

SARA 313: form R reporting required for 1.0% de minimis concentration

CERCLA: final RQ = 5000 pounds (2270 kg) (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is equal to or exceeds 0.004 inches)

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

GenFlex Roofing Systems Material Safety Data Sheet

Material Name: GenFast™ Termination Bar

January 18, 2008

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Iron oxide	1309-37-1	Yes	Yes	Yes	Yes	Yes	Yes
Magnesium oxide	1309-48-4	Yes	Yes	Yes	Yes	Yes	Yes
Zinc oxide	1314-13-2	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum	7429-90-5	Yes	Yes	Yes	Yes	Yes	Yes
Manganese	7439-96-5	Yes	Yes	Yes	Yes	Yes	Yes
Nickel	7440-02-0	Yes	Yes	Yes	Yes	Yes	Yes
Silicon	7440-21-3	No	No	Yes	Yes	Yes	Yes
Copper	7440-50-8	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Other Regulations

A: General Product Information

No additional information.

B: Component Analysis - Inventory

Component.	CAS #	TSCA	DSL	EINECS
Iron oxide	1309-37-1	Yes	Yes	Yes
Magnesium oxide	1309-48-4	Yes	Yes	Yes
Zinc oxide	1314-13-2	Yes	Yes	Yes
Aluminum	7429-90-5	Yes	Yes	Yes
Manganese	7439-96-5	Yes	Yes	Yes
Nickel	7440-02-0	Yes	Yes	Yes
Silicon	7440-21-3	Yes	Yes	Yes
Copper	7440-50-8	Yes	Yes	Yes

C: TSCA 12(b) Export Notification

This material has no components listed.

D: Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

*** Section 16 - Other Information ***

Date of Previous MSDS: April 3, 2007

Changes Since Previous MSDS: Section 1 – Company address change.

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

*** Disclaimer ***

The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or

**GenFlex Roofing Systems
Material Safety Data Sheet**

Material Name: GenFast™ Termination Bar

January 18, 2008

representative. GenFlex Roofing Systems, LLC, a subsidiary of Bridgestone Firestone Diversified Products, LLC, assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, GenFlex Roofing Systems, LLC assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.