



## Safety Data Sheet

### Section 1: Identification

#### Product identifier

- Product Name**
- **Eminate 10-45-10**
  - FFN: 01221

#### Relevant identified uses of the substance or mixture and uses advised against

- Recommended use**
- Fertilizer

#### Details of the supplier of the safety data sheet

- Manufacturer**
- Verdesian Life Sciences, U.S., LLC  
1001 Winstead Drive, Suite 480  
  
Cary, NC 27513  
United States

- Telephone (General)** • 1-800-868-6446

#### Emergency telephone number

- Manufacturer** • 1-800-535-5053 - INFOTRAC

### Section 2: Hazard Identification

#### United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

#### Classification of the substance or mixture

- OSHA HCS 2012**
- Skin Irritation 2

#### Label elements

OSHA HCS 2012

#### WARNING



- Hazard statements** • Causes skin irritation

#### Precautionary statements

- Prevention** • Wash thoroughly after handling.  
Wear protective gloves
- Response** • If on skin: Wash with plenty of water.  
Take off contaminated clothing and wash before reuse.  
Specific treatment, see supplemental first aid information.  
If skin irritation occurs: Get medical advice/attention.

## Other hazards

### OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

## Section 3 - Composition/Information on Ingredients

### Substances

- Material does not meet the criteria of a substance.

### Mixtures

Composition					
Chemical Name	CAS No	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Proprietary	Proprietary	45-55%	NDA	OSHA HCS 2012: Not Classified	NDA
Proprietary	Proprietary	25-30%	Skin-Rabbit LD50 • >4640 mg/kg	OSHA HCS 2012: Not Classified	NDA
Proprietary	Proprietary	15-25%	Ingestion/Oral-Rat LD50 • 8471 mg/kg	OSHA HCS 2012: Skin Irrit. 2	NDA
Proprietary	Proprietary	15-20%	Ingestion/Oral-Rat LD50 • 2840 mg/kg	OSHA HCS 2012: Not Classified	NDA
Proprietary	Proprietary	1-5%	Ingestion/Oral-Rat LD50 • 11700 mg/kg	OSHA HCS 2012: Comb. Dust; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3: Resp. Irrit.	NDA
Iron Chelate	15708-41-5	<1%	NDA	OSHA HCS 2012: Eye Irrit. 2	NDA
Manganese Chelate	55448-20-9	<1%	NDA	OSHA HCS 2012: Not Classified	NDA
Copper Chelate	14025-15-1	<1%	NDA	OSHA HCS 2012: Eye Irrit. 2	NDA
Zinc Chelate	3486-35-9	<1%	NDA	OSHA HCS 2012: Eye Irrit. 2	NDA
Boron	12280-03-4	<1%	NDA	OSHA HCS 2012: Not Classified	NDA
Molybdenum	7439-98-7	<1%	NDA	OSHA HCS 2012: Exposure limits	NDA

## Section 4: First-Aid Measures

### Description of first aid measures

- Inhalation**
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
- Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- If swallowed, rinse mouth with water (only if the person is conscious) If large quantities are swallowed, call a physician immediately.

### Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

### Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

## Section 5: Fire-Fighting Measures

### Extinguishing media

**Suitable Extinguishing Media** • In case of fire use media as appropriate for surrounding fire.

**Unsuitable Extinguishing Media** • No data available.

### Special hazards arising from the substance or mixture

**Unusual Fire and Explosion Hazards** • When involved in a fire and exposed to extremely high temperatures, the components of this product will decompose to produce irritating vapors and toxic gases.

**Hazardous Combustion Products** • Oxides of nitrogen and other toxic gases may be formed in a fire situation, carbon monoxide and other asphyxiates may form as well.

### Advice for firefighters

- Move containers from fire area if you can do it without risk. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

## Section 6 - Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** • Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact.

**Emergency Procedures** • Keep unauthorized personnel away. Stay upwind.

### Environmental precautions

- Avoid run off to waterways and sewers.

### Methods and material for containment and cleaning up

**Containment/Clean-up Measures** • Stop leak if you can do it without risk.  
SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.  
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

## Section 7 - Handling and Storage

### Precautions for safe handling

**Handling** • Use only in well ventilated areas. Use good safety and industrial hygiene practices. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing vapors or mists generated by this product. Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or apply cosmetics while handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

### Conditions for safe storage, including any incompatibilities

**Storage** • Keep container closed when not in use. All containers of this product must be properly labeled. Store containers in a cool, dry location, away from direct sunlight, incompatible materials, sources of intense heat, or where freezing is possible.

## Section 8 - Exposure Controls/Personal Protection

### Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Molybdenum (7439-98-7)	TWAs	10 mg/m <sup>3</sup> TWA (inhalable fraction); 3 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established
Proprietary	TWAs	10 mg/m <sup>3</sup> TWA (synthetic nonfibrous, particulate matter)	10 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable dust)	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)

		containing no asbestos and <1% crystalline silica)		
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## Exposure controls

- Engineering Measures/Controls**
- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

## Personal Protective Equipment

- Respiratory**
- In case of insufficient ventilation, wear suitable respiratory equipment.
- Eye/Face**
- Wear safety glasses.
- Skin/Body**
- No protective clothing expected to be needed.
- Environmental Exposure Controls**
- Follow best practice for site management and disposal of waste.

### Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

## Section 9 - Physical and Chemical Properties

### Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Green-blue crystals with fertilizer-like odor.
Color	Green - blue.	Odor	Fertilizer-like
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	No data available	Water Solubility	Soluble 100 %
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

## Section 10: Stability and Reactivity

### Reactivity

- No dangerous reaction known under conditions of normal use.

### Chemical stability

- Stable

### Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### Conditions to avoid

- Exposure to extreme temperatures and incompatible materials.

## Incompatible materials

- Strong Acids and Bases.

## Hazardous decomposition products

- Oxides of nitrogen, and other toxic fumes may form in a fire situation.

## Section 11 - Toxicological Information

### Information on toxicological effects

		Components
Proprietary Component	Proprietary	<b>Acute Toxicity:</b> Skin-Rabbit LD50 • >4640 mg/kg
Proprietary Component	Proprietary	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 2840 mg/kg; <b>Behavioral:Somnolence (general depressed activity); Behavioral:Muscle contraction or spasticity; Lungs, Thorax, or Respiration:Other changes;</b> <b>Irritation:</b> Skin-Mammal • 50 % 5 Day(s)-Intermittent
Proprietary Component	Proprietary	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 6600 mg/kg; <b>Multi-dose Toxicity:</b> Inhalation-Rat TCLo • 15 mg/m <sup>3</sup> 4 Hour(s) 16 Week(s)-Intermittent; <b>Liver:Changes in liver weight; Kidney, Ureter, and Bladder:Changes in kidney weight; Immunological Including Allergic:Decrease in immune response</b>
Proprietary Component	Proprietary	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 3 g/kg; Inhalation-Rat TCLo • 180 mg/m <sup>3</sup> ; <b>Lungs, Thorax, or Respiration:Other changes; Liver:Liver function tests impaired; Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels:Dehydrogenases;</b> <b>Irritation:</b> Eye-Rabbit • 750 µg 24 Hour(s) • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation
Zinc Chelate	3486-35-9	<b>Multi-dose Toxicity:</b> Ingestion/Oral-Rat TDLo • 131.88 mg/kg 3 Week(s)-Intermittent; <b>Behavioral:Food intake (animal); Liver:Other changes; Musculoskeletal:Other changes;</b> <b>Reproductive:</b> Ingestion/Oral-Mouse TDLo • 2800 mg/kg (14D post); <b>Reproductive Effects:Specific Developmental Abnormalities:Skin and skin appendages</b>
Proprietary Component	Proprietary	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 8471 mg/kg; <b>Irritation:</b> Skin-Human • 20 % 24 Hour(s) • Moderate irritation; <b>Mutagen:</b> DNA damage • Unreported Route-Human • Liver (Somatic cell) • 31.6 µmol/L 48 Hour(s); <b>Reproductive:</b> Intraplacental-Woman TDLo • 1400 mg/kg (16W preg); <b>Reproductive Effects:Effects on Fertility:Abortion;</b> <b>Tumorigen / Carcinogen:</b> Ingestion/Oral-Rat TDLo • 821 g/kg 1 Year(s)-Continuous; <b>Tumorigenic:Neoplastic by RTECS criteria; Blood:Tumors; Blood:Lymphoma, including Hodgkin's disease</b>

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012•No data available
Aspiration Hazard	OSHA HCS 2012•No data available
Carcinogenicity	OSHA HCS 2012•No data available
Germ Cell Mutagenicity	OSHA HCS 2012•No data available
Skin corrosion/Irritation	OSHA HCS 2012•Skin Irritation 2
Skin sensitization	OSHA HCS 2012•No data available
STOT-RE	OSHA HCS 2012•No data available
STOT-SE	OSHA HCS 2012•No data available
Toxicity for Reproduction	OSHA HCS 2012•No data available
Respiratory sensitization	OSHA HCS 2012•No data available

Serious eye damage/Irritation

OSHA HCS 2012•No data available

## Potential Health Effects

### Inhalation

**Acute (Immediate)** • Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)** • No data available.

### Skin

**Acute (Immediate)** • Causes skin irritation.

**Chronic (Delayed)** • No data available.

### Eye

**Acute (Immediate)** • Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)** • No data available.

### Ingestion

**Acute (Immediate)** • Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)** • No data available.

#### Key to abbreviations

LD = Lethal Dose

TC = Toxic Concentration

TD = Toxic Dose

## Section 12 - Ecological Information

### Toxicity

- Non-mandatory section - information about this substance not complied for this reason.

### Persistence and degradability

- Non-mandatory section - information about this substance not complied for this reason.

### Bioaccumulative potential

- Non-mandatory section - information about this substance not complied for this reason.

### Mobility in Soil

- Non-mandatory section - information about this substance not complied for this reason.

### Other adverse effects

- Non-mandatory section - information about this substance not complied for this reason.

## Section 13 - Disposal Considerations

### Waste treatment methods

**Product waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Packaging waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA

**Special precautions for user**

- None specified.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** • No data available

## Section 15 - Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- None

#### Inventory

### United States

#### Environment

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

•Carbonic acid, zinc salt

3486-35-9

1000 lb final RQ; 454 kg final RQ

### United States - California

## Section 16 - Other Information

#### Last Revision Date

- June 1, 2009

#### Preparation Date

- April 27, 2016

#### Disclaimer/Statement of Liability

- The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

#### Key to abbreviations

NDA = No data available