



STOLLER USA, INC.

4001 W Sam Houston Parkway N, Suite 100 ☎ Houston, Texas 77043-1226 U.S.A.

Toll-Free: 1(800)539-5283 ☎ Tel.: 1(713)461-1493 ☎ Fax: 1(713)461-4467 ☎ stoller@stollerusa.com

CHE-LA MIX

MATERIAL SAFETY DATA SHEET (Rev. 16/Oct/2012)

SECTION I – PRODUCT IDENTIFICATION AND COMPANY INFORMATION

Company Name: STOLLER USA, INC.

Address: 4001 W Sam Houston Parkway N, Suite 100 • Houston, TX 77043 U.S.A.

Phone Number for Information: 1 (800) 539-5283 or 1 (713) 461-1493

Emergency Phone Number, CHEMTREC for Stoller Enterprises:

In the US and Canada call toll-free 1 (800) 424-9300

From other countries call collect: +1 (703) 527-3887

Chemical Family: chelated micronutrient solution

Chemical Name & Synonyms: ligno sulfate salt solution

Formula: Proprietary; MgSO₄•7H₂O; FeSO₄•7H₂O; MnSO₄•H₂O; ZnSO₄•H₂O; Sodium Lignosulfonate = C₂₀H₂₄Na₂O₁₀S₂

Tradename & Synonyms: **CHE-LA MIX; CHE-LA MIX (S, Mg, Fe, Mn, Zn)**

SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS

| COMPONENTS: | CAS Reg. No. | Approx. % | TLV | RTECS |
|-----------------------------------|--------------|-----------|-----------------------------|-----------|
| Magnesium sulfate, heptahydrate | 10034-99-8 | 15 – 16 | | OM4500000 |
| Ferrous Sulfate, Heptahydrate | 7782-63-0 | 10 – 11 | 1 mg/m ³ as Fe | NO8500000 |
| Manganese sulfate, monohydrate | 10034-96-5 | 5 – 6 | 0.2 mg/m ³ as Mn | OP0893500 |
| Zinc Sulfate, monohydrate | 7446-19-7 | 4 – 5 | 10 mg/m ³ as Zn | ZH5260000 |
| Sodium lignin sulfonate, solution | 8061-51-6 | 10 – 12 | 1 mg/m ³ | |

SECTION III - HAZARD IDENTIFICATION

NFPA HAZARD RATINGS

HEALTH HAZARD 2 FIRE HAZARD 0 REACTIVITY 0

Based on the National Fire Protection Association rating system

(0 = Minimal; 1 = Slight; 2 = Moderate; 3 = High; 4 = Extreme)

SARA/TITLE III HAZARD CATEGORIES (See Section XV)

Immediate (Acute) Health: YES Delayed (Chronic) Health: Not Known

Reactive Hazard: NO Fire Hazard: NO Sudden Release of Pressure: NO

EXPOSURE LIMITS

OSHA Permissible Exposure Limit (PEL): Not Established (N/E)

ACGIH Threshold Limit Value (TLV): Not Established (N/E)

EFFECTS OF OVEREXPOSURE

1.- ACUTE: Depending on the duration of contact, overexposure can irritate the eyes, skin, mucous membranes and any other exposed tissue.

EYES: Contact with product may cause mild to severe irritation, blurred vision.

SKIN: May cause discomfort, skin irritation or rash, unless treated promptly.

INHALATION: Prolonged exposure to vapors may cause sore throat and headache, irritation of respiratory tract.

INGESTION: May cause malaise, nausea, stomachache, burning sensation in stomach. Large doses may cause gastrointestinal damage.

2.- CHRONIC: Not known. Repeated prolonged exposure to Ferrous Sulfate or its solutions may increase the Iron levels in the liver, spleen and lymphatic system. Expected toxicity hazard: slight to moderate.

SECTION IV - FIRST-AID MEASURES**EMERGENCY FIRST AID PROCEDURES**

Victims of severe exposure to chemicals must be taken to health providing centers for medical attention. Always bring with victim a copy of label and MSDS of product to health professional.

EYES: Immediately, holding eyelids apart, flush eyes with copious amounts of clean water for at least 15 minutes.

Seek medical attention should severe irritation occurs.

SKIN: Wipe off product and immediately wash affected area with abundant soap and water. Remove contaminated clothing taking care not to impregnate eyes. Seek medical attention if severe irritation occurs.

INHALATION: Move patient to fresh air. Supplemental oxygen may be indicated. Assure mucous does not obstruct airway. Seek medical attention if victim's breathing is difficult.

INGESTION: Immediately contact a physician or poison control center for treatment advice. Induce vomiting. Victim should drink milk, egg whites or large quantities of water. Never give anything by mouth to someone who is unconscious, having convulsions or unable to swallow.

ADDITIONAL INFORMATION: Note to Physician: Symptomatic treatment.

SECTION V - FIRE AND EXPLOSION DATA

FLASH POINT: Not Applicable; product is non-flammable.

FLAMMABLE LIMITS: LEL: Not Applicable UEL: Not Applicable

EXTINGUISHER MEDIA: Use all means adequate to fight surrounding fire, water, foam, CO₂, dry chemicals, etc.

SPECIAL FIRE FIGHTING PROCEDURES: None specific for this product, however, it is suggested that firefighters wear self-contained breathing apparatus and full protective equipment, such as chemical resistant clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes under fire conditions, such as SO, SO₂, CO, CO₂, etc.

SECTION VI - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED: In case of a large spill, clear the affected area and protect people. Such releases should be responded to by trained personnel using pre-planned procedures.

In the event of an incidental release, minimum Personal Protective Equipment must be worn: latex or rubber gloves and rubber boots, goggles or full face-shield, and coveralls or long sleeved shirt and pants.

It is necessary to contain spill into the smallest area possible by diking, scooping, etc., and place liquid into an appropriate container, labeling it accordingly. If product is clean, use it as intended following original label directions; should it get contaminated, salvage for proper disposal as waste.

Absorb residual product onto dry carrier such as dirt, sand or any other absorbent material, and then put in covered labeled containers and dispose of as a dry waste in accordance with Federal, State and Local waste disposal regulations.

SECTION VII - HANDLING AND STORAGE

All personnel who handle this material should be trained to work with it safely. Avoid breathing vapors or mists; use in a well-ventilated location. Empty containers may contain residual liquid or vapors therefore, should be handled also with care. Store in a cool, dry place, away from direct sunlight, sources of intense heat or where freezing is possible. Store it away from food, feed, clothing materials and living quarters.

Whenever possible, place chemicals on secondary containers or diked area. Inspect all incoming containers before storage to ensure all are properly labeled and not damaged. Keep containers tightly closed when not in use.

SECTION VIII - SPECIAL PROTECTION / CONTROL MEASURES

RESPIRATORY PROTECTION: Wear a NIOSH / OSHA approved respirator if working conditions require doing so.

VENTILATION: General ventilation is usually adequate. Local exhaust should be used if needed for safe, comfortable working conditions.

SKIN AND EYE PROTECTION: Safety glasses should be worn in any type of operation with chemicals. Protective gloves, long sleeved shirt and long pants, as well as protective shoes should be worn as a good safety practice.

OTHER CONTROL MEASURES: An eye bath and washing facilities should be readily available. Remove all dirty or contaminated clothing and wash it before reusing.

WORK/HYGIENIC PRACTICES: As a general rule, do not eat, drink, smoke nor chew gum or tobacco when handling chemicals. Wash thoroughly after handling this product.

SECTION IX - PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: >230°F (>110 °C)
MELTING POINT: Not Applicable
SPECIFIC GRAVITY: 1.24 - 1.26
SOLUBILITY IN WATER: >99%
APPEARANCE AND ODOR: Liquid, dark brown color, opaque, with a pleasant characteristic vanilla odor.
OTHER:

VAPOR PRESSURE (mm/Hg): Not known
VAPOR DENSITY (air = 1): Similar to water
REACTIVITY IN WATER: Not Applicable
EVAPORATION RATE: Similar to water

SECTION X - PHYSICAL HAZARDS (REACTIVITY DATA)

STABILITY: Stable
CONDITIONS TO AVOID: Stable under normal conditions, but avoid extreme heat and contact with incompatible material
INCOMPATIBILITY, MATERIALS TO AVOID: Strong oxidizing agents.
HAZARDOUS POLYMERIZATION: Will not occur
HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes under fire conditions, like SO, SO₂, CO, CO₂, etc.

SECTION XI - TOXICOLOGICAL INFORMATION**TOXICITY DATA**

ORAL LD₅₀ (rats) mg/kg: MgSO₄•7H₂O = >5000; FeSO₄•7H₂O = 2140; MnSO₄•H₂O = 2150; ZnSO₄ = 2000
DERMAL LD₅₀ (rabbit): ZnSO₄ >500 mg/kg
INHALATION:

CARCINOGENICITY

The components of this product are not listed as a carcinogenic by CPDB, IARC, NTP, OSHA, CAL/OSHA and ACGIH.

MUTAGENICITY: The components of this product are not reported to produce mutagenic effects in humans.

EMBRYOTOXICITY: The components of this product are not reported to produce embryotoxic effects in humans.

TERATOGENICITY: The components of this product are not reported to produce teratogenic effects in humans.

REPRODUCTIVE TOXICITY:

The components of this product are not reported to produce reproductive toxicity effects in humans.

SECTION XII - ENVIRONMENTAL EFFECTS DATA

The available data on this material does not indicate any undue hazard to the environment under anticipated use and storage. All work practices must be aimed at eliminating environmental contamination. Any waste due to spillage or leakage should be contained and disposed of accordingly (see above under Accidental Release Measures). Because of its nutritional nature, may cause eutrophication if discharged in bodies of water.

To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section I. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details

SECTION XIII - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Waste disposal must be done following all Federal, State and Local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority.

Empty containers may have residues (liquid and/or fumes) thus, handle them with care. Dispose properly accordingly to regulations on empty containers in your locality or make available to a container reconditioning facility for recycling.

SECTION XIV - TRANSPORTATION DATA

DOT Proper Shipping Name and Hazard Class: Not Regulated
(Trade name: CHE-LA MIX)

IATA Proper Shipping Name and Hazard Class: Not Regulated
(Trade name: CHE-LA MIX)

IMO Proper Shipping Name and Hazard Class: Not Regulated
(Trade name: CHE-LA MIX)

Placards / Markings: N/A

Emergency Response Guide Number: N/A

SECTION XV - REGULATORY INFORMATION

U. S. SARA REPORTING REQUIREMENTS: This product might be subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act:

U.S. SARA 302 (40 CFR 355, Appendix A): NO

U.S. SARA 304 (40 CFR Table 302.4): NO

U.S. SARA 313 (40 CFR 372.65): This product contains the following substances subject to the reporting requirements of Section 313: zinc compound.

U.S. SARA THRESHOLD PLANNING QUANTITY: NO

U.S. CERCLA REPORTABLE QUANTITY (RQ): Zinc Sulfate = 1000 lb (454 kg), equivalent to 2332 gallons or 8828 liters of finished product.

U.S. TSCA INVENTORY STATUS: Some components of this material are listed on the TSCA Inventory, however, hydrates are exempted to be listed.

CANADIAN DSL INVENTORY: The components of this material are listed in the DSL inventory

If this product contains components designated as CERCLA Reportable Quantity (RQ) Substance, Section 103 of CERCLA requires the "person in charge" of a facility or vessel, as soon as he or she has knowledge of a release of a hazardous substance in an amount equal to or greater than an RQ, to report the release immediately to the National Response Center in Washington, DC. The NRC number is 1-800-424-8802, or 1 (202) 267-2675.

SECTION XVI - OTHER INFORMATION

Date of MSDS Revision: October 16, 2012. Supersedes all previous versions.

Stoller USA, Inc., believes the information contained in this Material Safety Data Sheet is accurate, based on the information supplied by reputable suppliers of our raw materials. However, Stoller USA does not guarantee their accuracy or completeness. The information contained herein is furnished without warranty of any kind, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for any particular purpose. Users should consider these data only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Stoller USA assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of goods and data.