16. OTHER INFORMATION (CONTINUED)

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This material safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and with the Workplace Hazardous Materials Information System (WHMIS).

Disclaimer of Liability:
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained for the use thereof.

National Gypsum COMPANY

Material Safety Data Sheet

MSDS No: GB-1008

Gold Bond® BRAND e^2XP Interior Extreme Products

Date: July 26, 2011
March 25, 2010

1. PRODUCT AND COMPANY INFORMATION

Manufacturer Information:
National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211

For Emergency Product Information Call:
Director Quality Services
(704) 551-5820 - 24 Hour Emergency Response
Website: www.nationalgypsum.com

Product Name:	**e^2XP Interior Extreme** **e^2XP Interior Extreme AR (Abuse Resistant)** **e^2XP Interior Extreme IR (Impact Resistant)**
Use:	Interior building walls where moisture is a concern
Generic Descriptions:	Article composite. **e^2XP Interior Extreme** gypsum panels consist of a fire resistant, moisture resistant gypsum core encased in a moisture resistant, coated fiberglass mat.

2. HAZARDS IDENTIFICATION

Appearance and Odor: A gypsum core wrapped with an off white coated fiberglass mat. Composite material provides mildew protection. No odor.

Contains no asbestos. HMIS Hazard Class No. 1, 0, 0.

Emergency Overview

e^2XP Interior Extreme panels do not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which results in the generation of airborne particulate. This product contains quartz (crystalline silica) as a naturally occurring contaminant. It is recommended that a NIOSH approved particulate respirator be worn whenever working with this product results in airborne dust exposure exceeding the prescribed limits.
(See Section 11 - Toxicological Information)

OSHA Regulatory Status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

2. HAZARDS IDENTIFICATION (CONTINUED)

Potential Health Effects

Primary Routes of Entry: Inhalation, Dermal contact

Target Organs: Respiratory system, skin, eyes.

Inhalation: Acute exposure to airborne dust concentrations in excess of the PEL/TLV may result in coughing, dyspnea, wheezing, general irritation of the nose, throat, and upper respiratory tract, and impaired pulmonary function. Chronic exposures may result in lung disease (silicosis and/or lung cancer). (See Section 11 - Toxicological Information)

Exposures to respirable crystalline silica have not been documented during normal use of this product. However, good housekeeping practices and industrial hygiene monitoring is recommended when the potential for significant exposure exists.

Skin Contact: Continued and prolonged contact may result in dry skin. Contact with dust or glass fibers may produce itching, rash and/or redness. Repeated or prolonged exposure may result in dermatitis.

Eye Contact: Direct contact may cause mechanical irritation.

Ingestion: No known adverse effects. May result in obstruction or temporary irritation of the digestive tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-Number	Weight Percent
Calcium Sulfate Dihydrate (Gypsum)	10101-41-4	>91
Crystalline Silica (Quartz)	14808-60-7	varies
Vermiculite	1318-00-9	<2
Fiberglass, synthetic, vitreous, continuous	65997-17-3	<1%
Proprietary Additives*	NA	<5

* Note: No single proprietary ingredient is in excess of 1% (0.1% for carcinogens) of the mixture.

4. FIRST AID MEASURES

- **Inhalation:** Remove exposed individual to fresh air immediately. If breathing difficulty persists, seek medical attention.
- **Skin:** Flush and wash skin with soap and water. Utilize lotions to alleviate dryness if present. Seek medical attention if irritation persists.
- **Eye:** Immediately flush eyes with water for 15 minutes. Remove contact lenses (if applicable). Seek medical attention if irritation persists.
- **Ingestion:** Gypsum is non-hazardous and no harmful effects are expected upon ingestion of small amounts. Larger amounts may cause abdominal discomfort or possible obstruction of the digestive tract. Seek medical attention if problems persist.

5. FIRE FIGHTING MEASURES

Flammable Properties
- Not flammable or combustible
- NFPA Hazard Class No: 1/0/0

Extinguishing media
- Dry chemical, foam, water, fog or spray

Protection of firefighters
- Standard protective equipment and precautions

Fire and Explosion Hazards
- None

Hazardous Combustion Products
- None
- Above 1450°C, material can decompose and release sulfur dioxide (SO_2) and oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Not applicable, as product is an article composite.

General recommendations:

- Wear appropriate Personal Protective Equipment. (See Section 8)
- Maintain proper ventilation.
- Pick-up larger pieces to avoid a tripping hazard. Return large pieces of damaged/scraped material for recycling. Sweep or vacuum remaining material into a waste container for disposal. Use a light water spray to minimize dust generation.
- Waste material is not a hazardous waste. Dispose of in accordance with applicable federal, state, and local regulations.

7. HANDLING AND STORAGE

- Avoid contact with eyes, skin and clothing.
- Wear recommended personal protective equipment when handling. (See Section 8)
- Avoid breathing dust.
- Minimize generation of dust.
- Utilize proper lifting techniques when moving product and employ mechanical/ergonomic assistance when possible (i.e. move with forklifts, hold in place with lifts) to minimize the risk of back injury.
- Store material in a cool, dry, ventilated area.
- Store panels flat to minimize damage and warping.
- Do not stack panels too high when storing to minimize the risk of falling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

	Exposure Limits	
Component	OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)
Calcium Sulfate Dihydrate (Gypsum)	15 (T) 5 (R)	10 (T)
Crystalline Silica (Quartz)	0.1 (R)	0.025 (R)
Fiberglass, synthetic, vitreous, continuous	15 (T) 5 (R)	1 f/cc (R)
Proprietary Additives	NA	NA

T- Total Dust
R- Respirable Dust

Engineering Controls

- Work/Hygiene Practices: The score and snap method of cutting is recommended. Sawing, drilling or machining will produce dust.
- Ventilation: Provide local and general exhaust ventilation to maintain a dust level below the PEL/TLV.
- Utilize wet methods, when appropriate, to reduce generation of dust.

Personal Protective Equipment

- Respiratory Protection: A NIOSH approved particulate respirator is recommended in poorly ventilated areas or if the PEL/TLV is exceeded. OSHA's 29 CFR 1910.134 (Respiratory Protection Standard) must be followed whenever work conditions require respirator use.
- Eye Protection: Safety glasses or goggles.
- Skin: Gloves, protective clothing and/or barrier creams may be utilized if conditions warrant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Coated gypsum boards with white/gray core
Odor: None
Physical State: Solid
Ph: ~7
Solubility (H2O): 2.1 g/L @ 20°C
Boiling, Freezing, Melting Point: Not Applicable
Decomposition Temperature: 1450°C
Vapor pressure: Not Applicable
Vapor density: Not Applicable
Volatile organic compounds (VOC) content: None

Flammability: Not Applicable
Flash Point: Not Applicable
Upper/Lower explosive limits: Not applicable
Auto-ignition temperature: Not Applicable
Partition coefficient: n-octanol/water: Not applicable
Evaporation rate: Not Applicable
Molecular weight: 172.2 grams
Molecular formula: $CaSO_4.2H_2O$
Specific Gravity: 2.31 g/cc
Bulk Density: ~55 lb/ft3

10. STABILITY AND REACTIVITY

Chemical stability: Stable in dry environments.
Conditions to avoid: Contact with strong acids may result in generation of carbon dioxide.
Incompatibility: None
Hazardous decomposition: Above 1450°C gypsum will decompose to calcium oxide (CaO), with releases of sulfur dioxide (SO_2) and various oxides of carbon.
Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Data presented is for the major component of this product: Gypsum (calcium sulfate dihydrate)

Human Data
There is no information on toxicokinetics, metabolism and distribution.

There have been reports of irritation to mucus membranes of the eyes and respiratory tract upon acute exposure to dusts in excess of the recommended limits.

Chronic exposure to crystalline silica (a naturally occurring contaminant in gypsum) in the respirable size has been shown to cause silicosis, a debilitating lung disease. In addition, the International Agency for Research on Cancer (IARC) classifies crystalline silica inhaled in the form of quartz or cristobalite from occupational sources as carcinogenic to humans, Group 1. The National Toxicology Program (NTP) classifies respirable crystalline silica as a substance which may be reasonably anticipated to be a carcinogen. OSHA does not regulate crystalline silica as a human carcinogen. Industrial hygiene monitoring to date has not identified any detectable respirable crystalline silica in dust sampling conducted during gypsum panel installation utilizing recommended procedures.

Animal Data
The acute oral toxicity study [OECD TG 420, Fixed dose procedure] of calcium sulfate dihydrate showed that this chemical did not cause any changes even at 2,000 mg/kg b.w. Therefore, the oral LD_{50} value was more than 2,000-mg/kg b.w. for female rats (Sprague-Dawley).

Calcium sulfate, dihydrate was not irritating to the skin of rabbits at 1, 24, 48 and 72 hours after removal of test patches [OECD TG 404]. There is no indication of skin sensitization in guinea pigs [OECD TG 406].

Invivo and *Invitro* studies for mutagenicity were negative.

Reproduction/Developmental Toxicity Screening Tests were negative.

12. ECOLOGICAL INFORMATION

This product does not present an ecological hazard to the environment.

Ecotoxicological Information
Toxicity studies performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect.

Environmental Fate
Gypsum is a naturally occurring mineral. Biodegradation and/or bioaccumulation potential is not applicable.

13. DISPOSAL CONSIDERATIONS

- Dispose of according to Local, State, Federal, and Provincial Environmental Regulations.
- Recycle if possible.

14. TRANSPORT INFORMATION

- This product is not a DOT hazardous material
- Shipping Name: Same as product name
- ICAO/IATA/IMO: Not applicable

15. REGULATORY INFORMATION

All ingredients are included on the TSCA inventory.

Federal Regulations

SARA Title III: Not listed under Sections 302, 304, and 313
CERCLA: Not listed
RCRA: Not listed
OSHA: Dust and potential respirable crystalline silica generated during product use may be hazardous.

State Regulations
California Prop 65: Respirable crystalline silica is known to the state of California to cause cancer. Industrial hygiene monitoring during recommended use of this product failed to identify any respirable crystalline silica.

Canada WHMIS
All components of this product are included in the Canadian Domestic Substances List (DSL).
Crystalline silica: WHMIS Classification D2A

16. OTHER INFORMATION

MSDS Revision Summary

No revisions - New MSDS

Key/Legend

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Services Number
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
HEPA	High Efficiency Particulate Air
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

16. OTHER INFORMATION (CONTINUED)

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This material safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and with the Workplace Hazardous Materials Information System (WHMIS).

Disclaimer of Liability:
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained for the use thereof.

National Gypsum COMPANY

Material Safety Data Sheet

MSDS No: GB-1009

Gold Bond® BRAND e^2XP Tile Backer

Date: November, 2010
New Product

1. PRODUCT AND COMPANY INFORMATION

Manufacturer Information:
National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211

For Emergency Product Information Call:
Director Quality Services
(704) 551-5820 - 24 Hour Emergency Response
Website: www.nationalgypsum.com

Product Name: **e^2XP Tile Backer**

Use: Interior building walls where moisture is a concern

Generic Descriptions: **e^2XP Tile Backer** is an acrylic-coated moisture and mold resistant gypsum panel specially designed for use as a substrate for tile applications in high moisture areas.

2. HAZARDS IDENTIFICATION

Appearance and Odor: A gypsum core wrapped with an off white coated fiberglass mat. Composite material provides mildew protection. No odor.

Contains no asbestos. HMIS Hazard Class No. 1, 0, 0.

Emergency Overview

e^2XP Tile Backer panels do not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which results in the generation of airborne particulate. This product contains quartz (crystalline silica) as a naturally occurring contaminant. It is recommended that a NIOSH approved particulate respirator be worn whenever working with this product results in airborne dust exposure exceeding the prescribed limits.
(See Section 11 - Toxicological Information)

OSHA Regulatory Status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

2. HAZARDS IDENTIFICATION (CONTINUED)

Potential Health Effects

Primary Routes of Entry: Inhalation, Dermal contact

Target Organs: Respiratory system, skin, eyes.

Inhalation: Acute exposure to airborne dust concentrations in excess of the PEL/TLV may result in coughing, dyspnea, wheezing, general irritation of the nose, throat, and upper respiratory tract, and impaired pulmonary function. Chronic exposures may result in lung disease (silicosis and/or lung cancer). (See Section 11 - Toxicological Information)

Exposures to respirable crystalline silica have not been documented during normal use of this product. However, good housekeeping practices and industrial hygiene monitoring is recommended when the potential for significant exposure exists.

Skin Contact: Continued and prolonged contact may result in dry skin. Contact with dust or glass fibers may produce itching, rash and/or redness. Repeated or prolonged exposure may result in dermatitis.

Eye Contact: Direct contact may cause mechanical irritation.

Ingestion: No known adverse effects. May result in obstruction or temporary irritation of the digestive tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-Number	Weight Percent
Calcium Sulfate Dihydrate (Gypsum)	10101-41-4	>91
Crystalline Silica (Quartz)	14808-60-7	varies
Vermiculite	1318-00-9	<2
Fiberglass, synthetic, vitreous, continuous	65997-17-3	<1%
Proprietary Additives*	NA	<5

* Note: No single proprietary ingredient is in excess of 1% (0.1% for carcinogens) of the mixture.

4. FIRST AID MEASURES

- **Inhalation:** Remove exposed individual to fresh air immediately. If breathing difficulty persists, seek medical attention.
- **Skin:** Flush and wash skin with soap and water. Utilize lotions to alleviate dryness if present. Seek medical attention if irritation persists.
- **Eye:** Immediately flush eyes with water for 15 minutes. Remove contact lenses (if applicable). Seek medical attention if irritation persists.
- **Ingestion:** Gypsum is non-hazardous and no harmful effects are expected upon ingestion of small amounts. Larger amounts may cause abdominal discomfort or possible obstruction of the digestive tract. Seek medical attention if problems persist.

5. FIRE FIGHTING MEASURES

Flammable Properties
- Not flammable or combustible
- NFPA Hazard Class No: 1/0/0

Extinguishing media
- Dry chemical, foam, water, fog or spray

Protection of firefighters
- Standard protective equipment and precautions

Fire and Explosion Hazards
- None

Hazardous Combustion Products
- None
- Above 1450°C, material can decompose and release sulfur dioxide (SO_2) and oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Not applicable, as product is an article composite.

General recommendations:

- Wear appropriate Personal Protective Equipment. (See Section 8)
- Maintain proper ventilation.
- Pick-up larger pieces to avoid a tripping hazard. Return large pieces of damaged/scraped material for recycling. Sweep or vacuum remaining material into a waste container for disposal. Use a light water spray to minimize dust generation.
- Waste material is not a hazardous waste. Dispose of in accordance with applicable federal, state, and local regulations.

7. HANDLING AND STORAGE

- Avoid contact with eyes, skin and clothing.
- Wear recommended personal protective equipment when handling. (See Section 8)
- Avoid breathing dust.
- Minimize generation of dust.
- Utilize proper lifting techniques when moving product and employ mechanical/ergonomic assistance when possible (i.e. move with forklifts, hold in place with lifts) to minimize the risk of back injury.
- Store material in a cool, dry, ventilated area.
- Store panels flat to minimize damage and warping.
- Do not stack panels too high when storing to minimize the risk of falling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	Exposure Limits OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)
Calcium Sulfate Dihydrate (Gypsum)	15 (T) 5 (R)	10 (T)
Crystalline Silica (Quartz)	0.1 (R)	0.025 (R)
Fiberglass, synthetic, vitreous, continuous	15 (T) 5 (R)	1 f/cc (R)
Proprietary Additives	NA	NA

T- Total Dust
R- Respirable Dust

Engineering Controls

- Work/Hygiene Practices: The score and snap method of cutting is recommended. Sawing, drilling or machining will produce dust.
- Ventilation: Provide local and general exhaust ventilation to maintain a dust level below the PEL/TLV.
- Utilize wet methods, when appropriate, to reduce generation of dust.

Personal Protective Equipment

- Respiratory Protection: A NIOSH approved particulate respirator is recommended in poorly ventilated areas or if the PEL/TLV is exceeded. OSHA's 29 CFR 1910.134 (Respiratory Protection Standard) must be followed whenever work conditions require respirator use.
- Eye Protection: Safety glasses or goggles.
- Skin: Gloves, protective clothing and/or barrier creams may be utilized if conditions warrant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Coated gypsum boards with white/gray core
Odor: None
Physical State: Solid
Ph: ~7
Solubility (H2O): 2.1 g/L @ 20°C
Boiling, Freezing, Melting Point: Not Applicable
Decomposition Temperature: 1450°C
Vapor pressure: Not Applicable
Vapor density: Not Applicable
Volatile organic compounds (VOC) content: None

Flammability: Not Applicable
Flash Point: Not Applicable
Upper/Lower explosive limits: Not applicable
Auto-ignition temperature: Not Applicable
Partition coefficient: n-octanol/water: Not applicable
Evaporation rate: Not Applicable
Molecular weight: 172.2 grams
Molecular formula: $CaSO_4.2H_2O$
Specific Gravity: 2.31 g/cc
Bulk Density: ~55 lb/ft3

10. STABILITY AND REACTIVITY

Chemical stability: Stable in dry environments.
Conditions to avoid: Contact with strong acids may result in generation of carbon dioxide.
Incompatibility: None
Hazardous decomposition: Above 1450°C gypsum will decompose to calcium oxide (CaO), with releases of sulfur dioxide (SO_2) and various oxides of carbon.
Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Data presented is for the major component of this product: Gypsum (calcium sulfate dihydrate)

Human Data
There is no information on toxicokinetics, metabolism and distribution.

There have been reports of irritation to mucus membranes of the eyes and respiratory tract upon acute exposure to dusts in excess of the recommended limits.

Chronic exposure to crystalline silica (a naturally occurring contaminant in gypsum) in the respirable size has been shown to cause silicosis, a debilitating lung disease. In addition, the International Agency for Research on Cancer (IARC) classifies crystalline silica inhaled in the form of quartz or cristobalite from occupational sources as carcinogenic to humans, Group 1. The National Toxicology Program (NTP) classifies respirable crystalline silica as a substance which may be reasonably anticipated to be a carcinogen. OSHA does not regulate crystalline silica as a human carcinogen. Industrial hygiene monitoring to date has not identified any detectable respirable crystalline silica in dust sampling conducted during gypsum panel installation utilizing recommended procedures.

Animal Data
The acute oral toxicity study [OECD TG 420, Fixed dose procedure] of calcium sulfate dihydrate showed that this chemical did not cause any changes even at 2,000 mg/kg b.w. Therefore, the oral LD_{50} value was more than 2,000-mg/kg b.w. for female rats (Sprague-Dawley).

Calcium sulfate, dihydrate was not irritating to the skin of rabbits at 1, 24, 48 and 72 hours after removal of test patches [OECD TG 404]. There is no indication of skin sensitization in guinea pigs [OECD TG 406].

Invivo and *Invitro* studies for mutagenicity were negative.

Reproduction/Developmental Toxicity Screening Tests were negative.

12. ECOLOGICAL INFORMATION

This product does not present an ecological hazard to the environment.

Ecotoxicological Information
Toxicity studies performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect.

Environmental Fate
Gypsum is a naturally occurring mineral. Biodegradation and/or bioaccumulation potential is not applicable.

13. DISPOSAL CONSIDERATIONS

- Dispose of according to Local, State, Federal, and Provincial Environmental Regulations.
- Recycle if possible.

14. TRANSPORT INFORMATION

- This product is not a DOT hazardous material
- Shipping Name: Same as product name
- ICAO/IATA/IMO: Not applicable

15. REGULATORY INFORMATION

All ingredients are included on the TSCA inventory.

Federal Regulations

SARA Title III: Not listed under Sections 302, 304, and 313
CERCLA: Not listed
RCRA: Not listed
OSHA: Dust and potential respirable crystalline silica generated during product use may be hazardous.

State Regulations
California Prop 65: Respirable crystalline silica is known to the state of California to cause cancer. Industrial hygiene monitoring during recommended use of this product failed to identify any respirable crystalline silica.

Canada WHMIS
All components of this product are included in the Canadian Domestic Substances List (DSL).
Crystalline silica: WHMIS Classification D2A

16. OTHER INFORMATION

MSDS Revision Summary

No revisions - New MSDS

Key/Legend

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Services Number
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
HEPA	High Efficiency Particulate Air
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

16. OTHER INFORMATION (CONTINUED)

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This material safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and with the Workplace Hazardous Materials Information System (WHMIS).

Disclaimer of Liability:
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained for the use thereof.

National Gypsum

Material Safety Data Sheet

MSDS No: GB-1504

PermaBase® BRAND Cement Board Products

Date: July 23,2012

Supersedes Date: July 1,2009

1. PRODUCT AND COMPANY INFORMATION

Manufacturer Information:
National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211

For Emergency Product Information Call:
Director Quality Services
(704) 551-5820 - 24 Hour Emergency Response
Website: www.nationalgypsum.com

Product Name:	**PermaBase** **PermaBase Flex** **PermaBase UltraBacker**
Use:	Underlayment for Ceramic Tile on floors, countertops, EIFS systems.
Generic Descriptions:	Gray cementitious material sandwiched between two layers of a fiberglass mesh scrim or a fiberglass mat laminate with a reinforced edge.

2. HAZARDS IDENTIFICATION

Appearance and Odor: Gray solid with slight organic odor upon opening that dissipates quickly.

Contains no asbestos. HMIS Hazard Class No. 1, 0, 0.

Emergency Overview

PermaBase® BRAND Cement Board Products do not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which result in the generation of airborne particulate. Dust generated is alkaline, and could cause corrosive damage to skin, tissues, and eyes. Wear eye and skin protection. This product also contains quartz (crystalline silica) as a naturally occurring contaminant. It is recommended that a NIOSH approved particulate respirator be worn whenever working with this product results in airborne dust exposure exceeding the prescribed limits. (See Section 11 - Toxicological Information)

OSHA Regulatory Status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

2. HAZARDS IDENTIFICATION (CONTINUED)

Potential Health Effects

Primary Routes of Entry: Inhalation, Dermal contact

Target Organs: Respiratory system, skin, eyes.

Inhalation: Acute exposure to airborne dust concentrations in excess of the PEL/TLV may result in coughing, dyspnea, wheezing, and a burning irritation of the nose, throat, and upper respiratory tract, along with possible impaired pulmonary function. Chronic exposures may result in lung disease (silicosis and/or lung cancer). (See Section 11 - Toxicological Information)

Exposures to respirable crystalline silica have not been documented during normal use of this product. However, good housekeeping practices and industrial hygiene monitoring is recommended when the potential for significant exposure exists.

Skin Contact: Contact with wet portland cement may cause severe irritation, redness, and possible burns. Continued and prolonged contact may result in drying of the skin. Contact with dust or glass fibers may produce itching, rash and/or redness. Repeated or prolonged exposure may result in dermatitis.

Eye Contact: Contact with dust may cause burns and/or mechanical irritation. Do not wear contact lenses if dust will be generated.

Ingestion: Wet product is alkaline, and may cause chemical burns to the mouth, throat, esophagus and stomach. Gastrointestinal irritation or bleeding may develop.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-Number	Weight Percent
Portland Cement	65997-15-1	<25
High Alumina Cement	65997-16-2	<6
Pozzolan		<25
Sand		<50
Naphthalene Sulfonate		<2
Crystalline Silica (Quartz)	14808-60-7	<5
Fiberglass scrim or fiberglass glas mat laminate	65997-17-3	<5

4. FIRST AID MEASURES

- **Inhalation:** Remove exposed individual to fresh air immediately. If breathing difficulty persists, seek medical attention.
- **Skin:** Flush and wash skin with soap and water. Utilize lotions to alleviate dryness if present. Seek medical attention if irritation persists.
- **Eye:** Do not rub or scratch eyes. Immediately flush eyes with water for 15 minutes. Seek medical attention to evaluate for burns or scratches.
- **Ingestion:** Product is not intended to be ingested. Large amounts may cause abdominal discomfort or possible obstruction of the digestive tract. Seek medical attention if problems persist.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	Exposure Limits OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)
Portland Cement	15 (T) 5 (R)	10 (T)
High Alumina Cement	10 (T) 5 (R	10 (T)
Pozzolan		
Sand		
Naphthalene Sulfonate		
Crystalline Silica (Quartz)	0.1 (R)	0.025 (R)
Fiberglass Scrim	15 (T) 5 (R)	1 f/cc (R)

T-Total Dust
-Respirable Dust

Engineering Controls

- Work/Hygiene Practices: The score and snap method of cutting is recommended. Sawing, drilling or machining will produce dust.
- Ventilation: Provide local and general exhaust ventilation to maintain a dust level below the PEL/TLV.
- Utilize wet methods, when appropriate, to reduce generation of dust.

Personal Protective Equipment

- Respiratory Protection: A NIOSH approved particulate respirator is recommended in poorly ventilated areas or if the PEL/TLV is exceeded. OSHA's 29 CFR 1910.134 (Respiratory Protection Standard) must be followed whenever work conditions require respirator use.
- Eye Protection: Safety glasses or goggles.
- Skin: Gloves, protective clothing and/or barrier creams may be utilized if conditions warrant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gray color
Odor: Low to none
Physical State: Solid
Ph: ~12
Solubility (H2O): Slight
Boiling, Freezing, Melting Point: Not Applicable
Decomposition Temperature: Not Applicable
Vapor pressure: Not Applicable
Vapor density: Not Applicable
Volatile organic compounds (VOC) content: None

Flammability: Not Applicable
Flash Point: Not Applicable
Upper/Lower explosive limits: Not applicable
Auto-ignition temperature: Not Applicable
Partition coefficient: n-octanol/water: Not applicable
Evaporation rate: Not Applicable
Molecular weight: mixture
Molecular formula: Not applicable
Specific Gravity: ~1.2
Bulk Density: ~73 lbs/ft³

10. STABILITY AND REACTIVITY

Chemical stability: Stable in dry environments.
Conditions to avoid: Contact with strong acids
Incompatibility: None
Hazardous decomposition: None known
Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Human Data
There is no information on toxicokinetics, metabolism and distribution.

There have been reports of irritation and burns to mucus membranes of the eyes and respiratory tract upon acute exposure to dusts in excess of the recommended limits.

Chronic exposure to crystalline silica (a naturally occurring contaminant) in the respirable size has been shown to cause silicosis, a debilitating lung disease. In addition, the International Agency for Research on Cancer (IARC) classifies crystalline silica inhaled in the form of quartz or cristobalite from occupational sources as carcinogenic to humans, Group 1. The National Toxicology Program (NTP) classifies respirable crystalline silica as a substance which may be reasonably anticipated to be a carcinogen. OSHA does not regulate crystalline silica as a human carcinogen. Industrial hygiene monitoring to date has not identified any detectable respirable crystalline silica in dust sampling conducted during gypsum panel installation utilizing recommended procedures.

Animal Data
LD_{50} and LC_{50} data not available.

12. ECOLOGICAL INFORMATION

This product could be toxic to fish due to its high alkalinity from the portland cement. No studies are available.

13. DISPOSAL CONSIDERATIONS

- Dispose of according to Local, State, Federal, and Provincial Environmental Regulations.
- Recycle if possible.

14. TRANSPORT INFORMATION

- This product is not a DOT hazardous material
- Shipping Name: Same as product name
- ICAO/IATA/IMO: Not applicable

15. REGULATORY INFORMATION

All ingredients are included on the TSCA inventory.

Federal Regulations

SARA Title III: Not listed under Sections 302, 304, and 313
CERCLA: Not listed
RCRA: Not listed
OSHA: Dust and potential respirable crystalline silica generated during product use may be hazardous.

15. Regulatory Information (Continued)

State Regulations
California Prop 65: Respirable crystalline silica is known to the state of California to cause cancer. Industrial hygiene monitoring during recommended use of this product failed to identify any respirable crystalline silica.

Canada WHMIS
All components of this product are included in the Canadian Domestic Substances List (DSL).
Crystalline silica: WHMIS Classification D2A

16. OTHER INFORMATION

MSDS Revision Summary
Effective Date Change: 5/22/06 Supersedes: 1/26/04
Format Changes: ANSI Z400.1-2004

Key/Legend

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Services Number
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
HEPA	High Efficiency Particulate Air
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This material safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and with the Workplace Hazardous Materials Information System (WHMIS).

Disclaimer of Liability:
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained for the use thereof.

National Gypsum

Material Safety Data Sheet

MSDS No: GB-01507

Gold Bond® BRAND SoundBreak® XP® Gypsum Board

Date: October 1, 2009

Supercedes Date: July 1, 2009

1. PRODUCT AND COMPANY INFORMATION

Manufacturer Information:
National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211

For Emergency Product Information Call:
Director Quality Services
(704) 551-5820 - 24 Hour Emergency Response
Website: www.nationalgypsum.com

Product Name: **1/2" SoundBreak® XP® Gypsum Board**
5/8" SoundBreak® XP® Gypsum Board

Use: Construction of high STC wall systems

Generic Descriptions: Gold Bond **SoundBreak XP** gypsum board is an acoustically enhanced 5/8" gypsum board consisting of a layer of viscoelastic damping polymer sandwiched between two pieces of enhanced high-density mold resistant gypsum board.

2. HAZARDS IDENTIFICATION

Appearance and Odor: A gypsum core wrapped with paper. Surface finish will vary with product. No odor.

Contains no asbestos. HMIS Hazard Class No. 1, 0, 0.

Emergency Overview

SoundBreak® Gypsum Board products do not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which result in the generation of airborne particulate. This product contains quartz (crystalline silica) as a naturally occurring contaminant. It is recommended that a NIOSH approved particulate respirator be worn whenever working with this product results in airborne dust exposure exceeding the prescribed limits.
(See Section 11 - Toxicological Information)

OSHA Regulatory Status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

2. HAZARDS IDENTIFICATION (CONTINUED)

Potential Health Effects

Primary Routes of Entry: Inhalation, Dermal contact

Target Organs: Respiratory system, skin, eyes.

Inhalation: Acute exposure to airborne dust concentrations in excess of the PEL/TLV may result in coughing, dyspnea, wheezing, general irritation of the nose, throat, and upper respiratory tract, and impaired pulmonary function. Chronic exposures may result in lung disease (silicosis and/or lung cancer). (See Section 11 - Toxicological Information)

Exposures to respirable crystalline silica have not been documented during normal use of this product. However, good housekeeping practices and industrial hygiene monitoring is recommended when the potential for significant exposure exists.

Skin Contact: Continued and prolonged contact may result in dry skin. Contact with dust or glass fibers may produce itching, rash and/or redness. Repeated or prolonged exposure may result in dermatitis.

Eye Contact: Direct contact may cause mechanical irritation.

Ingestion: No known adverse effects. May result in obstruction or temporary irritation of the digestive tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-Number	Weight Percent
Calcium Sulfate Dihydrate (Gypsum)	10101-41-4	85-95
Crystalline Silica (Quartz)	14808-60-7	varies
Cellulose (Paper Fiber)	9004-34-6	5-15
Proprietary Polymer Additives	Mixture	2-3
And may contain:		
Fiberglas, synthetic, vitreous, continuous	65997-17-3	<1%

4. FIRST AID MEASURES

- **Inhalation:** Remove exposed individual to fresh air immediately. If breathing difficulty persists, seek medical attention.
- **Skin:** Flush and wash skin with soap and water. Utilize lotions to alleviate dryness if present. Seek medical attention if irritation persists.
- **Eye:** Immediately flush eyes with water for 15 minutes. Remove contact lenses (if applicable). Seek medical attention if irritation persists.
- **Ingestion:** Gypsum is non-hazardous and no harmful effects are expected upon ingestion of small amounts. Larger amounts may cause abdominal discomfort or possible obstruction of the digestive tract. Seek medical attention if problems persist.

5. FIRE FIGHTING MEASURES

Flammable Properties
- Not flammable or combustible
- NFPA Hazard Class No: 1/0/0

Extinguishing media
- Dry chemical, foam, water, fog or spray

Protection of firefighters
- Standard protective equipment and precautions

Fire and Explosion Hazards
- None

Hazardous Combustion Products
- None
- Above 1450°C, material can decompose and release sulfur dioxide (SO_2) and oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Not applicable, as product is an article composite.

General recommendations:

- Wear appropriate Personal Protective Equipment. (See Section 8)
- Maintain proper ventilation.
- Pick-up larger pieces to avoid a tripping hazard. Return large pieces of damaged/scraped material for recycling. Sweep or vacuum remaining material into a waste container for disposal. Use a light water spray to minimize dust generation.
- Waste material is not a hazardous waste. Dispose of in accordance with applicable federal, state, and local regulations.

7. HANDLING AND STORAGE

- Avoid contact with eyes, skin and clothing.
- Wear recommended personal protective equipment when handling. (See Section 8)
- Avoid breathing dust.
- Minimize generation of dust.
- Utilize proper lifting techniques when moving product and employ mechanical/ergonomic assistance when possible (i.e. move with forklifts, hold in place with lifts) to minimize the risk of back injury.
- Store material in a cool, dry, ventilated area.
- Store panels flat to minimize damage and warping.
- Do not stack panels too high when storing to minimize the risk of falling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

	Exposure Limits	
Component	OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)
Calcium Sulfate Dihydrate (Gypsum)	15 (T) 5 (R)	10 (T)
Crystalline Silica (Quartz)	0.1 (R)	0.025 (R)
Cellulose (Paper Fiber)	15 (T) 5 (R)	10 (T)
Proprietary Additives	NE	NE
Fiberglas, synthetic, vitreous, continuous	15 (T) 5 (R)	1 f/cc (R)

T- Total Dust
R- Respirable Dust
NE- Not established

Engineering Controls

- Work/Hygiene Practices: The score and snap method of cutting is recommended. Sawing, drilling or machining will produce dust.
- Ventilation: Provide local and general exhaust ventilation to maintain a dust level below the PEL/TLV.
- Utilize wet methods, when appropriate, to reduce generation of dust.

Personal Protective Equipment

- Respiratory Protection: A NIOSH approved particulate respirator is recommended in poorly ventilated areas or if the PEL/TLV is exceeded. OSHA's 29 CFR 1910.134 (Respiratory Protection Standard) must be followed whenever work conditions require respirator use.
- Eye Protection: Safety glasses or goggles.
- Skin: Gloves, protective clothing and/or barrier creams may be utilized if conditions warrant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: paper faced gypsum boards with white/gray core
Odor: None
Physical State: Solid
Ph: ~7
Solubility (H2O): 2.1 g/L @ 20°C
Boiling, Freezing, Melting Point: Not Applicable
Decomposition Temperature: 1450°C
Vapor pressure: Not Applicable
Vapor density: Not Applicable
Volatile organic compounds (VOC) content: None

Flammability: Not Applicable
Flash Point: Not Applicable
Upper/Lower explosive limits: Not applicable
Auto-ignition temperature: Not Applicable
Partition coefficient: n-octanol/water: Not applicable
Evaporation rate: Not Applicable
Molecular weight: 172.2 grams
Molecular formula: $CaSO_4.2H_2O$
Specific Gravity: 2.31 g/cc
Bulk Density: ~55 lb/ft3

10. STABILITY AND REACTIVITY

Chemical stability: Stable in dry environments.
Conditions to avoid: Contact with strong acids may result in generation of carbon dioxide.
Incompatibility: None
Hazardous decomposition: Above 1450°C gypsum will decompose to calcium oxide (CaO), with releases of sulfur dioxide (SO_2) and various oxides of carbon.
Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Data presented is for the major component of this product: Gypsum (calcium sulfate dihydrate)

Human Data
There is no information on toxicokinetics, metabolism and distribution.

There have been reports of irritation to mucus membranes of the eyes and respiratory tract upon acute exposure to dusts in excess of the recommended limits.

Chronic exposure to crystalline silica (a naturally occurring contaminant in gypsum) in the respirable size has been shown to cause silicosis, a debilitating lung disease. In addition, the International Agency for Research on Cancer (IARC) classifies crystalline silica inhaled in the form of quartz or cristobalite from occupational sources as carcinogenic to humans, Group 1. The National Toxicology Program (NTP) classifies respirable crystalline silica as a substance which may be reasonably anticipated to be a carcinogen. OSHA does not regulate crystalline silica as a human carcinogen. Industrial hygiene monitoring to date has not identified any detectable respirable crystalline silica in dust sampling conducted during gypsum panel installation utilizing recommended procedures.

Animal Data
The acute oral toxicity study [OECD TG 420, Fixed dose procedure] of calcium sulfate dihydrate showed that this chemical did not cause any changes even at 2,000 mg/kg b.w. Therefore, the oral LD_{50} value was more than 2,000-mg/kg b.w. for female rats (Sprague-Dawley).

Calcium sulfate, dihydrate was not irritating to the skin of rabbits at 1, 24, 48 and 72 hours after removal of test patches [OECD TG 404]. There is no indication of skin sensitization in guinea pigs [OECD TG 406].

Invivo and *Invitro* studies for mutagenicity were negative.

Reproduction/Developmental Toxicity Screening Tests were negative.

12. ECOLOGICAL INFORMATION

This product does not present an ecological hazard to the environment.

Ecotoxicological Information
Toxicity studies performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect.

Environmental Fate
Gypsum is a naturally occurring mineral. Biodegradation and/or bioaccumulation potential is not applicable.

13. DISPOSAL CONSIDERATIONS

- Dispose of according to Local, State, Federal, and Provincial Environmental Regulations.
- Recycle if possible.

14. TRANSPORT INFORMATION

- This product is not a DOT hazardous material
- Shipping Name: Same as product name
- ICAO/IATA/IMO: Not applicable

15. REGULATORY INFORMATION

All ingredients are included on the TSCA inventory.

Federal Regulations

SARA Title III: Not listed under Sections 302, 304, and 313
CERCLA: Not listed
RCRA: Not listed
OSHA: Dust and potential respirable crystalline silica generated during product use may be hazardous.

State Regulations
California Prop 65: Respirable crystalline silica is known to the state of California to cause cancer. Industrial hygiene monitoring during recommended use of this product failed to identify any respirable crystalline silica.

Canada WHMIS
All components of this product are included in the Canadian Domestic Substances List (DSL).
Crystalline silica: WHMIS Classification D2A

16. OTHER INFORMATION

MSDS Revision Summary

No revisions - New MSDS

Key/Legend

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Services Number
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
HEPA	High Efficiency Particulate Air
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System

16. OTHER INFORMATION (CONTINUED)

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This material safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and with the Workplace Hazardous Materials Information System (WHMIS).

Disclaimer of Liability:
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained for the use thereof.

MATERIAL SAFETY DATA SHEET
FIBEROCK® Abuse-Resistant Panels

SECTION 1
CHEMICAL PRODUCT AND IDENTIFICATION

United States Gypsum Company 550 West Adams Street Chicago, Illinois 60661-3637 A Subsidiary of USG Corporation	Product Safety: 1 (800) 507-8899 www.usg.com Version Date: January 1, 2011 Version: 7

PRODUCT(S)	FIBEROCK® Abuse-Resistant Panels
CHEMICAL FAMILY / GENERAL CATEGORY	Wallboard, FIBEROCK
SYNONYMS	Fiber-Reinforced Gypsum Panels Product

SECTION 2
HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:
ΔWARNING!
This product is not expected to produce any unusual hazards during normal use. Exposure to high dust levels may irritate the skin, eyes, nose, throat, or upper respiratory tract. This product does not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which result in the generation of airborne particulate. This product contains quartz (crystalline silica) as a naturally occurring contaminant.

POTENTIAL HEALTH EFFECTS (See Section 11 for more information)

ACUTE :

Inhalation	Exposure to dust generated during the handling or use of the product may cause temporary irritation to eyes, skin, nose, throat, and upper respiratory tract. Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation. Labored breathing may occur after excessive inhalation. If respiratory symptoms persist, consult physician.
Eyes	Dust can cause temporary mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician.
Skin	None known.
Ingestion	None known.

CHRONIC:

Inhalation	The concentration of respirable crystalline silica measured in bulk samples of USG gypsum was less than 0.1 Wt.%. Industrial hygiene testing, following the NIOSH Method 7500, did not detect respirable crystalline silica in dust created during the cutting of USG gypsum wallboard panels by both the recommended score and snap technique and with the use of a power saw in a 10ft by 10ft room. Panels do not release respirable dust in their installed state and therefore do not present any known health hazards when installed and properly maintained. Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. The risk of developing silicosis is dependent upon the exposure intensity and duration.

Eyes	None known.
Skin	None known.
Ingestion	None known.

TARGET ORGANS: Eyes, skin and respiratory system.

PRIMARY ROUTES OF ENTRY: Inhalation, eyes and skin contact.

CARCINOGENICITY CLASSIFICATION OF INGREDIENT(S) All substances listed are associated with the nature of the raw materials used in the manufacture of this product and are not independent components of the product formulation. All substances, if present, are at levels well below regulatory limits. See Section 11: Toxicology Information for detailed information.

MATERIAL	IARC	NTP	ACGIH	CAL- 65
Crystalline silica	1	1	A2	Listed

IARC - International Agency for Research on Cancer: 1- Carcinogenic to humans; 2A – Probably carcinogenic to humans; 2B – Possibly carcinogenic to humans; 3 - Not classifiable as a carcinogen; 4 – Probably not a carcinogen

NTP – National Toxicology Program (Health and Human Services Dept., Public Health Service, NIH/NIEHS): 1- Known to be carcinogen; 2- Anticipated to be carcinogens

ACGIH – American Conference of Governmental Industrial Hygienists: A1 – Confirmed human carcinogen; A2 – Suspected human carcinogen; A3 – Animal carcinogen; A4 - Not classifiable as a carcinogen; A5 – Not suspected as a human carcinogen

CAL-65 – California Proposition 65 "Chemicals known to the State of California to Cause Cancer"

Respirable crystalline silica: IARC: Group 1 carcinogen, NTP: Known human carcinogen. The weight percent of crystalline silica given represents total quartz and not the respirable fraction. The weight percent of respirable silica has not been measured in this product.

POTENTIAL ENVIRONMENTAL EFFECTS: Toxicity studies of gypsum performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect. (See Section 12 for more information.)

SECTION 3
COMPOSITION, INFORMATION ON INGREDIENTS

MATERIAL	WT%	CAS #
Calcium Sulfate Dihydrate ($CaSO_4 \cdot 2H_2O$)	>80	10101-41-4
Cellulose	<20	9004-34-6
Crystalline Silica	<5	14808-60-7^

All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory and the Canadian Domestic Substances List (DSL).

^The weight percent for silica represents total quartz and not the respirable fraction.

SECTION 4
FIRST AID MEASURES

FIRST AID PROCEDURES

Inhalation	Remove to fresh air. Leave the area of exposure and remain away until coughing and other symptoms subside. Other measures are usually not necessary, however if conditions warrant, contact physician.

Eyes	In case of contact, do not rub or scratch your eyes. To prevent mechanical irritation, flush thoroughly with water for 15 minutes. If irritation persists, consult physician.
Skin	Wash with mild soap and water. If irritation persists, consult physician.
Ingestion	This product is not intended to be ingested or eaten. If gastric disturbance occurs, call physician.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED: Pre-existing upper respiratory and lung diseases such as, but not limited to, bronchitis, emphysema and asthma. Pre-existing skin diseases such as, but not limited to, rashes and dermatitis.

NOTES TO PHYSICIAN: Treatment should be directed at the control of symptoms and the clinical condition.

SECTION 5
FIRE FIGHTING MEASURES

General Fire Hazards	None known
Extinguishing Media	Water or use extinguishing media appropriate for surrounding fire.
Special Fire Fighting Procedures	Wear appropriate personal protective equipment. See section 8.
Unusual Fire/ Explosion Hazards	None known
Hazardous Combustion Products	None known

Flash Point	Not Determined	**Auto Ignition**	Not Applicable
Method Used	Not Applicable	**Flammability Classification**	Not Applicable
Upper Flammable Limit (UFL)	Not Determined		
Lower Flammable Limit (LFL)	Not Determined	**Rate of Burning**	Not Applicable

SECTION 6
ACCIDENTAL RELEASE MEASURES

CONTAINMENT: Collect panels from spillage and if not damaged or contaminated by foreign material, panels may be reclaimed.

CLEAN-UP: Use normal clean up procedures. No special precautions.

DISPOSAL: Follow all local, state, provincial and federal regulations. Never discharge large releases directly into sewers or surface waters.

SECTION 7
HANDLING AND STORAGE

HANDLING: Avoid dust contact with eyes and skin. Wear the appropriate eye and skin protection against dust (See Section 8). Minimize dust generation and accumulation. Avoid breathing dust. Wear the appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded (see Sections 2 and 8). Use good safety and industrial hygiene practices. When moving board with a forklift or similar equipment, it is essential that the equipment be rated capable of handling the loads. The forks should always be long enough to extend completely through the width of the load. Fork spacing between supports should be one half the length of the panels or base being handled so that a maximum of 4' extends beyond the supports on either end.

Follow traditional building practices; such as management of water away from the interior of the structure to avoid the growth of mold, mildew and fungus. Remove any building products suspected of being exposed to sustained moisture and considered conducive to mold growth from the jobsite.

Gypsum panels are very heavy awkward loads posing the risk of severe back injury. Use proper lifting techniques.

STORAGE: Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities (see Section 10). Protect product from physical damage.

Protect from weather and prevent exposure to sustained moisture.

Gypsum Association literature recommends storing board flat to avoid damaging edges, warping the board and the potential safety hazards of the board falling over. However, in other situations, storing the board flat may cause a tripping hazard or exceed floor limit loads. If stacking board vertically, leave at least 4 inches from the wall to decrease the risk of falling board and no more than 6 inches to avoid too much lateral weight against the wall.

SECTION 8
EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	WT%	TLV (mg/m^3)	PEL(mg/m^3)
Calcium Sulfate Dihydrate ($CaSO4 \cdot 2H2O$)	>80	10	15(T)/5(R)
Cellulose	<20	10	15(T)/5(R)
Crystalline Silica	<5	0.025(R)	0.1(R)

(T)–Total; (R)–Respirable; (NE)-Not Established; (C)-Ceiling; (STEL)-Short-term exposure limit
(F)-Fume; (Du)-Dust; (M)-Mist
ppm-part per million; f/cc-fiber per cubic centimeter; mppcf- million particles per cubic foot

ENGINEERING CONTROLS: Provide ventilation sufficient to control airborne dust levels. If user operations generate airborne dust, use ventilation to keep dust concentrations below permissible exposure limits. Where general ventilation is inadequate, use process enclosures, local exhaust ventilation, or other engineering controls to control dust levels below permissible exposure limits.

RESPIRATORY PROTECTION: Wear a NIOSH/MSHA-approved respirator equipped with particulate cartridges when dusty in poorly ventilated areas, and if TLV is exceeded. A respiratory program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. If engineering controls are not possible, wear a properly fitted NIOSH/MSHA-approved particulate respirator.

OTHER PERSONAL PROTECTIVE EQUIPMENT:

Eye/Face	Wear eye protection, safety glasses or goggles, to avoid possible eye contact.
Skin	Wear gloves and protective clothing to prevent repeated or prolonged skin contact.

General	Selection of Personal Protective Equipment will depend on environmental working conditions and operations.

SECTION 9
PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Off white to tan board	**Vapor Density (Air = 1)**	Not Applicable
Odor	Low to no odor	**Specific Gravity (H_2O = 1)**	2.32 – 2.96
Odor Threshold	Not Determined	**Solubility in water (g/100g)**	0.26/100g
Physical State	Solid	**Partition Coefficient**	Not Applicable
pH @ 25 ° C	~ 7	**Auto-Ignition Temp**	Not Determined
Melting Point	Not Applicable	**Decomposition Temp**	2650°F/1450°C
Freezing Point	Not Applicable	**Viscosity**	Not Applicable
Boiling Point	Not Applicable	**Particle Size**	Not Applicable
Flash Point	Not Determined	**Bulk Density**	54-62 lb/ft3
Evaporation Rate (BuAc = 1)	Not Applicable	**Molecular Weight**	~ 172
Upper Flammable Limit (UFL)	Not Determined	**VOC Content**	Zero g/L
Lower Flammable Limit (LFL)	Not Determined	**Percent Volatile**	Zero
Vapor Pressure (mm Hg)	Not Applicable		

SECTION 10
CHEMICAL STABILITY AND REACTIVITY

STABILITY	Stable.
CONDITIONS TO AVOID	Contact with incompatibles (see below).
INCOMPATIBILITY	None known.
HAZARDOUS POLYMERIZATION	None known.
HAZARDOUS DECOMPOSITION	None known.

SECTION 11
TOXICOLOGICAL INFORMATION

ACUTE EFFECTS: The acute oral toxicity study [OECD TG 420] of calcium sulfate dihydrate showed that this chemical did not cause any changes even at 2,000 mg/kg b.w. Therefore, the oral LD50 value was more than 2,000-mg/kg b.w. for female rats. Gypsum paste applied experimentally to the eyes of rabbits was not an irritant. Gypsum dust particulate has shown an irritant action on mucous membranes of the respiratory tract and eyes. The sulfate ion has caused gastro-intestinal disturbance in humans following large oral doses. Limited studies involving the repeated inhalation of an (unspecified) calcium sulfate failed to identify any particular target organs in monkeys, rats and hamsters. No evidence of mutagenicity was found in Ames bacterial tests.

CHRONIC EFFECTS / CARCINOGENICITY: Panels do not release respirable dust in their installed state and therefore do not present any known health hazards when installed and properly maintained.

Crystalline Silica: Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. The weight percent of respirable crystalline silica may not have been measured in this product. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. Smoking in combination with silica exposures increases the risk of cancer. The risk of developing silicosis is dependent upon the exposure intensity and duration.

In June, 1997, IARC classified crystalline silica (quartz and cristobalite) as a human carcinogen. In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.

IARC states that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

SECTION 12
ECOLOGICAL INFORMATION

ENVIRONMENTAL TOXICITY: This product has no known adverse effect on ecology. Toxicity studies of gypsum performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect.

Ecotoxicity value	Not determined.

SECTION 13
DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of material in accordance with federal, state, and local regulations. Never discharge directly into sewers or surface waters. Consult with environmental regulatory agencies for guidance on acceptable disposal practices.

SECTION 14
TRANSPORT INFORMATION

U.S. DOT INFORMATION: Not a hazardous material per DOT shipping requirements. Not classified or regulated.

Shipping Name	Same as product name.
Hazard Class	Not classified.
UN/NA #	None. Not classified.
Packing Group	None.
Label (s) Required	Not applicable.
GGVSec/MDG-Code	Not classified.
ICAO/IATA-DGR	Not applicable.
RID/ADR	None.
ADNR	None.

SECTION 15
REGULATORY INFORMATION

UNITED STATES REGULATIONS

All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory.

MATERIAL	WT%	302	304	313	CERCLA	CAA Sec. 112	RCRA Code
Calcium Sulfate Dihydrate (CaSO4•2H2O)	>80	NL	NL	NL	NL	NL	NL
Cellulose	<20	NL	NL	NL	NL	NL	NL
Crystalline Silica	<5	NL	NL	NL	NL	NL	NL

Key : NL = Not Listed

SARA Title III Section 302 (EPCRA) Extremely Hazardous Substances: Threshold Planning Quantity (TPQ)

SARA Title III Section 304 (EPCRA) Extremely Hazardous Substances: Reportable Quantity (RQ)

SARA Title III Section 313 (EPCRA) Toxic Chemicals: X= Subject to reporting under section 313

CERCLA Hazardous Substances: Reportable Quantity (RQ)

CAA Section 112 (r) Regulated Chemicals for Accidental Release Prevention: Threshold Quantities(TQ)

RCRA Hazardous Waste: RCRA hazardous waste code

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of Controlled Product regulations and the MSDS contains all the information required by the Controlled Products Regulations. All ingredients of this product are included in the Canadian Domestic Substances List (DSL).

MATERIAL	WT%	IDL Item #	WHMIS Classification
Calcium Sulfate Dihydrate (CaSO4•2H2O)	>80	Not Listed	Not Listed
Cellulose	<20	Not Listed	Not Listed
Crystalline Silica	<5	1406	D2A

IDL Item#: Canadian Hazardous Products Act – Ingredient Disclosure List Item #

WHMIS Classification: Workplace Hazardous Material Information System

Risk and Safety Phrases defined by European Union Directive 67/548/EEC (Annex III and IV)

R-Phrase(s): R36/37/38

S-Phrase(s): S51 S38 S39

SECTION 16
OTHER INFORMATION

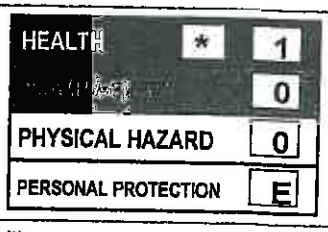
MATERIAL SAFETY DATA SHEET
FIBEROCK® Abuse-Resistant Panels

Label Information
Δ WARNING! Dust can cause irritation to eyes, skin and respiratory tract. Wear eye, skin and respiratory protection as necessary per working conditions. If eye contact occurs flush with water for 15 minutes. Do not ingest. If ingested, call physician. If cutting board with a power tool, use a wet or vacuum saw to reduce the amount of dust generated. Panels are heavy and can fall over, causing serious injury or death. Avoid creating a tripping hazard and do not exceed floor limit loads. Product safety information: 800-507-8899 or usg. com. Customer Service: 800 USG-4-YOU (800 874-4968). KEEP OUT OF REACH OF CHILDREN.

INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS

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

HMIS Ratings:	
Health:	1
Fire:	0
Reactivity:	0



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

E – Safety glasses, gloves and dust respirator; * - Contains silica

Key/Legend	
ANSI	American National Standards Institute
ACGIH	American Conference of Governmental Industrial Hygienists
CAA	Clean Air Act
CAS	Chemical Abstracts Service (Registry Number)
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
DOT	United States Department of Transportation
DSL	Canadian Domestic Substances List
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning & Community Right-to-know Act
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
MSHA	Mine Safety and Health Administration
NDSL	Canadian Non-Domestic Substances List
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Health and Safety Administration
PEL	Permissible Exposure Limit
PPE	Personal Protection Equipment
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act of 1986
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
UN/NA#	United Nations/North America number
WHMIS	Workplace Hazardous Material Information System

Prepared by:
Product Safety
USG Corporation
550 West Adams Street
Chicago, IL 60661-3637

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his/her own particular use.

END

CertainTeed
SAINT-GOBAIN

SAFETY DATA SHEET

Section 1: Product and Company Identification

Product Names: **GlasRoc® Shaftliner**
GlasRoc® Shaftliner Type X

Product Use: Area separation wall systems, elevator shaft construction and interior building walls.

Chemical Family: Calcium sulfate (gypsum) core with embedded fiberglass mats and a protective acrylic coating on the exterior face. This product contains no asbestos.

Supplier:

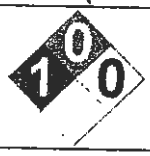
CertainTeed Gypsum, Inc.
4300 W. Cypress St., Suite 500
Tampa, FL 33607 USA
Web Site: www.certainteed.com

CertainTeed Gypsum Canada, Inc.
2424 Lakeshore Road West,
Mississauga, Ontario, Canada
L5J 1K4
Web Site: www.certainteed.com

Phone Number: Professional: 800-233-8990
Consumer: 800-782-8777

24-hour Emergency Number: **In case of an emergency call**
Team-1 Environmental Services Inc.
1-800-32 SPILL; 1-800-327-7455 (24 hrs)

Section 2: Hazards Identification

NFPA (USA)	WHMIS (Canada)	Transport Symbol
	 Not Controlled	Not Regulated for Transportation

Emergency Overview: CertainTeed GlasRoc® Shaftliner products do not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which result in the generation of airborne particulate.

Appearance, Color and Odor: Solid composite article. Boards with white core and surface coatings, odorless.

USA: While this product is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Canada: While this product is not regulated under WHMIS, this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Potential Health Effects **ACUTE (short term): see Section 8 for exposure controls**

Relevant Routes of Exposure: Inhalation, Skin contact, Eye contact

Inhalation: High concentrations of dust from cutting, sawing, sanding or machining, may cause coughing and mild, temporary irritation following a short-term exposure. Long-term inhalation exposure to crystalline silica can have potentially serious respiratory effects (see Chronic health effects below).

Ingestion: Avoid ingesting this product. Ingestion may cause gastrointestinal problems.

Skin: Dusts of this product may cause irritation.

Eye: Direct contact with the eyes may cause temporary irritation as a foreign object in the eye.

Section 2: Hazards Identification, continued

CHRONIC (long term): see Section 11 for additional toxicological data

Prolonged or repeated exposure to fine airborne crystalline silica dust may cause severe scarring of the lungs, a disease called silicosis. The risk of developing and the severity of silicosis depends on the airborne concentration of respirable-size silica dust to which an employee is exposed and the duration of exposure. Silicosis usually develops gradually over 20 years or more of exposure. Particles with diameters less than 1 micrometer are considered most hazardous. The amount of respirable silica generated from sanding operations will vary.

The early symptoms of silicosis are cough, mucous production and shortness of breath upon exertion. Silicosis may continue to develop even after exposure to crystalline silica has stopped.

The International Agency for Research on Cancer (IARC) has concluded that inhaled crystalline silica in the form of quartz from occupational sources should be classified as carcinogenic to humans (Group 1).

Medical Conditions Aggravated by Exposure: Skin contact may aggravate an existing dermatitis.

Interactions With Other Chemicals: Tobacco smoking in combination with long-term high dust exposures may increase both smoking and dust-related pulmonary health problems. Simultaneous exposure to other known carcinogens can increase the carcinogenicity of crystalline silica.

Potential Environmental Effects: No adverse effects known.

Section 3: Composition / Information on Ingredients

Hazardous Ingredients:

Chemical Name	CAS No.	Wt.%
Calcium sulfate	10101-41-4	89 - 96
Kaolin clay	1332-58-7	0 - 2.3
Fiberglass Mat	65997-17-3	1 - 2
Calcium carbonate	471-34-1	0 – 2.3
Vermiculite	1318-00-9	0 – 2.2
Crystalline silica (Quartz)	14808-60-7	0 - 0.7

Note: See Section 8 of this SDS for exposure limit data for these ingredients.

Section 4: First Aid Measures

Inhalation: If high airborne concentrations of dust are present, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). If symptoms develop, remove source of contamination or move victim to fresh air. Obtain medical advice.

Eye Contact: Do not allow victim to rub eyes. Let the eyes water naturally for a few minutes. Have victim look right and left, and then up and down. If particle/dust does not dislodge, flush with lukewarm, gently flowing water for 5 minutes or until particle/dust is removed, while holding the eyelids open. If irritation persists, immediately obtain medical attention. DO NOT attempt to manually remove anything stuck to the eye.

Skin Contact: No health effects expected. If irritation does occur, flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.

Ingestion: If irritation or discomfort occurs, obtain medical attention immediately.

Section 5: Fire Fighting Measures

Flammable Properties: Gypsum core and fiberglass mat facers are non-flammable and do not support combustion.

Suitable extinguishing Media: Use water or other extinguishing media appropriate for the surrounding fire.

Unsuitable extinguishing Media: Not available

Explosion Data

Sensitivity to Mechanical Impact: Not sensitive

Sensitivity to Static Discharge: Not sensitive

Specific Hazards arising from the Chemical: Calcium sulfate may decompose into corrosive calcium oxide and oxides of sulfur at about 1450°C (2642°F). Combustion of the product is expected to produce carbon dioxide, carbon monoxide, irritating, and potentially toxic, fumes and dense black smoke.

Protective Equipment and precautions for firefighters: As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance.

NFPA

Health:	1
Flammability:	0
Instability:	0

Section 6: Accidental Release Measures

Personal Precautions: Wear proper personal protective equipment as indicated in Section 8.

Environmental Precautions: Prevent material from contaminating soil and from entering sewers or waterways.

Methods for Containment: No special methods required.

Methods for Clean-up: Scoop or shovel spilled material into an appropriate waste container for disposal. Collect all spilled material for proper disposal. Dispose in accordance with federal, state and local regulations.

Other Information: Not available

Section 7: Handling and Storage

Handling: Avoid creating and breathing dust from this product. Avoid contact with eyes, skin and clothing. Minimize dust generation and accumulation. Wear protective glasses and gloves. If exposure limits are exceeded wear appropriate respiratory protection. (See Section 8)

Storage: KEEP OUT OF REACH OF CHILDREN. Store product flat. Protect from water and moisture. See Section 13 for disposal considerations.

CertainTeed
SAINT-GOBAIN

SAFETY DATA SHEET

Section 1: Product and Company Identification

Product Names: **GlasRoc® Sheathing**
GlasRoc® Sheathing Type X

Product Use: Exterior sheathing used in the construction of buildings.

Chemical Family: Calcium sulfate (gypsum) core with embedded fiberglass mats and a protective acrylic coating on the exterior face. Analyses of gypsum samples demonstrate that the concentration of crystalline silica as quartz is less than 0.025% (wt/wt %). This product contains no asbestos.

Supplier:

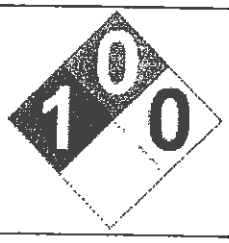
CertainTeed Gypsum, Inc.
4300 W. Cypress St., Suite 500
Tampa, FL 33607 USA
Web Site: www.certainteed.com

CertainTeed Gypsum Canada, Inc.
2424 Lakeshore Road West,
Mississauga, Ontario, Canada
L5J 1K4
Web Site: www.certainteed.com

Phone Number: Professional: 800-233-8990
Consumer: 800-782-8777

24-hour Emergency Number: **In case of an emergency call**
Team-1 Environmental Services Inc.
1-800-32 SPILL; 1-800-327-7455 (24 hrs)

Section 2: Hazards Identification

NFPA (USA)	WHMIS (Canada)	Transport Symbol
	**Not Controlled**	**Not Regulated for Transportation**

Emergency Overview: CertainTeed GlasRoc® Sheathing products do not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which result in the generation of airborne particulate.

Appearance, Color and Odor: Solid composite article. Boards with white core and surface coatings, odorless.

USA: While this product is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Canada: While this product is not regulated under WHMIS, this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Section 2: Hazards Identification, continued

Potential Health Effects: **ACUTE (short term): see Section 8 for exposure controls**

Relevant Route(s) of Exposure: Inhalation, Skin contact, Eye contact

Inhalation: High concentrations of dust from cutting, sawing, sanding or machining, may cause coughing and mild, temporary irritation following a short-term exposure. Long-term inhalation exposure to dusts can have respiratory effects (see Chronic health effects below).

Ingestion: Avoid ingesting this product. Ingestion may cause gastrointestinal problems.

Skin: Dusts of this product may cause irritation.

Eye: Direct contact with the eyes may cause temporary irritation as a foreign object in the eye.

CHRONIC (long term): see Section 11 for additional toxicological data

Heavy prolonged industrial exposure to high airborne concentrations of dust may cause impaired lung function. Chronic bronchitis, pulmonary fibrosis and respiratory tract lesions have also been reported with high level inhaled dust exposures.

Medical Conditions Aggravated by Exposure: Skin contact may aggravate an existing dermatitis.

Interactions With Other Chemicals: Tobacco smoking in combination with long-term high dust exposures may increase both smoking and dust-related pulmonary health problems.

Potential Environmental Effects: No adverse effects known.

Section 3: Composition / Information on Ingredients

Hazardous Ingredients:

Chemical Name	CAS No.	Wt.%
Calcium sulfate	10101-41-4	89-96
Fiberglass Mat	65997-17-3	1-2

Note: See Section 8 of this MSDS for exposure limit data for these ingredients.

Section 4: First Aid Measures

Inhalation: If high airborne concentrations of dust are present, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). If symptoms develop, remove source of contamination or move victim to fresh air. Obtain medical advice.

Eye Contact: Do not allow victim to rub eyes. Let the eyes water naturally for a few minutes. Have victim look right and left, and then up and down. If particle/dust does not dislodge, flush with lukewarm, gently flowing water for 5 minutes or until particle/dust is removed, while holding the eyelids open. If irritation persists, immediately obtain medical attention. DO NOT attempt to manually remove anything stuck to the eye.

Skin Contact: No health effects expected. If irritation does occur, flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.

Ingestion: If irritation or discomfort occurs, obtain medical attention immediately.

Section 5: Fire Fighting Measures

Flammable Properties: Gypsum core and fiberglass mat facers are non-flammable and do not support combustion.

Suitable extinguishing Media: Use water or other extinguishing media appropriate for the surrounding fire.

Unsuitable extinguishing Media: Not available

Explosion Data:
Sensitivity to Mechanical Impact: Not sensitive

Sensitivity to Static Discharge: Not sensitive

Specific Hazards arising from the Chemical: Calcium sulfate may decompose into corrosive calcium oxide and oxides of sulfur at about 1450°C (2642°F). Combustion of the product is expected to produce carbon dioxide, carbon monoxide, irritating, and potentially toxic, fumes and dense black smoke.

Protective Equipment and precautions for firefighters: As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance.

NFPA

Health:	1
Flammability:	0
Instability:	0

Section 6: Accidental Release Measures

Personal Precautions: Wear proper personal protective equipment as indicated in Section 8.

Environmental Precautions: Prevent material from contaminating soil and from entering sewers or waterways.

Methods for Containment: No special methods required.

Methods for Clean-up: Scoop or shovel spilled material into an appropriate waste container for disposal. Collect all spilled material for proper disposal. Dispose in accordance with federal, state and local regulations.

Other Information: Not available

Section 7: Handling and Storage

Handling: Avoid creating and breathing dust from this product. Avoid contact with eyes, skin and clothing. Minimize dust generation and accumulation. Wear protective glasses and gloves. If exposure limits are exceeded wear appropriate respiratory protection. (See Section 8)

Storage: KEEP OUT OF REACH OF CHILDREN. Store product flat. Protect from water and moisture. See Section 13 for disposal considerations.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

Ingredient	ACGIH TLV (8-hr. TWA) (mg/m^3)	U.S. OSHA PEL (8-hr. TWA) (mg/m^3)	Ontario (Canada) TWAEV (mg/m^3)
Calcium sulfate	10 (inhalable fraction)	15 (total dust); 5 (respirable fraction)	10
Fiberglass Mat – Synthetic Vitreous Fibers	5 (inhalable) 1 f/cc (respirable fibres)	15 (total dust); 5 (respirable fraction)	5 (inhalable) 1 f/cc (respirable fibres)
Particles Not Otherwise Specified	10 (inhalable particles); 3 (respirable)	15 (total dust); 5 (respirable fraction)	10 (inhalable particles); 3 (respirable)

Exposure Controls

Engineering Controls: General ventilation is adequate for application of product in its original form. During cutting, sanding operations, monitor dust concentrations in air and provide local exhaust ventilation when any exposure guideline is exceeded.

Personal Protection:

Eye/Face Protection: Wear safety glasses or goggles.

Skin Protection: Wear protective gloves to prevent irritation to the skin.

Respiratory Protection: When dust concentrations in air exceed the occupational exposure guidelines, always take the following precautions:

- Wear a NIOSH approved dust mask.
- Maintain adequate ventilation and air circulation.
- Warn others in the area.
- Use a NIOSH approved respirator when dust levels exceed any of the exposure guidelines listed in the table above.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or Canadian Standards Association (CSA) Standard Z94.4-02 must be followed whenever workplace conditions warrant a respirator's use.

Other Protective Equipment: Not applicable

General Hygiene Measures: Launder contaminated clothing before re-wearing, or discard. Do not eat, drink or smoke in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping.

Section 9: Physical and Chemical Properties

Physical State:	Solid	**Flash Point & method:**	Not applicable – Product is not combustible
Appearance, Color and Odor:	Boards with white core and surface coatings, odorless	**Autoignition Temperature:**	Not applicable
Odor Threshold:	Not applicable	**Flammability Limits in Air:**	Not applicable
pH:	7 – 9 (in aqueous slurry)	**Vapor Pressure:**	Not available
Specific Gravity: (water = 1)	2.30-2.37	**Vapor Density: (Air = 1)**	Not available
Partition coefficient: (n-octanol/water)	Not available	**Evaporation Rate: (n-Butyl Acetate = 1)**	Not available
Solubility:	0.2% (approximate)	**Boilling Point/Range:**	Not applicable
Viscosity:	Not available	**Melting Point:**	Not applicable
Decomposition Temperature:	1450°C (2642°F)		

Section 10: Stability and Reactivity

Chemical Stability: Stable.

Conditions to Avoid: Not available

Incompatible Materials: Gypsum is a stable, unreactive material under normal workplace conditions. Hazardous reactions may occur with some highly reactive materials or at high temperatures.

Hazardous Decomposition Products: Gypsum may decompose to form calcium oxide (CaO) and sulfur dioxide (SO_2) if product is exposed to extreme heat 1450°C (2642°F). Thermal decomposition products may include carbon monoxide, carbon dioxide, and dense black smoke.

Possibility of Hazardous Reactions: None known

Section 11: Toxicological Information

Acute Toxicity Data

	LD_{50} Oral (mg/kg)	LD_{50} Dermal (mg/kg)	LC_{50} Inhalation (4 hrs.)
Calcium sulfate	Not available	Not available	Not available
Fiberglass Mat	Not available	Not available	Not available

Chronic Toxicity Data

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

	ACGIH	IARC	NTP
Calcium sulfate	Not listed	Not listed	Not listed
Fiberglass Mat	A4	Group 3	Not listed

ACGIH: (American Conference of Governmental Industrial Hygienists)
A4: Not Classifiable as a Human Carcinogen
IARC: (International Agency for Research on Cancer)
Group 3: The agent is not classifiable as to its carcinogenicity in humans.
NTP: (National Toxicology Program)

Section 11: Toxicological Information, continued

Irritation:	Inhaling high concentrations of dust, during installation of product, may cause coughing and mild, temporary irritation. Dust from this product is irritating to the eyes as a foreign object. Contact with dust from this product can be irritating to the skin.
Corrosivity:	Not applicable
Sensitization:	Not applicable
Neurological Effects:	Not applicable
Genetic Effects:	Not applicable
Reproductive Effects:	Not applicable
Developmental Effects:	Not applicable
Other Adverse Effects:	Not applicable
Target Organ Effects:	Lungs.

Section 12: Ecological Information

Ecotoxicity:	Not applicable
Persistence/Degradability:	Not available
Bioaccumulation/Accumulation:	Not applicable
Mobility:	Not available

Section 13: Disposal Considerations

Waste Disposal Method:	Do NOT dump into any sewers, on the ground or into any body of water. Store material for disposal as indicated in Section 7 Handling and Storage.
United States:	Dispose of in accordance with local, state and federal laws and regulations. RCRA Waste Codes: Not applicable
Canada:	Dispose of in accordance with local, provincial and federal laws and regulations.

Section 14: Transport Information:

U.S. Hazardous Materials Regulation (DOT 49CFR):	Not regulated for transportation
Canadian Transportation of Dangerous Goods (TDG):	Not regulated for transportation
ADR/RID:	Not regulated for transportation
IMDG:	Not regulated for transportation
Marine Pollutants:	Not applicable
ICAO/IATA:	Not regulated for transportation

Section 15: Regulatory Information

USA

TSCA Status: All ingredients in the product are listed on the TSCA inventory.

SARA Title III
Sec. 302/304: None
Sec: 311/312: None
Sec. 313: None
CERCLA RQ: None

California Prop 65: This product may contain a substance known to the State of California to cause cancer.

Canada

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

WHMIS Status: (for workplace exposures) Not controlled

New Substance Notification Regulations: All substances in this product are listed on Canada's Domestic Substances List (DSL).

National Pollutant Release Inventory: There are no NPRI reportable substances in this product.

Section 16: Other Information

Prepared by:
LEHDER Environmental Services Limited
704 Mara Street, Suite 210
Pt. Edward, ON
N7V 1X4
www.lehder.com

Phone: 519-336-4101

Revision date: March 27, 2008

Revision summary: March 27, 2008: Updated product names.

Disclaimer: While LEHDER Environmental Services Limited believes that the data set forth herein is accurate, as of the date hereof, LEHDER makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification.

Manufacturer's Disclaimer: Information listed is believed to be accurate but not warranted or guaranteed.

ClarkDietrich BUILDING SYSTEMS

ClarkDietrich Building Systems
MSDS (Material Safety Data Sheet)
Steel Products

Revision Date: 10/13/2011

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Number: Sheet Steel
CAS Number: Not applicable
Synonyms: Hot Band, Cold Rolled, P&O, Galvanized
Use/Description: Steel for thin gauge products

Products: Cold-Formed Steel Framing components and accessories for drywall, curtain wall and loadbearing systems. Also includes Metal lath and plaster accessories.

Company Identification: ClarkDietrich Building Systems

Corporate Office:
9100 Center Pointe Dr. Suite 210
West Chester, OH 45069

Phone: (513) 870-1100
Fax: (513) 870-1300

Manufacturing Locations:

- Baltimore, MD
- Baytown, TX
- Bristol, CT
- Dade City, FL
- Dallas, TX
- Kapolei, HI
- Lenexa, KS
- McDonough, GA
- Riverside, CA
- Rochelle, IL
- Sacramento, CA
- Warren-East & West, OH

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components		CAS No.	% Weight	Exposure Limits			
				ACGIH TLV (mg/m^3)		OSHA PEL (mg/m^3)	
Base Metal:							
Iron	(Fe)	7439-89-6	Balance	5	Oxide Dust/Fume	10	Oxide Dust/Fume
Alloying Elements							
Aluminum	(Al)	7429-90-5	0-0.4	10 5	Dust Fume	15 5	Dust Respirable fraction
Antimony	(Sb)	7440-36-0	<0.9	0.5	As Antimony	0.5	As Antimony
Arsenic	(As)	7440-38-2	<0.09	0.01	As Arsenic (A1 Carcinogen)	0.01	As Arsenic
Beryllium	(Be)	7440-41-7	<0.09	0.002 0.01	As Beryllium (A1 Carcinogen) As Beryllium (STEL)	0.002 0.005	As Beryllium As Beryllium (Ceiling)
Boron	(B)	7440-42-8	<0.9	10	Oxide Dust	15	Oxide Dust
Cadmium	(Cd)	7440-43-9	<0.09	0.01 0.002	As Cadmium (A2 Carcinogen) Respirable fraction	0.005 0.0025	As Cadmium As Cadmium (Action Level)
Calcium	(Ca)	1305-78-8	<0.9	2	Oxide Dust	5	Oxide Dust
Carbon	(C)	7440-44-0	0.04-1.0		Not Established		Not Established
Chromium	(Cr)	7440-47-3	0.01-1.5	0.5	Metal	1	Metal
Cobalt	(Co)	7440-48-4	<0.09	0.02	As Cobalt (A3 Carcinogen)	0.1	Metal/Dust/Fume
Copper	(Cu)	7440-50-8	<0.9	1 0.2	Dust Fume	1 0.1	Dust Fume
Lead	(Pb)	7439-92-1	0.0-0.04	0.05	Dust / Fume (A3 Carcinogen)	0.05	Dust / Fume
Magnesium	(Mg)	7439-95-4	<0.9		Not Established		Not Established
Manganese	(Mn)	7439-96-5	0.1-3.0	0.2	Elemental Mn and Inorg Compounds	5	Fume (Ceiling)
Molybdenum	(Mo)	7439-98-7	<0.9	10	Insoluble Compounds	15	Insoluble Compounds

Components		CAS No.	% Weight	Exposure Limits			
				ACGIH TLV (mg/m³)		OSHA PEL (mg/m³)	
Niobium	(Nb)	7440-03-1	<0.9		Not Established		
Nickel	(Ni)	7440-02-0	0.01-1.5	1.5	Metal	1	Metal and Insoluble Compounds
Nitrogen	(N)	7727-37-9	<0.9		Simple Asphyxiant		Simple Asphyxiant
Phosphorus	(P)	7723-14-0	<0.9	0.1	Phosphorus	0.1	Phosphorus
Selenium	(Se)	7782-49-2	<0.9	0.2	Selenium	0.2	Selenium
Silicon	(Si)	7440-21-3	0.0-3.0	10	Dust	15	Dust
Sulfur	(S)	7446-09-05	<0.9	5.2 13	Sulfur Dioxide Sulfur Dioxide (STEL)	13	Sulfur Dioxide
Tin	(Sn)	7440-31-5	<0.9	2	Metal,Oxide and Inorganic Compounds	2	Inorganic Compounds
Titanium	(Ti)	7440-32-6	<0.9		Not Established		Not Established
Tungsten	(W)	7440-33-7	<0.9	5 10	Insoluble Compounds as W Insoluble Compounds as W (STEL)		Not Established
Vanadium	(V)	7440-62-2	<0.9	0.05	Oxide Dust/Fume	0.5 0.1	Oxide Dust (Ceiling) Oxide Fume (Ceiling)
Zinc	(Zn)	7440-66-6	0.0-0.01	10 5 10	Oxide Dust OxideFume Oxide Fume (STEL)	5 10	Oxide Fume Oxide Dust
Coatings and Finishing Treatments:							
Hydrochloric Acid	(HCl)	7647-01-0	<3				
Petroleum, Natural or Synthetic oils		Mixture	<0.1	5	Mist	5	Mist
Anhydrous Potassium Hydroxide		1310-58-3	<0.01	2	Ceiling	2	Ceiling
Glycine,nn-1,2-ethanediylbis		60-00-4	<0.01				
Polyalkylene glycol		Mixture	<0.01				
Sodium nitrite		7632-00-0	<0.01				
Zinc (galvanized)		7440-66-6	0.4 - 10	10 5 10	Oxide Dust OxideFume Oxide Fume (STEL)	5 10	Oxide Fume Oxide Dust

NOTE: No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel over all. The above listing is a summary of elements used in normal Nucor Steel Products. Various grades of steel will contain different combinations of these elements and/or trace materials. Exact specifications for specific products may be available upon request.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! WELDING, SAWING, BRAZING, GRINDING, AND MACHINING MAY CAUSE DUSTS AND/OR FUMES TO BE RELEASED. MAY BE HARMFUL IF INHALED. MAY IRRITATE THE EYES, SKIN, AND RESPIRATORY TRACT. MOLTEN MATERIAL MAY CAUSE THERMAL BURNS

Potential Health Effects

Note: Steel products in their solid state under normal conditions do not present an inhalation, ingestion or skin hazard. However, operations resulting in fume or particulate formation such as welding, sawing, brazing, grinding and machining may present health hazards. Molten steel also is hazardous.

Eye Contact

Dusts or particulates may cause mechanical irritation including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed. Fumes may be irritating. Contact with the heated material may cause thermal burns.

Skin Contact
Dusts or particulates may cause mechanical irritation due to abrasion. Coated steel may cause skin irritation in sensitive individuals (see Section 16 for additional information.) Some components in this product are capable of causing an allergic reaction, possibly resulting in burning, itching and skin eruptions. Contact with heated material may cause thermal burns.

Inhalation
Dusts may cause irritation of the nose, throat, and lungs. Excessive inhalation of metallic fumes and dusts may result in metal fume fever, an influenza-like illness. It is characterized by a sweet or metallic taste in the mouth, accompanied by dryness and irritation of the throat, cough, shortness of breath, pulmonary edema, general malaise, weakness, fatigue, muscle and joint pains, blurred vision, fever and chills. Typical symptoms last from 12 to 48 hours.

Ingestion
Not expected to be acutely toxic via ingestion based on the physical and chemical properties of the product. Swallowing of excessive amounts of the dust may cause irritation, nausea, and diarrhea.

Chronic or Special Toxic Effects
Repeated exposure to fine dusts may inflame the nasal mucosa and cause changes to the lung. In addition, a red-brown pigmentation of the eye and/or skin may occur.
Welding fumes have been associated with adverse health effects. Contains components that may cause cancer or reproductive effects. The following components are listed by NTP, OSHA, or IARC as carcinogens: Nickel, chromium (hexavalent), cobalt, lead, cadmium, antimony (trioxide), arsenic, beryllium. See Section 11, for additional, specific information on effects noted above.

Target Organs
Overexposure to specific components of this product that are generated in dusts or fumes may cause adverse effects to the following organs or systems: eyes, skin, liver, kidney, central nervous system, cardiovascular system, respiratory system,.

Medical Conditions Aggravated by Exposure
Diseases of the skin such as eczema may be aggravated by exposure. Also, disorders of the respiratory system including asthma, bronchitis, and emphysema. Long-term inhalation exposure to agents that cause pneumoconiosis (e.g. dust) may act synergistically with inhalation of oxide fumes or dusts of this product.

4. FIRST AID MEASURES

Eye Contact - In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.
Skin Contact - In case of overexposure to dusts or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, flush area with cold water and get immediate medical attention.
Inhalation - In case of overexposure to dusts or fumes, remove to fresh air. Get immediate medical attention if symptoms described in this MSDS develop.
Ingestion - Not considered an ingestion hazard. However, if excessive amounts of dust or particulates are swallowed, treat symptomatically and supportively. Get medical attention.
Notes to Physician - Inhalation of metal fume or metal oxides may produce an acute febrile state, with cough, chills, weakness, and general malaise, nausea, vomiting, muscle cramps, and remarkable leukocytosis. Treatment is symptomatic, and condition is self limited in 24-48 hours. Chronic exposure to dusts may result in pneumoconiosis of mixed type.

5. FIRE FIGHTING MEASURES

Flash Point (Method) - Not applicable
Flammable Limits (% volume in air) - Not applicable
Autoignition Temperature - Not applicable
Extinguishing Media - For molten metal, use dry powder or sand.
Special Fire Fighting Procedures - Do not use water on molten metal. Firefighters should not enter confined spaces without wearing NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

Unusual Fire or Explosion Hazards - Steel products do not present fire or explosion hazards under normal conditions. Fine metal particles such as produced in grinding or sawing can burn. High concentrations of metallic fines in the air may present an explosion hazard.

6. ACCIDENTAL RELEASE MEASURES

Precautions if Material is Spilled or Released - Emergency response is unlikely unless in the form of dust. Avoid inhalation, eye, or skin contact of dusts by using appropriate precautions outlined in this MSDS (see section 8). Fine turnings and small chips should be swept or vacuumed and placed into appropriate disposable containers. Keep fine dust or powder away from sources of ignition. Scrap should be reclaimed for recycling. Prevent materials from entering drains, sewers, or waterways.
Environmental Precautions - Some grades of steel may contain reportable quantities of alloying elements. See Section 15 for additional information.
Waste Disposal Methods - Dispose used or unused product in accordance with applicable Federal, State, and Local regulations.

7. HANDLING AND STORAGE

Storage Temperatures - Stable under normal temperatures and pressures.
Precautions to be Taken in Handling and Storing - Store away from strong oxidizers. Dusts or powders may form explosive mixtures with air. Avoid breathing dusts or fumes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Operations with potential for generating high concentrations of airborne particulates or fumes should be evaluated and controlled as necessary.
Eye Protection - Use safety glasses. Dust resistant safety goggles are recommended under circumstances where particles could cause mechanical injury such as grinding or cutting. Face shield should be used when welding or cutting.
Skin - Appropriate protective gloves should be worn as necessary. Good personal hygiene practices should be followed including cleansing exposed skin several times daily with soap and water, and laundering or dry cleaning soiled work clothing.
Respiratory Protection - NIOSH/MSHA approved dust/fume/mist respirator should be used to avoid excessive exposure. See Section 2 for component material information exposure limits. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator use, fitting, and training standards and regulations.
Ventilation - Provide general and/or local exhaust ventilation to control airborne levels of dust or fumes below exposure limits.
Exposure Guidelines - No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel. See Section 2 for component materials. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor - Red, Grey or other color steel panels, pulins, and built-up joists and trusses
Boiling Point - Not applicable
Melting Point - Approximately 2800 °F
pH - Not applicable
Specific Gravity (at 15.6 °C) - Not applicable
Density (at 15.6 °C) - Not applicable
Vapor Pressure - Not applicable
Vapor Density (air = 1) - Not applicable
% Volatile, by Volume - Not applicable
Solubility in Water - Insoluble.
Evaporation Rate (Butyl Acetate = 1) - Not applicable
Other Physical and Chemical Data - None

10. STABILITY AND REACTIVITY

Stability - Stable
Conditions to Avoid - Steel at temperatures above the melting point may liberate fumes containing oxides of iron and alloying elements. Avoid generation of airborne fume.
Hazardous Polymerization - Will not occur.
Incompatibility (Materials to Avoid) - Reacts with strong acids to form hydrogen gas. Do not store near strong oxidizers.
Hazardous Decomposition Products - Metallic fumes may be produced during welding, burning, grinding, and possibly machining or any situation with the potential for thermal decomposition. Refer to ANSI Z49.1

11. TOXICOLOGICAL INFORMATION

The primary component of this product is iron. Long-term exposure to iron dusts or fumes can result in a condition called siderosis which is considered to be a benign pneumoconiosis. Symptoms may include chronic bronchitis, emphysema, and shortness of breath upon exertion. Penetration of iron particles in the skin or eye may cause an exogenous or ocular siderosis which may be characterized by a red-brown pigmentation of the affected area. Ingestion overexposures to iron may affect the gastrointestinal, nervous, and hematopoietic system and the liver. Iron and steel founding, but not iron or iron oxide, has been listed as potentially carcinogenic by IARC.

When this product is welded, fumes are generated. Welding fumes may be different in composition from the original welding product, with the chief component being ordinary oxides of the metal being welded. Chronic health effects (including cancer) have been associated with the fumes and dusts of individual component metals (see above), and welding fumes as a general category have been listed by IARC as a carcinogen (Group 2B). There is also limited evidence that welding fumes may cause adverse reproductive and fetal effects. Evidence is stronger where welding materials contain known reproductive toxins, e.g., lead which may be present in the coating material of this product.

Breathing fumes or dusts of this product may result in metal fume fever, which is an illness produced by inhaling metal oxides. These oxides are produced by heating various metals including cadmium, zinc, magnesium, copper, antimony, nickel, cobalt, manganese, tin, lead, beryllium, silver, chromium, aluminum, selenium, iron, and arsenic. The most common agents involved are zinc and copper.

This product may contain small amounts of manganese. Prolonged exposure to manganese dusts or fumes is associated with "manganism", a Parkinson-like syndrome characterized by a variety of neurological symptoms including muscle spasms, gait disturbances, tremors, and psychoses.

This product may contain small amounts of cadmium. Primary target organs for cadmium overexposure are the lung and the kidney. Because of its cumulative nature, chronic cadmium poisoning can cause serious disease which takes many years to develop and may continue to progress despite cessation of exposure. Progression of the disease may not reflect current exposure conditions. It is also capable of causing a painful osteomalacia called "Itai-Itai" in postmenopausal women, and has cause developmental effects and/or reproductive effects in male and female animals. Cadmium is a listed carcinogen by NTP, OSHA, and IARC (Group 1).

This product may contain small amounts of chromium. Prolonged and repeated overexposure to chromium dusts or fumes may cause skin ulcers, nasal irritation and ulceration, kidney damage and cancer of the respiratory system. Chromium is skin sensitizer. Cancer is generally attributed to the hexavalent (+6) form of chromium which is listed as a carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of nickel. Prolonged and repeated contact with nickel may cause sensitization dermatitis. Inhalation of nickel compounds has caused lung damage as well as sinus, nasal and lung cancer in laboratory animals. Nickel is a listed carcinogen by NTP and IARC (Group 1).