

Fire-Shield®

Gypsum Board

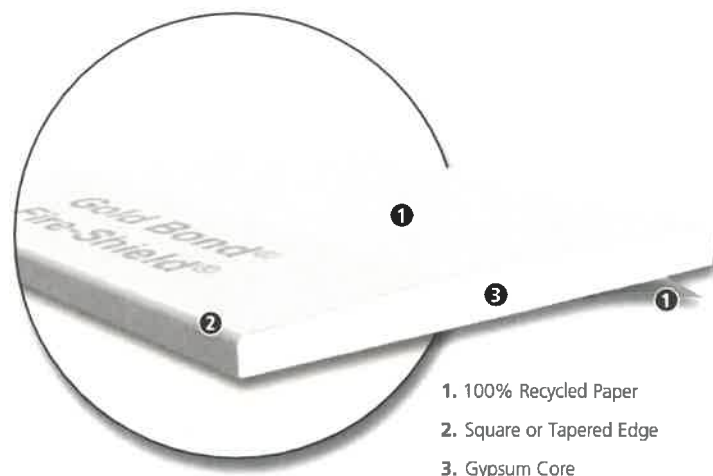
Gold Bond® BRAND Fire-Shield® Gypsum Board consists of a fire-resistant gypsum core with a heavy, natural finish and 100-percent recycled paper on the face and back sides. The face paper folds around the long edges to reinforce and protect the core, and the ends are cut square and finished smooth.

Use it for interior, fire-rated wall and ceiling applications. A specially formulated Type C core is also available where required.

For speed of installation, GridMarX® guide marks are printed on the paper surface.

Sizes: 1/2 in. (12.7 mm) thick Type C Boards are available in 4 ft. (1,219 mm) widths and in standard lengths of 6 ft. (1,829 mm) to 16 ft. (4,877 mm). 5/8 in. (15.9 mm) thick Type X and Type C Boards are available in 4 ft. (1,219 mm) and 54 in. (1,372 mm) widths and standard lengths of 6 ft. (1,829 mm) to 16 ft. (4,877 mm).

Finishing: Long edges of the boards are tapered or square. Tapered edges allow joints to be reinforced with ProForm® BRAND Joint Tape and concealed with ProForm® BRAND Ready Mix Joint Compounds or ProForm® BRAND Quick Set™ Setting Compounds.



1. 100% Recycled Paper
2. Square or Tapered Edge
3. Gypsum Core

Gold Bond®
BRAND
Gypsum Board

National 
Gypsum®

Gold Bond® BRAND Fire-Shield® Gypsum Board

Basic Uses

APPLICATIONS

Use 1/2 in. (12.7 mm) Type C and 5/8 in. (15.9 mm) Fire-Shield® Gypsum Boards on walls and ceilings in fire-rated construction where the framing members are spaced up to 24 in. (610 mm) o.c.

ADVANTAGES

- Approved component in specific UL-rated designs.
- Lightweight and cost-efficient material that is compatible with a wide range of decorative finishes.
- Cuts easily for quick installation, permitting painting or other decoration and the installation of metal or wood trim almost immediately.
- Fire-resistant material with a gypsum core that will not support combustion or transmit temperatures greatly in excess of 212°F (100°C) until completely calcined, a slow process.
- Dimensionally stable under changes in temperature and relative humidity and resists warping, rippling, buckling and sagging.
- Features the GridMarX® preprinted fastening guide on the board to allow for faster and more accurate installation.
- Achieves GREENGUARD and GREENGUARD Gold Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit: ul.com/gg.
- Qualifies as a low-VOC emitting material by meeting California Specification 01350. For more information, visit: <http://www.calrecycle.ca.gov/greenbuilding/specs/section01350/>.

Installation Recommendations

GENERAL

- Install gypsum board in accordance with methods described in ASTM C840 and GA-216.
- Examine and inspect framing materials to which gypsum board is to be applied. Remedy all defects prior to installation of the gypsum board.
- GridMarX provides quick identification and uniform nail/screw patterns. Use GridMarX to make accurate cuts without drawing lines. GridMarX guide marks run the length of the board at five points in 4 in. (102 mm) increments. Marks run along the edge in both tapers and at 16 in. (406 mm), 24 in. (610 mm) and 32 in. (813 mm) in the field of the board. The marks cover easily with no bleed-through using standard paint products.
- Apply gypsum board first to ceilings at right angles to framing members, then to walls. Use boards of maximum practical length so that the minimum number of end joints occur. Bring board edges into contact with each other but do not force into place.
- Install batt or blanket ceiling insulation BEFORE the gypsum board on ceilings when installing a vapor retarder behind the gypsum board. Install the insulation IMMEDIATELY after the gypsum board when using loose fill insulation. Avoid installation practices that might allow condensation to form behind boards.
- Cut gypsum board to allow for a minimum 1/4 in. (6.4 mm) gap between gypsum board and floor to prevent potential wicking.
- Locate gypsum board joints at openings so that no joint will occur within 12 in. (305 mm) of the edges of the opening unless installing control joints at these locations. Stagger vertical end joints. Joints on opposite sides of a partition should not occur on the same stud.
- Hold gypsum board in firm contact with the framing member while driving fasteners. Fastening should proceed from center portion of the board toward the edges and ends. Set fasteners with heads slightly below the surface of the board. Take care to avoid breaking the face paper of the gypsum board. Remove improperly driven nails or screws.

TECHNICAL DATA

PHYSICAL PROPERTIES			
	1/2" Fire-Shield C Gypsum Board	5/8" Fire-Shield Gypsum Board	5/8" Fire-Shield C Gypsum Board
Thickness¹, Nominal	1/2" (12.7 mm)	5/8" (15.9 mm)	5/8" (15.9 mm)
Width¹, Nominal	4' (1,219 mm)	4' (1,219 mm), 54" (1,372 mm)	4' (1,219 mm), 54" (1,372 mm)
Length⁴, Standard	6' – 16' (1,829 – 4,877 mm)	6' – 16' (1,829 – 4,877 mm)	6' – 16' (1,829 – 4,877 mm)
Weight, Nominal	1.9 lbs. / sq. ft. (9.28 k/m ²)	2.2 lbs. / sq. ft. (10.74 k/m ²)	2.3 lbs. / sq. ft. (11.23 k/m ²)
Edges¹	Square or Tapered	Square or Tapered	Square or Tapered
Flexural Strength¹, Perpendicular	≥ 107 lbf. (476 N)	≥ 147 lbf. (654 N)	≥ 147 lbf. (654 N)
Flexural Strength¹, Parallel	≥ 36 lbf. (160 N)	≥ 46 lbf. (205 N)	≥ 46 lbf. (205 N)
Humidified Deflection¹	≤ 10/8" (31.8 mm)	≤ 5/8" (15.9 mm)	≤ 5/8" (15.9 mm)
Nail Pull Resistance¹	≥ 77 lbf. (343 N)	≥ 87 lbf. (387 N)	≥ 87 lbf. (387 N)
Hardness¹ – Core, Edges and Ends	≥ 11 lbf. (49 N)	≥ 11 lbf. (49 N)	≥ 11 lbf. (49 N)
Bending Radius	10' (3,048 mm)	15' (4,572 mm)	15' (4,572 mm)
Thermal Resistance⁵	R = .45	R = .56	R = .56
Product Standard Compliance	ASTM C1396	ASTM C1396	ASTM C1396
Fire-Resistance Characteristics			
Core Type	Type C	Type X	Type C
UL Type Designation	FSW-C	FSW	FSW-C
Combustibility²	Non-combustible Core	Non-combustible Core	Non-combustible Core
Surface Burning Characteristics³	Class A	Class A	Class A
Flame Spread³	15	15	15
Smoke Development³	0	0	0
Applicable Standards and References			

ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products

ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

ASTM C840 Standard Specification for Application and Finishing of Gypsum Board

ASTM C1396 Standard Specification for Gypsum Board

ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials

ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C

Gypsum Association, GA-214, *Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels*

Gypsum Association, GA-216, *Application and Finishing of Gypsum Panel Products*

Gypsum Association, GA-238, *Guidelines for Prevention of Mold Growth on Gypsum Board*

National Gypsum Company, *NGC Construction Guide*

1. Specified values per ASTM C1396, tested in accordance with ASTM C473.

2. Tested in accordance with ASTM E136.

3. Tested in accordance with ASTM E84.

4. Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.

5. Tested in accordance with ASTM C518.

Gold Bond® BRAND Fire-Shield® Gypsum Board

Gold Bond®
Boards / Plaster

- Provide minimum 1/4 in. (6.4 mm) clearance between boards and adjacent concrete or masonry to minimize wicking of moisture.
- Maintain a room temperature of not less than 40°F (4°C) during application of gypsum board.
- Maintain a room temperature of not less than 50°F (10°C) when using adhesive to attach the gypsum board and during joint treatment, texturing and decoration, beginning 48 hours prior to application and continuously thereafter until completely dry. Maintain adequate ventilation in the working area during installation and curing period.

FINISHING

Refer to GA-214, *Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels*, to determine the level of finishing needed to assure a surface properly prepared to accept the desired decoration.

DECORATION

Ensure gypsum board surfaces, including finished joints, are clean, dust-free and gloss-free to achieve best painting results. Apply a coat of quality drywall primer to equalize the porosities between surface paper and joint compound, improving fastener and joint concealment.

Selection of a paint to provide desired finish characteristics is the responsibility of the architect or contractor.

CRITICAL LIGHTING AREAS

Wall and ceiling areas abutting window mullions or skylights, long hallways, and atriums with large surface areas washed with artificial or natural lighting are a few examples of critical lighting areas. Strong side lighting from windows or surface-mounted light fixtures may reveal minor surface imperfections. Light striking the surface obliquely, at a slight angle, exaggerates surface irregularities. If you cannot avoid critical lighting, minimize the effects by skim coating the gypsum board surfaces, by decorating the surface with medium to heavy textures, or by the use of draperies and blinds, which soften shadows. In general, paints with sheen levels other than flat, enamel paints and dark-toned paint finishes highlight surface defects; consider the use of textures to hide these minor visual imperfections.

Limitations

- Avoid exposure to excessive or continuous moisture and extreme temperatures. Do not expose gypsum board to temperatures exceeding 125°F (52°C) for extended periods of time.
- Properly ventilate or condition attic spaces to remove moisture buildup above gypsum board ceilings. If required, install a vapor retarder in exterior ceilings behind gypsum board.
- Avoid installing gypsum board directly over insulation blankets with facer flanges placed continuously across the face of the framing members; recess insulation blankets and attach flanges to the sides of framing.
- Isolate gypsum board from contact with building structure in locations where structural movement may impose direct loads on gypsum board assemblies.
- Provide control joints spaced not more than 30 ft. (9,144 mm) where employing long continuous runs of walls, partitions or ceilings without perimeter relief.
- Avoid gypsum board joints within 12 in. (305 mm) of the corners of window or door frames unless installing control joints at these locations.
- Space supporting framing for single-layer application of 1/2 in. (12.7 mm) and 5/8 in. (15.9 mm) gypsum board a maximum of 24 in. (610 mm) o.c.
- To prevent objectionable sag in gypsum board ceilings, the weight of overlaid, unsupported insulation should not exceed the following recommendations:

CEILING-SUPPORTED INSULATION

Type	Type X	Type C	Type C
Thickness, Nominal	5/8" (15.9 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)
Framing Spacing	24" o.c. (610 mm)	24" o.c. (610 mm)	24" o.c. (610 mm)
Weight of Ceiling-Supported Insulation	2.2 psf (10.7 kg/m ²)	1.3 psf (6.3 kg/m ²)	2.2 psf (10.7 kg/m ²)



Safety Data Sheet

SDS No. GB-1501
Gold Bond® BRAND
Gypsum Board Products

Section 1: Product and Company Identification

Product Name

Gypsum Board Products

Product Identifiers

1/2" Gypsum Board – Square Edge

1/2" Gypsum Board – Tapered Edge

1/4" Gypsum Board – Tapered Edge

3/8" Gypsum Board – Tapered Edge

1/2" FS C Gypsum Board

5/8" Fire-Shield® Gypsum Board

5/8" Fire-Shield® C Gypsum Board

1/2" Sta-Smooth® Gypsum Board

1/2" FS C Sta-Smooth® Gypsum Board

5/8" FS Sta-Smooth® Gypsum Board

1/2" Durabase® Gypsum Board

5/16" Durabase® Gypsum Board

1/2" High Strength Ceiling Board

1/4" High Flex® Gypsum Board

1/2" Foil Back Gypsum Board

5/8" FS Foil Back Gypsum Board

1/2" High Strength LITE Gypsum Board

5/8" High Strength Fire-Shield LITE Gypsum Board

5/8" High Strength Fire-Shield LITE 30 Gypsum Board

3/4" Ultra-Shield™ Gypsum Board

1/2" MMR

1/2" ThermalFOIL® Gypsum Board

Gypsum Board Reclaim

Other means of identification

Wallboard, Gypsum Board

Recommended Use

Gypsum Board products are designed for specific applications that require properties such as: fire resistance, moisture resistance, abrasion resistance, sag resistance and other properties required for applications in walls and ceiling assemblies.

Use per manufacturer's recommendations.

Restrictions on Use

Use in well-ventilated area and avoid breathing dust.

Avoid skin contact.

Manufacturer/Supplier Details

National Gypsum Company

2001 Rexford Road

Charlotte, NC 28211

Emergency Telephone Number

Director Quality Services

(704) 551-5820 - 24 Hour Emergency Response

Website: www.nationalgypsum.com

Section 2: Hazards Identification

United States (US)

According to OSHA 29CFR 1910.1200 (HCS)

GHS Classification of the substance or mixture

Not classified

GHS Label Elements

Pictogram None

Signal Word None

Hazard Statements None

Precautionary Statements

Prevention

Do not breathe dust.
Use personal protective equipment as required. (See Section 8)
Use engineering controls and wet methods to minimize dust.

Response

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
If on skin, wash with plenty of soap and water.
If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical attention if exposed or concerned.

Storage

Store material in a cool, dry, ventilated area, away from excessive heat or sunlight.

Disposal

Dispose of material in accordance with federal, state, and local regulations

Section 3: Composition/Information on Ingredients

Chemical Name	Common name/ Synonym	Identifiers CAS Number	% (weight)	Impurities
Calcium Sulfate Dihydrate	Gypsum	13397-24-5	85-95	Crystalline silica (CAS # 14808-60-7)
Cellulose	Paper Fiber	9004-34-6	5-15	
And may contain:				
Mixture-calcium, aluminum silicates, amorphous silica	Fiberglass, synthetic, vitreous, continuous	65997-17-3	<1	

Section 4: First-Aid Measures

Inhalation Remove exposed individual to fresh air immediately. If breathing difficulty persists, seek medical attention.

Eye contact Do not rub or scratch eyes. Immediately flush eyes with water for 15 minutes.

Remove contact lenses (if applicable). Seek medical attention if irritation persists.

Skin contact Flush and wash skin with soap and water. Utilize lotions to alleviate dryness if present.

Seek medical attention if irritation persists.

Ingestion This product is not expected to be 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.

Medical Conditions aggravated by exposure

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.

Section 5: Fire-Fighting Measures

Extinguishing Media

Dry chemical, foam, water, or extinguishing media appropriate for surrounding fire.

Unusual Fire and Explosion Hazards

Mixture poses no fire-related hazard.

Special hazards arising from the mixture

None known. Above 1450°C, material can decompose and release sulfur dioxide (SO₂) and oxides of carbon.

Special Protective Equipment and Precautions for Firefighters

A SCBA is recommended to limit exposures to combustion products when fighting any fire.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No special precautions required.

General recommendations:

Wear appropriate Personal Protective Equipment. (See Section 8)

Maintain proper ventilation.

Environmental precautions

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

Dispose of in accordance with applicable federal, state, and local regulations.

Methods and materials for containment and cleaning up

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. Maintain proper ventilation to minimize dust.

Section 7: Handling and Storage

Precautions for safe handling

Avoid breathing dust.

Minimize generation of dust.

Provide appropriate exhaust ventilation at places where dust is formed.

Avoid contact with eyes, skin and clothing.

Wear recommended personal protective equipment when handling. (See Section 8)

Conditions for safe storage, including any incompatibilities

Store material in a cool, dry, ventilated area, away from excessive heat or sunlight.

Store panels flat to minimize damage and warping.

Do not stack panels too high when storing to minimize the risk of falling.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Component	Exposure Limits	
	OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)
Calcium Sulfate Dihydrate	15 ^(T) 5 ^(R)	10 ^(T)
Crystalline Silica ¹	[(10) / (%SiO ₂ +2)] ^(R) ; [(30) / (%SiO ₂ +2)] ^(T)	0.025 ^(R)
Cellulose	15 ^(T) 5 ^(R)	10 ^(T)
Fiberglas, synthetic, vitreous, continuous	15 ^(T) 5 ^(R)	1 f/cc ^(R)

T- Total Dust

R-Respirable Dust

1-Present as an impurity in raw materials

Exposure Controls

Appropriate Engineering Controls

Work/Hygiene Practices: Utilize methods to minimize dust production. Utilize wet methods, when appropriate, to reduce generation of dust.

Ventilation: Provide local and general exhaust ventilation sufficient to maintain a dust level below the PEL/TLV.

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.

Section 9: Physical and Chemical Properties

- (a) **Appearance:** A white/gray gypsum core wrapped with paper. Surface finish will vary with product.
- (b) **Odor:** None
- (c) **Odor threshold:** Not available
- (d) **pH :** ~7
- (e) **Melting point/freezing point:** Not Available
- (f) **Initial boiling point and boiling range:** Not Available
- (g) **Flash point:** Not available
- (h) **Evaporation rate:** Not available
- (i) **Flammability (solid, gas):** Not flammable
- (j) **Upper/lower flammability or explosive limits:** Not available
- (k) **Vapor pressure:** Not available
- (l) **Vapor density:** Not available
- (m) **Relative density:** 2.3 g/cc
- (n) **Solubility(ies):** 2.1 g/L @ 20° C
- (o) **Partition coefficient: n-octanol/water:** Not available
- (p) **Auto-ignition temperature:** Not available
- (q) **Decomposition temperature:** 1450°C
- (r) **Viscosity:** Not available
- (s) **Volatile organic compound (VOC) content:** None

Section 10: Stability and Reactivity

- (a) **Reactivity:** No data available
- (b) **Chemical stability:** Stable in dry environments
- (c) **Possibility of hazardous reactions:** None known
- (d) **Conditions to avoid (e.g., static discharge, shock, or vibration):** None known
- (e) **Incompatible materials:** None
- (f) **Hazardous decomposition products:** None known. Above 1450° C gypsum will decompose to calcium oxide (CaO), with releases of sulfur dioxide (SO₂) and various oxides of carbon.

Section 11: Toxicological Information

Information on Toxicological effects

Information on likely routes of exposure

- Ingestion** Not a likely route of exposure. May result in obstruction or temporary irritation of the digestive tract.
- Inhalation** Dust may irritate respiratory system. Chronic exposure may result in lung disease. (See below)
- Skin contact** May cause irritation, itching, rash and/or redness, dry skin or dermatitis.
- Eye contact** May cause mechanical irritation.

Symptoms related to the physical, chemical and toxicological characteristics

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 exposure to crystalline silica (a naturally occurring contaminant) in the respirable size has been shown to cause silicosis, a debilitating lung disease, and lung cancer.

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

Toxicological data

No toxicological data is available for this product. Toxicological information for components of this product listed below.

- Acute toxicity** Gypsum: [OECD TG 420, Fixed dose procedure] Oral LD50 > 2,000-mg/kg b.w. for female rats (Sprague-Dawley)

Skin corrosion/irritation	Gypsum was not irritating to the skin of rabbits at 1, 24, 48 and 72 hours after removal of test patches [OECD TG 404]
Serious eye damage/eye irritation	Not available
Skin sensitization	There is no indication of skin sensitization in guinea pigs [OECD TG 406].
Respiratory sensitization	Not available
Sensitization	Not available
Mutagenicity	No evidence of mutagenicity on Ames Test.
Carcinogenicity	Not available
	This product contains crystalline silica (quartz) as a naturally occurring impurity in some of the raw materials. 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. Exposures to respirable crystalline silica are not expected during the recommended use of this product. Industrial hygiene monitoring to date has not identified any detectable respirable crystalline silica in dust sampling conducted utilizing recommended application procedures. However, actual levels must be determined by workplace hygiene testing.
Reproductive effects	Not available
Specific target organ toxicity – single exposure	Not available
Aspiration toxicity	Not available

Section 12: Ecological Information

- (a) **Ecotoxicity (aquatic and terrestrial, where available):** This product does not present an ecological hazard to the environment.
- (b) **Persistence and degradability:** Unknown
- (c) **Bioaccumulative potential:** Gypsum is a naturally occurring mineral. Biodegradation and/or bioaccumulation potential is not applicable.
- (d) **Mobility in soil:** Unknown
- (e) **Other adverse effects (such as hazardous to the ozone layer):** None known

Section 13: Disposal Considerations

This material is not considered a hazardous waste. Dispose of according to Local, State, Federal, and Provincial Environmental Regulations.

Section 14: Transport Information

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

Section 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

Section 16: Other Information

SDS Prepared by: National Gypsum Company
2001 Rexford Road
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Phone Number: (704) 551-5820

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Revision indicators and Date

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Format Changes: Conforms to OSHA 29CFR 1910.1200 (HCS)

Key to Abbreviations

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
HCS	Hazard Communications Standard
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 safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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