

# SAFETY DATA SHEET



Metalosate® StimPlus™

## Section 1. Identification

**GHS product identifier** : Metalosate® StimPlus™  
**Product code** : 07342  
**Other means of identification** : Metalosate StimPlus (07342)  
**Product type** : Liquid.

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

#### Identified uses

Fertilizer.

#### Uses advised against

Not applicable.

**Supplier's details** : Balchem Corporation  
5 Paragon Drive Suite 201  
Montvale, NJ 07645  
United States  
1.845.326.5600

**e-mail address of person responsible for this SDS** : sds@balchem.com

**Emergency telephone number (with hours of operation)** : Chemtrec CCN#2275  
1.800.424.9300 (USA)  
+1.703.527.3887 (International)

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SERIOUS EYE DAMAGE - Category 1  
TOXIC TO REPRODUCTION - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

### GHS label elements

#### Hazard pictograms



**Signal word** : Danger

**Hazard statements** : H318 - Causes serious eye damage.  
H360 - May damage fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements

**Prevention** : P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P280 - Wear protective gloves, protective clothing and eye or face protection.  
P260 - Do not breathe vapor.

**Response** : P308 + P313 - IF exposed or concerned: Get medical advice or attention.  
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor.

## Section 2. Hazards identification

**Storage** : P405 - Store locked up.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number
Manganese sulfate	≤10	7785-87-7
Sulfuric acid, zinc salt (1:1), monohydrate	≤4.3	7446-19-7
iron (II) sulfate (1:1) heptahydrate	≤3	7782-63-0
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	≤1.3	7758-99-8
boric acid	≤0.3	10043-35-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

#### Potential acute health effects

## Section 4. First aid measures

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
sulfur oxides  
halogenated compounds  
metal oxide/oxides

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Manganese sulfate	<b>NIOSH REL (United States, 10/2020).</b> <b>[manganese compounds and fume as Mn]</b> TWA: 1 mg/m <sup>3</sup> , (as Mn) 10 hours. Form: Fume STEL: 3 mg/m <sup>3</sup> , (as Mn) 15 minutes. Form: Fume <b>ACGIH TLV (United States, 1/2022).</b> <b>[Manganese and inorganic compounds Inhalable fraction / Respirable fraction, as Mn]</b> TWA: 0.1 mg/m <sup>3</sup> , (as Mn) 8 hours. Form: Inhalable fraction TWA: 0.02 mg/m <sup>3</sup> , (as Mn) 8 hours. Form: Respirable fraction <b>OSHA PEL (United States, 5/2018).</b> <b>[Manganese compounds (as Mn)]</b> CEIL: 5 mg/m <sup>3</sup> , (as Mn) <b>OSHA PEL 1989 (United States, 3/1989).</b> <b>[Manganese compounds (as Mn)]</b> CEIL: 5 mg/m <sup>3</sup> , (as Mn) <b>CAL OSHA PEL (United States, 5/2018).</b> <b>[manganese and compounds as Mn]</b> TWA: 0.2 mg/m <sup>3</sup> , (as Mn) 8 hours.
Sulfuric acid, zinc salt (1:1), monohydrate	None.
iron (II) sulfate (1:1) heptahydrate	None.
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	<b>ACGIH TLV (United States, 1/2022).</b> <b>[Copper Dusts and mists, as Cu]</b> TWA: 1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: Dust and mist <b>CAL OSHA PEL (United States, 5/2018).</b> <b>[copper salts dusts and mists, as Cu]</b> TWA: 1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: dust and mist
boric acid	<b>ACGIH TLV (United States, 1/2022).</b> <b>[Borate compounds, Inorganic]</b> TWA: 2 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction STEL: 6 mg/m <sup>3</sup> 15 minutes. Form: Inhalable fraction

#### Biological exposure indices

No exposure indices known.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

## Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Brown.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : 4 to 5 [Conc. (% w/w): 1%]
- Melting point/freezing point** : Not available.
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3	EU A.4			
boric acid	0.00000074	0.000000099				
choline chloride	0	0				

- Relative vapor density** : Not available.

## Section 9. Physical and chemical properties and safety characteristics

- Relative density** : Not available.  
**Density** : 1.17 g/cm<sup>3</sup>  
**Solubility in water** : Not available.  
**Partition coefficient: n-octanol/water** : Not applicable.  
**Auto-ignition temperature** :

Ingredient name	°C	°F	Method
choline chloride	330	626	

- Decomposition temperature** : Not available.  
**Viscosity** : Not available.  
**Maximum rate of pressure rise** : Not available.

### Particle characteristics

- Median particle size** : Not applicable.

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

- Chemical stability** : The product is stable.

- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

- Conditions to avoid** : No specific data.

- Incompatible materials** : No specific data.

- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Manganese sulfate	LD50 Oral	Rat	2150 mg/kg	-
iron (II) sulfate (1:1) heptahydrate	LD50 Oral	Mouse	1520 mg/kg	-
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	LD50 Oral	Rat	472 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
boric acid	Skin - Mild irritant	Human	-	72 hours 15 mg l	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

## Section 11. Toxicological information

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Manganese sulfate	Category 2	inhalation	-

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure



## Section 11. Toxicological information

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**General** : May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Metalosate® StimPlus™	6251.7	N/A	N/A	N/A	N/A
Manganese sulfate	2150	N/A	N/A	N/A	N/A
Sulfuric acid, zinc salt (1:1), monohydrate	500	N/A	N/A	N/A	N/A
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	472	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Manganese sulfate	Acute EC50 25700 µg/l Marine water	Algae - <i>Phaeodactylum tricornutum</i>	96 hours
	Acute EC50 8.28 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 0.15 mg/l Fresh water	Crustaceans - <i>Canthocamptus sp.</i> - Larvae	48 hours
iron (II) sulfate (1:1) heptahydrate	Acute LC50 3.32 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i> - Embryo	96 hours
	Chronic NOEC 1270 µg/l Fresh water	Fish - <i>Pimephales promelas</i> - Egg	28 days
	Acute EC50 7.1 ppm Fresh water	Daphnia - <i>Daphnia pulex</i>	48 hours
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	Acute LC50 20.8 ppm Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Acute EC50 182 ppb Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
boric acid	Acute LC50 0.032 ppm Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Acute LC50 45.5 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i>	48 hours
	Acute LC50 133000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 75 mg/l Marine water	Fish - <i>Pagrus major</i>	96 hours
	Chronic NOEC 6000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Chronic NOEC 2100 µg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	87 days

### Persistence and degradability

Not available.

### Bioaccumulative potential

## Section 12. Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
boric acid	-1.09	-	Low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
<b>UN number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-	-	-
<b>Transport hazard class(es)</b>	-	-	-	-	-
<b>Packing group</b>	-	-	-	-	-
<b>Environmental hazards</b>	No.	No.	No.	No.	No.

### Additional information

**DOT Classification** : **Reportable quantity** 909.09 lbs / 412.73 kg [93.189 gal / 352.76 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

- U.S. Federal regulations** : TSCA 4(a) proposed test rules: glycine  
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
**Clean Water Act (CWA) 307**: Sulfuric acid, zinc salt (1:1), monohydrate; Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)  
**Clean Water Act (CWA) 311**: Sulfuric acid, zinc salt (1:1), monohydrate; iron (II) sulfate (1:1) heptahydrate; Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : SERIOUS EYE DAMAGE - Category 1  
 TOXIC TO REPRODUCTION - Category 1B  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

#### Composition/information on ingredients

Name	%	Classification
Manganese sulfate	≤10	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Protein hydrolyzates, vegetable	≤10	COMBUSTIBLE DUSTS
Sulfuric acid, zinc salt (1:1), monohydrate	≤4.3	ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE - Category 1
Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	≤1.3	ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE - Category 1
boric acid	≤0.3	TOXIC TO REPRODUCTION - Category 1B

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	manganese sulphate	7785-87-7	≤10
	Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	≤4.3
	Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	7758-99-8	≤1.3
<b>Supplier notification</b>	manganese sulphate	7785-87-7	≤10
	Sulfuric acid, zinc salt (1:1), monohydrate	7446-19-7	≤4.3
	Sulfuric acid copper(2+) salt (1:1), hydrate (1:5)	7758-99-8	≤1.3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: FERROUS SULFATE (HEPAHYDRATE)

**New York** : The following components are listed: Ferrous sulfate

**New Jersey** : The following components are listed: ZINC compounds; COPPER compounds

**Pennsylvania** : The following components are listed: MANGANESE COMPOUNDS; ZINC COMPOUNDS; FERROUS SULFATE; COPPER COMPOUNDS

## Section 15. Regulatory information

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</b> : All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: All components are listed or exempted.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		0
Physical hazards		0

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.**

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)



### Procedure used to derive the classification

**Section 16. Other information**

<b>Classification</b>	<b>Justification</b>
SERIOUS EYE DAMAGE - Category 1	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

**History**

**Date of printing** : 10 July 2023  
**Date of issue/Date of revision** : 10 July 2023  
**Date of previous issue** : No previous validation  
**Version** : 1

**Key to abbreviations**

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 UN = United Nations

**References**

: Not available.

✔ Indicates information that has changed from previously issued version.

**Notice to reader**

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