TRADEASIA INTERNATIONAL PTE LTD
133 Cecil Street # 12-03 Keck Seng Tower, Singapore 069535,
Republic Of Singapore
Tel. +65 6227 6365 - **Fax**. +65 6225 6286
www.chemtradeasia.com

Material Safety Data Sheet

COLEMANITE

Section 1 - Chemical Product and Company Identification

MSDS Name : Colemanite

Synonyms : Hydrated Calcium Borate, Di-Calcium Hexaborate Pentahydrate, Boro-Calcite

Company Identification : Tradeasia International Pte Limited

Email : contact@chemtradeasia.com

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
12291-65-5	Di-Calcium Hexaborate Pentahydrate	65 - 95

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Crystalline, Ground or Tan-grey Powder forms.

Colemanite is considered as a non-hazardous material and it has not been tested for detailed occupational and toxicological studies. However, human study of occupationally exposed borate worker population showed no adverse reproductive effects.

Target Organs: none.

Potential Health Effects

Eye: not available

Skin: not available

Ingestion: not available

Inhalation: not available

Chronic: not available

Section 4 - First Aid Measures

If swallowed : Call a physician or poison control center. Do not induce vomiting.

If Inhaled : Remove victim to fresh air. If not breathing, give artificial respiration, preferably by mouth-to-mouth. Get medical attention.

If in Eyes : Flush eyes with plenty of water. Call a physician if irritation persists.

Notes to Physician : Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Hazard: Colemanite is not flammable, combustible, or explosive. Borates present no unusual hazards when involved in a fire. This product is an inherent fire retardant.

UEL/LEL:	Not Applicable
Flash Point:	Not Applicable
Auto-ignition:	Not Applicable
Flammability:	Non-flammable solid.
Class:	Flammability Classification (29 CFR 1910.1200)
Extinguishing Media:	Any fire extinguishing media may be used on nearby fires.

Section 6 - Accidental Release Measures

Should not be released into the environment. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

Section 7 - Handling and Storage

Hygenic Practices: Wash hands thoroughly with soap and water after handling, and before eating, drinking, or smoking.

Storage & Disposal : No special storage or handling procedures are required for this material. However, for any query contact local authority and State Water Board or Regional Office of the EPA for guidance.

Container Disposal : There is no special requirement for this product. However, for disposal of empty bags and containers observe all Federal, state and local regulations.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits. Dust collection systems may be necessary in some operations.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Stearic acid	none listed	none listed	none listed

OSHA Vacated PELs: Stearic acid: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment:

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR §1910.134 must be followed whenever workplace conditions warrant a respirator's use

Section 9 - Physical and Chemical Properties

Appearance	: Ground, light grey to tan stones granulate (80% -75 micron or 80% -45 micron)
Odor	: Odorless
pH	: 9.1
Boiling point	: Not applicable
Freezing point	: Not applicable.
Melting point	: 986oC
Vapour Pressure	: Not applicable.
Bulk density	: 1460-1520 kg/m3
Solubility in water	: 0.81 g/l (25oC)
Chemical formula	: Ca2B6O11.5H2O,(2CaO.3B2O3.5H2O)

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Incompatible Materials and Conditions to avoid : None.

Hazardous Decomposition Products : None.

Hazardous Polymerization : Will not occur.

Thermal Decomposition : When heated above 260°C in the oven, it starts losing water of hydration. On continued heating, dehydration proceeds until all the water is removed at around 415°C.

Section 11 - Toxicological Information

Carcinogenicity: Colemanite, being a Boron Oxide, is not listed as a carcinogen by the Environmental Protection Agency (EPA), the State of California, or the International Agency for Research on Cancer (IARC). A report issued by the National Toxicology Program showed "no evidence of carcinogenicity" from a full two-year bioassay on Boron Oxide on mice at feed doses of 2,500 to 5,000 ppm in the diet. No mutagenic activity was observed for Boron Oxide in a recent battery of four short-term mutagenicity assays.

Ingestion : Low acute oral toxicity; LD50 for Sprague-Dawley rats is Expected to be >>4000 mg/kg of body weight.

Regular & Orpiment : Colemanite has a very low level of arsenic sulfide content (<50ppm). However, awareness on Arsenic toxicity is important to know. Toxicity of arsenic ranges from very low to extremely high depending on chemical state. Metallic arsenic and arsenious sulfide have low toxicity; arsine, a gas, is extremely toxic. The toxicity of other organic and inorganic arsenic compounds varies. Although metallic arsenic and arsenic sulfides may be handled safely without special precautions, skin contact with all arsenical compounds should be avoided. Inorganic arsenic is a documented human carcinogen and has been classified by IARC in Group 1.

Section 12 - Ecological Information

The environmental effects of boron are minimal and most noticeable in the world of plants. Minimal quantities of this element is essential for plant growth and hence boron is added to fertilizers used in boron deficient soils. However concentrations as low as 1 ppm boron could be critical for sensitive plants (lemon. etc.) and 10 ppm for semi tolerant plants (mustard, radish). There is no permanent effect as boron gradually soluble in water. In diluted aqueous solutions the predominant boron species present is undissociated boric acid.

Section 13 - Disposal Considerations

Non hazardous material

Section 14 - Transport Information

DOT Classification	: Not a DOT controlled material (United States)
Identification	: Not applicable
Special Provision on Transport	: Not applicable

Section 15 - Regulatory Information

US Regulations:

TSCA: Colemanite CAS#12291-65-5 & CAS# 1318-3-8 is listed on the TSCA inventory.
RCRA (40CFR 261): None listed under any section.
CERCLA (SUPERFUND): None listed under any section.
Health & Safety Reporting List: Not on the Health & Safety Reporting List.

Chemical Test Rules: Not under a Chemical Test Rule.

TSCA 12(b) Chemical Weapons Convention: TSCA 12(b): No

CDTA: No

SARA 311/312: Fire: No Pressure: No
Reactivity: No (Mixture / Solid)

TSCA Significant New Use Rule: Not a SNUR under TSCA.

SARA Section 302 (RQ): None of the chemicals in this material have an RQ.

Section 302 (TPQ): None of the chemicals in this product have a TPQ.

SARA Codes: CAS # 12291-65-5 / 1318-633-8:
Section 313 No chemicals are reportable under Section 313.
Clean Air Act: This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletory substance. This material does not contain

any Class 2 Ozone depletory substance.

Clean Water Act: Colemanite is not regulated by any water quality criteria under Section 304, is not listed as priority pollutant under Section 307, and is not listed as a hazardous substance under Section 311.

SAFE DRINKING WATER ACT: Not regulated under SDWA, 42 USC 300g-1, 40 CFR 141 et seq. Consult state and local regulations for possible water quality advisories involving boron.

OCCUPATIONAL EXPOSURE LIMITS: Colemanite is not listed/regulated by OSHA, CAL OSHA, or ACGIH as "Particulate Not Otherwise

OSHA : N/A

ACGIH : N/A

CALIFORNIA OSHA : N/A

STATE : CAS# 12291-65-5/1318-33-8 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts. California No Significant Risk Level: None of the chemicals in this product are listed.

Exposure Limits CAS#12291-65-5

OEL-AUSTRALIA:NA
OEL-BELGIUM:NA
OEL-DENMARK:NA
OEL-FRANCE:NA
OEL-THE NETHERLANDS:NA
OEL-SWEDEN:NA
OEL-SWITZERLAND:NA
OEL-UNITED KINGDOM:NA
OEL IN BULGARIA, COLOMBIA, KOREA,
NEW ZEALAND, SINGAPORE, VIETNAM check ACGIH TLV

Section 16 : Other Information

Notice : We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.