Material Safety Data Sheet

Gold Bond® BRAND Ball Mill Accelerator

MSDS No: **GB-1314**

Date: July 1, 2009

Supersedes Date: May 22, 2006

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: **Ball Mill Accelerator (BMA)**
Manufactured and used in gypsum board plants

Use: Used as an accelerator to control the set of gypsum board core during manufacturing

Generic Descriptions: White/Gray powder

2. HAZARDS IDENTIFICATION

Appearance and Odor: A white/gray powder with no odor.

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

Emergency Overview

Gold Bond® BRAND Gypsum 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 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	>60
Crystalline Silica (Quartz)	14808-60-7	<5
Starch	9005-25-8	>30

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^{o}C, material can decompose and release sulfur dioxide (SO_2) and oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

General recommendations:

- Shovel or scoop up back into container for use if possible, or disposal.
- Wear appropriate Personal Protective Equipment. (See Section 8)
- Maintain proper ventilation.
- 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.
- Store material in a cool, dry, ventilated area.

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)
Starch	5 (R)	10 (T)
Crystalline Silica (Quartz)	0.1 (R)	0.025 (R)

T- Total Dust
R- Respirable Dust

Engineering Controls

- Work/Hygiene Practices: Avoid generating 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: White/gray powder
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^{o}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

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

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).

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