

FRAME Concentrate

Material Safety Data Sheet (rev.01/05)

**SECTION I PRODUCT IDENTIFICATION**

**NFPA HAZARD RATINGS**

HEALTH HAZARD 1      FIRE HAZARD 0      REACTIVITY 0

**SARA/ TITLE III HAZARD CATEGORIES**

Immediate (ACUTE) Health: none      Reactive Hazard: none  
 Delayed (Chronic) Health: not known      Fire Hazard: none      Sudden Release of Pressure: none

Company Name: STOLLER USA, INC.  
 Address: 4001 W. Sam Houston Pkwy N, Suite 100  
 Houston, Texas 77043-1226 U.S.A.  
 Emergency Phone Number: CHEMTREC: In the U.S. and Canada call Toll-free: 1 (800) 424-9300  
 From other countries call collect: 1 (703) 527-3887  
 Phone Number for Information: 1 (800) 539-5283 or 1 (713) 461-1493  
 Chemical Family: metallic oxides and sulfates  
 Chemical Name & Synonyms: chelated micronutrient solution  
 Formula: See SECTION II COMPOSITION/ INGREDIENTS INFORMATION  
 Trade name & Synonyms: **FRAME Concentrate**

**SECTION II PHYSICAL AND CHEMICAL CHARACTERISTICS**

<b>INGREDIENTS:</b>	<b>CAS#</b>	<b>Approx. %</b>	<b>TLV</b>
Zinc Oxide	1314-13-2	>5	1 mg/ m <sup>3</sup> as Zn
Manganese Oxide	1344-43-0	>5	1 mg/ m <sup>3</sup> as Mn
Magnesium Oxide	1309-48-4	>5	
Tri- Basic Copper Sulfate	1332-14-5	>5	1 mg/ m <sup>3</sup> as Cu

**SECTION III PHYSICAL AND CHEMICAL CHARACTERISTICS**

<b>BOILING POINT:</b>	240° F (116° C)	<b>VAPOR PRESSURE (mm/ Hg):</b>	
<b>MELTING POINT:</b>	N/ A	<b>VAPOR DENSITY (air = 1):</b>	2.1
<b>SPECIFIC GRAVITY:</b>	1.2	<b>REACTIVITY IN WATER:</b>	N/ A
<b>SOLUBILITY IN WATER:</b>	100%	<b>EVAPORATION RATE:</b>	0.1
<b>APPEARANCE AND ODOR:</b>	Clear dark blue solution, slight pleasant odor.		
<b>PERCENT VOLATILE BY VOLUME:</b>		N/ A	
<b>pH:</b>	N/ A		
<b>MOLECULAR WEIGHT:</b>	N/ A		

**SECTION IV FIRE AND EXPLOSION DATA**

<b>FLASH POINT:</b>	NOT ESTABLISHED		
<b>FLAMMABLE LIMITS:</b>	NOT ESTABLISHED	<b>LEL: N/ A</b>	<b>UEL: N/ A</b>
<b>EXTINGUISHER MEDIA:</b>	Product is NON- FLAMMABLE. Use extinguisher media suitable to fight surrounding fire.		
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b>	NONE		
<b>UNUSUAL FIRE AND EXPLOSION HAZARDS:</b>	Toxic fumes may be generated under fire conditions.		
<b>AUTOIGNITION TEMPERATURE:</b>	Not applicable (N/ A)		

**SECTION V****PHYSICAL HAZARDS (REACTIVITY DATA)**

<b>STABILITY:</b>	Stable: Yes	Unstable:
<b>CONDITIONS TO AVOID:</b>	Stable under normal conditions.	
<b>INCOMPATIBILITY, MATERIALS TO AVOID:</b>	Not established. As a precaution avoid strong oxidizers.	
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	None	
<b>HAZARDOUS POLYMERIZATION:</b>	WILL NOT OCCUR	
<b>MAY OCCUR:</b>	<b>WILL NOT OCCUR: X</b>	

**SECTION VI****HEALTH HAZARDS**

- A. EXPOSURE LIMITS:**
1. OSHA Permissible Exposure Limit (PEL): NOT ESTABLISHED
  2. Threshold Limit Value (TLV): NOT ESTABLISHED
- B. CARCINOGEN OR POTENTIAL CARCINOGEN:**
- C. EFFECTS OF OVEREXPOSURE:**
1. **ACUTE:**  
**EYES:** May be irritating.  
**SKIN:** May irritate skin with extended exposure.  
**INHALATION:** May cause irritation of upper respiratory tract, nausea, and dizziness.  
**INGESTION:** May cause diarrhea, vomiting and stomach pain, even death if large amounts are ingested.
  2. **CHRONIC:** Not Known
- D. EMERGENCY FIRST AID PROCEDURES:**
- EYES:** Flush with clean running water for at least 15 minutes.  
**SKIN:** Wash with soap and water; remove contaminated clothing.  
**INHALATION:** Remove person to fresh air and get medical attention if victim does not react.  
**INGESTION:** Give large amount of milk or water to induce vomiting. Get medical attention immediately.
- E. ANIMAL TOXICITY DATA:**
- Oral LD<sub>50</sub> (rat): 3027 mg/ Kg  
Inhalation LC<sub>50</sub>(rat):> 2.31 mg/ Lt  
Dermal LD<sub>50</sub> (rabbit):>5050 mg/ Kg  
Toxicity Data: Primary eye irritation (rabbit): No irritation recorded, Toxicity Category IV  
Primary dermal irritation (rabbit): No irritation in test, Toxicity Category IV

**SECTION VII****SPECIAL PRECAUTIONS & SPILL/ LEAK PROCEDURES**

- HANDLING AND STORAGE:**Keep containers closed and dry, away from food, feed and clothing.
- STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED:** Prevent material from entering sewers or waterways. Recover as much as possible, then use absorbent inert to collect the remaining residues and put material in covered labeled containers, disposing of it as a solid waste.
- WASTE DISPOSAL METHODS:** Follow all applicable Federal, State and Local regulations.

**SECTION VIII****SPECIAL PROTECTION / CONTROL MEASURES**

- RESPIRATORY PROTECTION:** Wear a NIOSH / OSHA approved respirator if working conditions require to do so.
- LOCAL EXHAUST:** Provide general or local exhaust ventilation should working conditions require additional ventilation.
- SPECIAL VENTILATION:** Not necessary if working in open spaces or normally well- ventilated area.
- PROTECTIVE GLOVES:** Wear protective gloves impervious to this material.
- EYE PROTECTION:** Use of chemical goggles when there is any likelihood of splashes is a recommended practice.
- OTHER SPECIAL CLOTHING/ EQUIPMENT:** Eye wash fountain should be located in immediate work area. Wearing protective clothing, long sleeved shirt and long pants or coveralls is always a good practice when working with chemicals.

**SECTION IX****ENVIRONMENTAL EFFECTS DATA**

The available data on this plant nutrient material does not indicate any undue hazard to the environment under anticipated use and storage. Any waste due to spillage or leakage should be contained and disposed of as a Fertilizer. To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section I. this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details. May be harmful to fish if disposed indiscriminately into the marine environment.

**SECTION X****TRANSPORTATION DATA**

**DOT HAZARD CLASS:** Non- Hazardous Material. Non- Regulated Material

**PLACARD:** N/ A

**USDOT Proper Shipping Name:** Not Applicable (Trade name: FRAME Concentrate)

**IATA Proper Shipping Name:** N/ A

**IMO Proper Shipping Name:** N/ A

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