

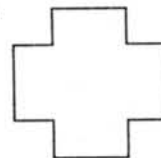


MATERIAL SAFETY DATA SHEET

Meeting OSHA Standard 29CFR § 1910.1200 (g)

CAL OSHA Standard Title 26 § 8—5194 (g)

EFFECTIVE DATE: August 20, 1990



SECTION I — PRODUCT IDENTIFICATION

PRODUCT TRADE NAME: Gerstley Borate

TSCA NO.: None

CHEMICAL NAME AND SYNONYMS:

Ulexite and Colemanite

CAS NO.: None

CHEMICAL FAMILY: Borate Minerals

FORMULA: Naturally occurring ores:

PHYSICAL HAZARD RATING: National Fire Protection Association

Health 0
Flammability 0
Reactivity 0

Ulexite:
 $\text{Na}_2\text{O} \cdot 2\text{CaO} \cdot 5\text{B}_2\text{O}_3 \cdot 16\text{H}_2\text{O}$

Colemanite:
 $2\text{CaO} \cdot 3\text{B}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$

SECTION II — HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT %:

Ulexite	mixture contains:
Colmanite	Boric Oxide (B_2O_3) 32.4%
	Sodium Oxide (Na_2O) 5.4%
	Calcium Oxide (CaO) 17.3%

WARNING: This product contains trace amounts of arsenic, a chemical known to the State of California to cause cancer.

SECTION III — PHYSICAL DATA

APPEARANCE: Grey-white mineral
SPECIFIC GRAVITY: 45.7-58.5 lbs./ft. (bulk density)
MELTING POINT: N/A
VAPOR PRESSURE: Negligible
SOLUBILITY IN WATER: Slightly Soluable
PARTICLE SIZE: 3/8-1 inch

24 HOUR EMERGENCY TELEPHONE NUMBER: (714) 774-2673

CONTACT: P.L. Strong; Manager, Product Safety

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.

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SECTION IV - HEALTH HAZARD INFORMATION

EFFECTS OF ACUTE EXPOSURE

INGESTION:

ACUTE ORAL LD₅₀ : Unknown

HUMAN ACCIDENTAL EXPOSURE: Anticipated symptoms: nausea, vomiting, diarrhea. After 24 hours, erythema; macular skin rash, and dizziness may occur.

EYE: Probable human eye irritant.

DERMAL:

ACUTE DERMAL LD₅₀: Unknown, do not expect any effects.

PRIMARY SKIN IRRITATION INDEX: 0 - no effect (rabbits - per 16 CFR §1500.41)

SKIN: No known adverse effects to humans with intact skin. May be absorbed through damaged skin.

CORROSIVE: This product is non-corrosive.

INHALATION: May cause sneezing and coughing if exposed to high concentrations.

EFFECTS OF CHRONIC OVEREXPOSURE

INGESTION: Animal testing for carcinogenicity of boric acid has been negative.

Animal studies show that ingestion of large amounts of borates over prolonged periods of time causes a decrease in sperm production and testicle size in male laboratory animals and developmental effects in fetuses of pregnant female laboratory animals. No evidence of such effects in humans.

EYE: Possible mild irritant to human eye.

DERMAL: No evidence of effect from exposure on intact human skin.

INHALATION: As with any nuisance dusts, may aggravate chronic respiratory ailments such as asthma, bronchitis, etc.

HEALTH HAZARD INFORMATION (cont. from page 2)

REGULATORY INFORMATION

OSHA PERMISSIBLE EXPOSURE LIMIT (PEL): Not listed 29CFR§1910 SUBPART Z

ACGIH RECOMMENDED THRESHOLD LIMIT VALUE: Not listed

NOT LISTED IN THE NATIONAL TOXICOLOGY PROGRAM ANNUAL REPORT ON CARCINOGENS (1989)

NOT LISTED IN THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) MONOGRAPH

NOT LISTED ON THE OSHA CARCINOGENS LIST

EMERGENCY AND FIRST AID PROCEDURES:



EYES: Flush with tepid water for 15 minutes. Consult a physician.

SKIN: Rinse with water.

INHALATION: Remove to fresh air.

INGESTION: Drink large amounts of water or milk. Consult a physician.

NOTE TO PHYSICIAN:

Gastric lavage with 5% sodium bicarbonate is suggested. This should be followed by saline catharsis. Assure adequate hydration. Gerstley Borate is not considered an acute poison. After ingestion or absorption into the bloodstream of large amounts (15 grams or more), symptoms may appear after 24-72 hours. Borates are readily dissipated through the urine (70% in the first 24 hours). Complimentary blood analysis is available for physicians and emergency rooms. Medical consultation is also available. Call (714) 774-2673

SECTION V - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): N/A

FLAMMABLE LIMITS: N/A

EXTINGUISHING MEDIA: None required. Product is an inherent fire retardant.

SPECIAL FIREFIGHTING PROCEDURES: None are required. No potential for fire or explosion hazard. Product is an inherent fire retardant.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION VI - REACTIVITY DATA

STABILITY: Gerstley Borate is a stable product.

INCOMPATIBILITY (MATERIALS TO AVOID): None

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION WILL NOT OCCUR:

CONDITIONS TO AVOID: None

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep or vacuum followed by water rinse.

WASTE DISPOSAL METHOD: Refer to local disposal requirements and regulations for waste disposal methods. Not regulated under §313 of SARA Title III or RCRA (40 CFR 261.33)

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATOR PROTECTION (SPECIFY TYPE): Recommend use of light duty dust mask (such as 3M Model 5800) in areas of airborne concentrations greater than $10\text{mg}/\text{m}^3$.

VENTILATION: Local exhaust is sufficient.

PROTECTIVE GLOVES: Leather, cloth or rubber gloves

EYE PROTECTION: Avoid eye contact. To avoid eye contact, dust goggles are recommended in areas of high airborne concentrations.

OTHER PROTECTIVE EQUIPMENT: None

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Dry storage.

OTHER PRECAUTIONS: Retain package integrity.

DATE: Aug 29, 1990 SIGNATURE: P. L. Strong
P.L. Strong, Manager, Product Safety

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