



MATERIAL SAFETY DATA SHEET

IMPERIAL Brand Gypsum Base FIRECODE® C CORE, Type X

MSDS # 54-021-001

Page 1 of 8

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SECTION 1

CHEMICAL PRODUCT AND IDENTIFICATION

PRODUCT: IMPERIAL Brand Gypsum Base FIRECODE® C CORE, Type X**SYNONYM:** Gypsum board

SECTION 2

COMPOSITION, INFORMATION ON INGREDIENTS

MATERIAL	WT%	TLV (mg/m ³)	PEL (mg/m ³)	CAS NUMBER
Gypsum (CaSO ₄ •2H ₂ O)	>80	10	15 (T) / 5 (R)	13397-24-5
Cellulose	<10	10	15 (T) / 5 (R)	9004-34-6
Vermiculite	<10	(NE)	(NE)	1318-00-9
Starch	<3	10	15 (T) / 5 (R)	9005-25-8
Fibrous Glass (Continuous Filament)	<1	1 f/cc	15 (T) / 5 (R)	65997-17-3
Crystalline Silica	<1	0.05 (R)	0.1 (R)	14808-60-7

(T) – Total (R) – Respirable (NE) – Not Established

Respirable crystalline silica: IARC: Group 1 carcinogen, NTP: Known human carcinogen. The weight percent for silica represents total quartz and not the respirable fraction. 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.

The weight percent for fibrous glass (continuous filament) represents total fibrous glass and not the respirable fraction.



Food and Drug Administration [CFR Title 21, v.3, sec 184.1230] – Calcium Sulfate is Generally Recognized as Safe (GRAS).

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

SECTION 3

HAZARD IDENTIFICATION

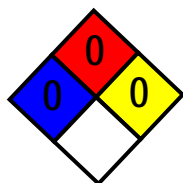
INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS

NFPA Ratings:

Health: 0

Fire: 0

Reactivity: 0



HIMS Ratings:

Health: *0

Fire: 0

Reactivity: 0

HEALTH	*	0
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION	E	

0 = Minimal Hazard

1 = Slight Hazard

2 = Moderate Hazard

3 = Serious Hazard

4 = Severe Hazard

Personal Protection: Use eye protection. Use gloves and NIOSH/MSHA-approved respiratory protection when required.

*Respirable crystalline silica can cause lung disease and/or cancer.

**SECTION 3 HAZARD IDENTIFICATION (continued)****EMERGENCY OVERVIEW**

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.

ACUTE:

Eyes: Airborne dust or direct contact can cause mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician.

Skin: No toxic effects from powdered gypsum are noticed where air contains contaminate to excess. This material exhibits some affinity for moisture, and frequent exposures may have a drying effect on the skin. Possible itching and irritation may be experienced. This may lead to dermatitis. No penetration of intact skin.

Inhalation: Inhalation of dust can irritate the nose, throat, and the 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.

Ingestion: Unlikely to occur, but may cause gastric disturbances if swallowed. Gypsum is non-toxic; however, ingestion of a sufficient quantity could lead to mechanical obstruction of the gut, especially the pyloric region. See First Aid Measures - Ingestion (Section 4).

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.

Gypsum wallboard panels do not release respirable dust in their installed state and therefore do not present any known health hazards when installed and properly maintained.

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. 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.

Eyes: None known.

Skin: Prolonged and repeated exposure may dry skin and possibly lead to dermatitis.

Ingestion: No known effects.

TARGET ORGANS: Eyes, skin and respiratory system.

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

**SECTION 4
FIRST AID MEASURES****FIRST AID PROCEDURES**

Eyes: Flush thoroughly with water for 15 minutes to remove particles. If irritation persists, consult physician.

Skin: Wash with mild soap and water. A commercially available hand lotion may be used to treat dry skin areas. If skin has become cracked, take appropriate action to prevent infection and promote healing. If irritation persists, consult physician.

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

Ingestion: No harmful effects expected. No specific recommendations. Calcium sulfate is nontoxic; however, ingestion of a sufficient quantity could lead to mechanical obstruction of the gut, especially the pyloric region. If gastric disturbance occurs, call physician. Drinking gelatin solutions or large volumes of water may delay setting.

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.



SECTION 5

FIRE FIGHTING MEASURES

General Fire Hazards:	Not expected to burn.		
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 and Explosion Hazards:	None		
Hazardous Combustion Products:	Above 1450° C - decomposes to calcium oxide (CaO) and sulfur dioxide (SO ₂). Organic material in the panels can produce oxides of carbon.		
Flash Point:	None Known	Auto Ignition:	Not Applicable
Method Used:	Not Applicable	Flammability Classification:	Limited combustible
Upper Flammable Limit (UFL):	Not Applicable	Rate of Burning:	Not Applicable
Lower Flammable Limit (LFL):	Not Applicable		

SECTION 6

ACCIDENTAL RELEASE MEASURES

CONTAINMENT:

No special precautions. Wear appropriate personal protection (See Section 8). Collect the material from spillage and if not damaged or contaminated by foreign material, gypsum panels may be reclaimed. Contain the spill by keeping it dry and away from incompatibles (See Section 10).

CLEAN-UP:

Use normal clean up procedures. Wear appropriate protective equipment. If dry, shovel or sweep up material from spillage and place collected material into a container for recovery or waste disposal. Avoid dust generation. Avoid inhalation of dust and contact with eyes and skin. Maintain proper ventilation. If vacuum is used to collect dust, use an industrial vacuum cleaner with a high efficiency air filter. If sweeping is necessary, use dust suppressant. Do not use compressed air for clean up. These procedures will help minimize potential exposures. If washed down, may plug drains.

DISPOSAL:

Follow all local, state, provincial and federal regulations. Never discharge large releases directly into sewers or surface waters. Trace amounts of residue can be flushed to a drain, using plenty of water.

SECTION 7

HANDLING AND STORAGE

HANDLING:

Avoid dust contact with eyes. Wear the appropriate eye protection against dust (See Section 8).

Avoid breathing dust. Wear the appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded (see Sections 2 and 8).

Minimize dust generation and accumulation. 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.



SECTION 7 HANDLING AND STORAGE (continued)

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**

ENGINEERING CONTROLS:

Good general ventilation should be sufficient to control airborne dust levels.
 If user operations generate airborne dust, use ventilation to keep dust concentrations below permissible exposure limits (See Section 2).
 Where general ventilation is inadequate, use process enclosures, local exhaust ventilation, or other engineering controls to control dust levels below permissible exposure limits (see Section 2).

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.

OTHER PERSONAL PROTECTIVE EQUIPMENT:

Eye/Face: Wear eye protection (safety glasses or goggles) to avoid particulate irritation of the eye.
Skin: Gloves or protective clothing are usually not necessary but may be desirable in specific work situations. For brief contact, no precautions other than clean body-covering clothing should be needed. Wear gloves [chemical gloves are not necessary, there is no chemical irritation hazard] and protective clothing to prevent repeated or prolonged skin contact. Barrier creams or skin lotion may be applied to face, neck, wrist and hands when skin is exposed to help prevent drying of skin.

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

**SECTION 9
 PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	Paper with gray to off white core	Odor	Low to no odor
Physical State	Solid	pH @ 25 ° C	~ 7
Vapor Pressure	Not Applicable	Vapor Density (Air = 1)	Not Applicable
Boiling Point	Not Applicable	Vapor Pressure (mm Hg)	Not Applicable
Freezing Point	Not Applicable	Evaporation Rate (BuAc = 1)	Not Applicable
Melting Point	1450° C - decomposes	Percent Volatile	0
Softening Point	Not Applicable	Particle Size	Not Applicable
Solubility (H2O)	0.26/100g	Molecular Weight	~ 172
Viscosity	Not Applicable	Bulk Density	~ 55 lb/ft ³
Specific Gravity (H₂O = 1):	2.32 – 2.96		



SECTION 10
CHEMICAL STABILITY AND REACTIVITY

STABILITY:	Stable in dry environments.
CONDITIONS TO AVOID:	Contact with incompatibles.
INCOMPATIBILITY:	None known.
HAZARDOUS POLYMERIZATION:	Will not occur.
HAZARDOUS DECOMPOSITION:	Above 1450° C - calcium oxide (CaO) and sulfur dioxide SO ₂ . Oxides of carbon.

SECTION 11
TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

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.
There have been anecdotal reports of conjunctivitis, chronic rhinitis, laryngitis, pharyngitis, impaired sense of smell and taste, bleeding from the nose, and reactions of tracheal and bronchial membranes in exposed workers.
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.
LD₅₀: Not Available for product.
LC₅₀: Not Available for product.

CHRONIC EFFECTS / CARCINOGENICITY:

Crystalline silica: 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.

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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 the ecology. A large discharge directly into waterways would not be expected to kill aquatic life.

Ecotoxicity Values: Not determined.



**SECTION 13
DISPOSAL CONSIDERATIONS**

WASTE DISPOSAL METHOD:

Dispose of material in accordance with Federal, State, Provincial, and Local regulations. Consult with environmental regulatory agencies for guidance on acceptable disposal practices. Never discharge directly into sewers or surface waters.

**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
Gypsum (CaSO4•2H2O)	>80	NL	NL	NL	NL	NL	NL
Cellulose	<10	NL	NL	NL	NL	NL	NL
Vermiculite	<10	NL	NL	NL	NL	NL	NL
Starch	<3	NL	NL	NL	NL	NL	NL
Fibrous Glass (Continuous Filament)	<1	NL	NL	NL	NL	NL	NL
Crystalline Silica	<1	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



SECTION 15 REGULATORY INFORMATION (continued)

CANADIAN REGULATIONS

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. All components of this product are included in the Canadian Domestic Substances List (DSL).

MATERIAL	WT%	IDL Item #	WHMIS Classification:
Gypsum (CaSO4•2H2O)	>80	Not Listed	Not Listed
Cellulose	<10	Not Listed	Not Listed
Vermiculite	<10	Not Listed	Not Listed
Starch	<3	Not Listed	Not Listed
Fibrous Glass (Continuous Filament)	<1	Not Listed	Not Listed
Crystalline Silica	<1	1406	D2A

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

WHMIS Classification: Workplace Hazardous Material Information System

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
Respirable Crystalline Silica	1	1	A2	Listed

IARC – International Agency for Research on Cancer (World Health Organization)

- 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”



SECTION 16
OTHER INFORMATION

Label Information

ΔWARNING!

Follow good safety and industrial hygiene practices during the handling and installing of all products and systems. Dust created from product may cause eye, skin, nose, throat or upper respiratory irritation. Avoid inhalation of dust and eye contact. Use in a well-ventilated area. Wear a NIOSH/MSHA-approved respirator when dusty. Use proper ventilation to reduce dust exposure. Wear eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call physician. Do not ingest. If ingested, call physician. 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 www.usg.com **KEEP OUT OF REACH OF CHILDREN.**

Key/Legend

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

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