

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

<b>Product</b>	PHOSPHOROUS EXTRACTION
----------------	------------------------

<b>Synonyms</b>	None
-----------------	------

## Section 2 Hazards identification

**Signal word:** WARNING  
**Pictograms:** No symbol required  
**Target organs:** None known

**GHS Classification:**  
 Eye irritation (Category 2B)

**GHS Label information: Hazard statement:**  
 H320: Causes eye irritation.

**Precautionary statement:**

P264: Wash hands thoroughly after handling.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313: If eye irritation persists: Get medical attention.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known  
 Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	87%	231-791-2
Sodium acetate, trihydrate	6131-90-4	10%	204-823-8 (anhydrous)
Acetic acid	64-19-7	3%	200-580-7

## Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Carbon dioxide, dry chemical, dry sand, alcohol foam.

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This chemical reacts violently with strong oxidizers, generating a fire and explosion hazard. Reacts violently with strong bases, strong acids and many other compounds.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Acetic acid	TWA: 25 mg/m <sup>3</sup> STEL: 37 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup> STEL: 37 mg/m <sup>3</sup>

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

**Appearance:** Clear, colorless liquid.

**Odor:** Vinegar-like odor.

**Odor threshold:** Data not available.

**pH:** Data not available.

**Melting / Freezing point:** Approximately 0°C (32°F) (water)

**Boiling point:** Approximately 100°C (212°F) (water)

**Flash point:** Data not available

**Evaporation rate (Water = 1):** <1

**Flammability (solid/gas):** Data not available.

**Explosion limits: Lower / Upper:** Data not available

**Vapor pressure (mm Hg):** 14 (water)

**Vapor density (Air = 1):** 0.7 (water)

**Relative density (Specific gravity):** Approximately 1.0 (water)

**Solubility(ies):** Complete in water.

**Partition coefficient:** Data not available

**Auto-ignition temperature:** Data not available

**Decomposition temperature:** Data not available.

**Viscosity:** Data not available.

**Molecular formula:** Mixture

**Molecular weight:** Mixture

## Section 10 Stability and reactivity

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures which cause evaporation.

**Incompatible materials:** Bases, strong oxidizers, chromic acid, nitric acid, sodium peroxide, carbonates, hydroxides, phosphates. Corrosive to some metals. Potentially violent reaction with acetaldehyde and acetic anhydride. Ignites on contact with potassium-tert-butoxide.

**Hazardous decomposition products:** Carbon monoxide, hydrogen sulfide and other harmful gases or vapors including oxides and/or other compounds of sulfur and sodium.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 3,310 mg/kg ; Inhalation-rat LC50: 11.4 mg/L/4 hours ; Dermal-rabbit LD50: 1,060 mg/kg [Acetic acid, glacial]

**Skin corrosion/irritation:** Skin-rabbit - Severe irritant. [Acetic acid, glacial]

**Serious eye damage/irritation:** Eyes-rabbit - Severe irritant. [Acetic acid, glacial]

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Data not available

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: Contact with skin causes pain and redness.

Eyes: Contact with eyes may cause redness and pain.

**Signs and symptoms of exposure:** See Potential health effects above. Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: AF1225000 [Acetic acid, glacial]

## Section 12 Ecological information

**Toxicity to fish:** Gambusia affinis (fish, fresh water), LC50 = 251 mg/L/24 hours [Acetic acid, glacial]

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea), EC50 = 95 mg/L/24 hours [Acetic acid, glacial]

**Toxicity to algae:** Euglena gracilis (Algae), EC100 = 720 mg/L [Acetic acid, glacial]

**Persistence and degradability:** Easily biodegradable **Bioaccumulative potential:** Not expected to bioaccumulate

**Mobility in soil:** No data available **PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Not applicable

**2020 ERG Guide #** Not applicable

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Acetic acid, glacial	Listed	5,000 lbs (2270 kg)	D001, D002	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Sodium acetate	Listed	Not listed	Not listed	Listed	Not listed	

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

<b>Product</b>	PHOSPHORUS REAGENT
----------------	--------------------

<b>Synonyms</b>	None
-----------------	------

## Section 2 Hazards identification

**Signal word:** WARNING

**Pictograms:** GHS07

**Target organs:** Respiratory system, Eyes, Skin, Teeth



**GHS Classification:**

Skin irritation (Category 2)

Eye irritation (Category 2A)

**GHS Label information: Hazard statement:**

H315: Causes skin irritation.

H319: Causes serious eye irritation.

**Precautionary statement:**

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P332+P313: If skin irritation occurs: Get medical attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	89.27%	231-791-2
Acetic acid	64-19-7	8.5%	200-580-7
Sodium molybdate, anhydrous	7631-95-0	2.23%	231-551-7

## Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Carbon dioxide, dry chemical, dry sand, alcohol foam.

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This chemical reacts violently with strong oxidizers, generating a fire and explosion hazard. Reacts violently with strong bases, strong acids and many other compounds.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Acetic acid	TWA: 25 mg/m <sup>3</sup> STEL: 37 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup> STEL: 37 mg/m <sup>3</sup>

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Clear, colorless liquid. <b>Odor:</b> Vinegar-like odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> Data not available. <b>Melting / Freezing point:</b> Approximately 0°C (32°F) (water) <b>Boiling point:</b> Approximately 100°C (212°F) (water) <b>Flash point:</b> Data not available	<b>Evaporation rate (Water = 1):</b> <1 <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Data not available <b>Vapor pressure (mm Hg):</b> 14 (water) <b>Vapor density (Air = 1):</b> 0.7 (water) <b>Relative density (Specific gravity):</b> Approximately 1.0 (water) <b>Solubility(ies):</b> Complete in water.	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> Data not available. <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> Mixture <b>Molecular weight:</b> Mixture
--	--	---

## Section 10 Stability and reactivity

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures, heat, sparks, open flame and other sources of ignition.

**Incompatible materials:** Bases, strong oxidizers, chromic acid, nitric acid, sodium peroxide, carbonates, hydroxides, phosphates. Corrosive to some metals. Potentially violent reaction with acetaldehyde and acetic anhydride. Ignites on contact with potassium-tert-butoxide.

**Hazardous decomposition products:** Carbon monoxide, hydrogen sulfide and other harmful gases or vapors including oxides and/or other compounds of sulfur and sodium.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 3,310 mg/kg ; Inhalation-rat LC50: 11.4 mg/L/4 hours ; Dermal-rabbit LD50: 1,060 mg/kg [Acetic acid, glacial]

**Skin corrosion/irritation:** Skin-rabbit - Severe irritant. [Acetic acid, glacial]

**Serious eye damage/irritation:** Eyes-rabbit - Severe irritant. [Acetic acid, glacial]

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Data not available

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: Contact with skin causes pain and redness.

Eyes: Contact with eyes may cause redness and pain.

**Signs and symptoms of exposure:** See Potential health effects above. Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: AF1225000 [Acetic acid, glacial]

## Section 12 Ecological information

**Toxicity to fish:** Gambusia affinis (fish, fresh water), LC50 = 251 mg/L/24 hours [Acetic acid, glacial]

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea), EC50 = 95 mg/L/24 hours [Acetic acid, glacial]

**Toxicity to algae:** Euglena gracilis (Algae), EC100 = 720 mg/L [Acetic acid, glacial]

**Persistence and degradability:** Easily biodegradable **Bioaccumulative potential:** Not expected to bioaccumulate

**Mobility in soil:** No data available **PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Not applicable **2020 ERG Guide #** Not applicable

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Acetic acid, glacial	Listed	5,000 lbs (2270 kg)	D001, D002	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Sodium molybdate	Listed	Not listed	Not listed	Listed	Not listed	

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

<b>Product</b>	UNIVERSAL PH INDICATOR
----------------	------------------------

<b>Synonyms</b>	Universal Indicator
-----------------	---------------------

## Section 2 Hazards identification

**Signal word:** DANGER**Pictograms:** GHS02 / GHS08 / GHS06**Target organs:** Eyes, Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)

Acute toxicity, inhalation (Category 3)

Skin irritation (Category 2)

Eye irritation (Category 2B)

STOT-SE (Category 2)

STOT-SE (Category 3)

**GHS Label information: Hazard statement:**

H225: Highly flammable liquid and vapour.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H331: Toxic if inhaled.

H336: May cause drowsiness or dizziness.

H371: May cause damage to organs.

**Precautionary statement:**

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312: Call a POISON CENTER or doctor if you feel unwell.

P332+P313: If skin irritation occurs: Get medical attention.

P337+P313: If eye irritation persists: Get medical attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	64.50 - 65.11%	200-578-6
Water	7732-18-5	23.96%	231-791-2
Isopropyl alcohol	67-63-0	6.83%	200-661-7
Methanol	67-56-1	3.03 - 3.26%	200-659-6
Methyl isobutyl ketone	108-10-1	0.68 - 0.76%	203-550-1
Bromothymol blue	76-59-5	0.06%	200-971-2
Phenolphthalein	77-09-8	0.06%	201-004-7
Methyl red	845-10-3	0.02%	212-682-9
Thymol blue	62625-21-2	0.005%	263-650-6

## Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Carbon dioxide, dry chemical, dry sand, alcohol foam.**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.**Containment and Cleanup:** Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Ethanol	STEL: 1000 ppm / 1880 mg/m <sup>3</sup> (A3)	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Clear, green liquid.	<b>Evaporation rate ( Butyl acetate = 1):</b> 4.1*	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> Mild characteristic odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> 400°C (752°F)*
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> 4.0%(V) / 20.0%(V)*	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available.	<b>Vapor pressure (mm Hg):</b> 44.6 @ 20°C (68°F)*	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> -114°C (-173°F)*	<b>Vapor density (Air = 1):</b> 1.59*	<b>Molecular formula:</b> Mixture
<b>Boiling point:</b> 75-80°C (173-174°F)*	<b>Relative density (Specific gravity):</b> 0.794 @ 60°F*	<b>Molecular weight:</b> Mixture
<b>Flash point:</b> Approximately 21°C (70°F)	<b>Solubility(ies):</b> Soluble in water.	*[Pure Ethanol]

## Section 10 Stability and reactivity

**Chemical stability:** Stable **Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures, heat, sparks, open flame and other sources of ignition.

**Incompatible materials:** Strong oxidizers, inorganic acids and halogens.

**Hazardous decomposition products:** Oxides of carbon.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 7060 mg/kg ; Inhalation-rat LC50: 124.7 mg/l/4hours [Ethanol]

**Skin corrosion/irritation:** Skin-rabbit - Slight irritant.

**Serious eye damage/irritation:** Eyes-rabbit - Severe irritant.

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Isopropanol]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: ⚠️ WARNING! :This product can expose you to Phenolphthalein, Methanol and Methyl isobutyl ketone, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

**STOT-repeated exposure:** Data not available

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: Inhalation may cause dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat.

Ingestion: Ingestion causes dizziness, drowsiness, decreased reaction, euphoria, nausea, vomiting, staggering gait and coma.

Skin: Contact with skin causes irritation defatting on prolonged contact.

Eyes: Contact with eyes may cause blindness.

**Signs and symptoms of exposure:** See Potential health effects above.

**Additional information:** RTECS #: KQ6300000 [Ethanol]

## Section 12 Ecological information

**Toxicity to fish:** Oncorhynchus mykiss (fish, fresh water), LC50 = 11,200 mg/l/24 hours [Ethanol]

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacia), EC50 = 10,800 mg/l/24 hours [Ethanol, 99.8% pure]

**Toxicity to algae:** Chlorella pyrenoidosa (Algae), EC50 = 9,310 mg/l/growth rate [Ethanol, absolute]

**Persistence and degradability:** No data available **Bioaccumulative potential:** No data available

**Mobility in soil:** No data available **PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** UN1170 **Shipping name:** Ethanol solution

**Hazard class:** 3

**Packing group:** II

**Reportable Quantity:** 5,000 lbs (2270 kg)

**Marine pollutant:** No

**Exceptions:** Limited quantity equal to or less than 1 L

**2020 ERG Guide #** 127

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol	Listed	Not listed	D001	Listed	Not listed	⚠️ WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Methanol	Listed	5,000 lbs.	U154	Listed	Not listed	
Isopropanol	Listed	Not listed	Not listed	Listed	Not listed	

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

<b>Product</b>	<b>1,10-PHENANTHROLINE, 0.1% SOLUTION</b>
----------------	---

<b>Synonyms</b>	Iron indicator solution
-----------------	-------------------------

## Section 2 Hazards identification

**Signal word:** WARNING  
**Pictograms:** No symbol required  
**Target organs:** None

**GHS Classification:**  
 Acute toxicity, oral (Category 5)

**GHS Label information: Hazard statement:**  
 H303: May be harmful if swallowed.

**Precautionary statement:**  
 P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known  
 Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	99.9%	231-791-2
1,10-Phenanthroline, monohydrate	5144-89-8	0.1%	200-629-2 (anhydrous)

## Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Use any media suitable for extinguishing supporting fire.

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Specific Hazards:** In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, well-ventilated area away from incompatible substances.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	1,10-Phenanthroline	Not established	Not established	Not established

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Clear, colorless liquid.	<b>Evaporation rate ( Water = 1):</b> <1	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> Mild characteristic odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> Data not available	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available.	<b>Vapor pressure (mm Hg):</b> 14 (water)	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> Approximately 0°C (32°F) (water)	<b>Vapor density (Air = 1):</b> 0.7 (water)	<b>Molecular formula:</b> Mixture
<b>Boiling point:</b> Approximately 100°C (212°F) (water)	<b>Relative density (Specific gravity):</b> Approximately 1.0 (water)	<b>Molecular weight:</b> Mixture
<b>Flash point:</b> Data not available	<b>Solubility(ies):</b> Complete in water.	

## Section 10 Stability and reactivity

**Chemical stability:** Stable **Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures which cause evaporation.

**Incompatible materials:** Strong oxidizers, acids.

**Hazardous decomposition products:** Carbon oxides and nitrogen oxides.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 132 mg/kg [1,10-Phenanthroline]

**Skin corrosion/irritation:** Data not available

**Serious eye damage/irritation:** Data not available

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Data not available

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful by inhalation.

Ingestion: May be harmful if swallowed.

Skin: Contact may cause irritation.

Eyes: Contact may cause irritation.

**Signs and symptoms of exposure:** To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: SF8437000 [1,10-Phenanthroline]

## Section 12 Ecological information

**Toxicity to fish:** No data available

**Toxicity to daphnia and other aquatic invertebrates:** No data available

**Toxicity to algae:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Not applicable

**2020 ERG Guide #:** Not applicable

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
1,10-Phenanthroline	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.



## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

Product	SOIL SAMPLE C
---------	---------------

Synonyms	Restaurant soil
----------	-----------------

## Section 2 Hazards identification

Signal word: WARNING

Pictograms: GHS08

Target organs: Lungs



GHS Classification:

\*STOT-RE (Category 2)

GHS Label information: Hazard statement:

\*H373: May cause damage to organs (*lungs*) through prolonged or repeated exposure (*inhalation*).

\* Respirable dust particles containing silicon dioxide may be generated by crushing. There are no known hazards associated with this material when used as recommended.

Precautionary statement:

P260: Do not breathe dust.

P314: Get medical advice/attention if you feel unwell.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Top soil	None listed	83.3%	None listed
Sand	14808-60-7	12.5%	238-878-4
Cork dust	61789-98-8	4.2%	Not listed

## Section 4 First aid measures

**INGESTION:** Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** RESPIRABLE CRYSTALLINE SILICA MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** MAY CAUSE CORNEAL ABRASIONS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Sand will not burn or support fire. Use any media suitable for extinguishing supporting fire

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool..

**Specific Hazards:** None known.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Silica, crystalline, $\alpha$ -quartz	TWA: 0.025 mg/m <sup>3</sup> respirable (A2)	TWA: 10 mg/m <sup>3</sup> respirable dust	TWA: 0.05 mg/m <sup>3</sup> respirable dust

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Solid. Brown dirt with yellow granules.	<b>Evaporation rate ( = 1):</b> Not applicable	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> Earthy odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> Not flammable	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available.	<b>Vapor pressure (mm Hg):</b> Data not available	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> Data not available	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> Mixture
<b>Boiling point:</b> Data not available	<b>Relative density (Specific gravity):</b> Data not available	<b>Molecular weight:</b> Mixture
<b>Flash point:</b> Not flammable	<b>Solubility(ies):</b> Partially soluble in water.	

## Section 10 Stability and reactivity

**Chemical stability:** Stable **Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Avoid contact with incompatible materials.

**Incompatible materials:** Contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide and oxygen difluoride may cause fire.

**Hazardous decomposition products:** Will dissolve in hydrofluoric acid and produce silicon tetrafluoride, a corrosive gas.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 500 mg/kg (Sand)

**Skin corrosion/irritation:** Data not available

**Serious eye damage/irritation:** Data not available

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: Known to be a human carcinogen (respirable). [Quartz]

IARC classified: Group 1: Carcinogenic to humans. [Quartz]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: ⚠ WARNING! This product can expose you to a chemical, crystalline silica, which is known to the State of California to cause cancer.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Inhalation - May cause damage to organs through prolonged or repeated exposure. [Quartz]

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause transient irritation.

Eyes: May cause transient irritation.

**Signs and symptoms of exposure:** Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and milary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis.

**Additional information:** RTECS #: VV7330000 (Sand)

## Section 12 Ecological information

**Toxicity to fish:** No data available

**Toxicity to daphnia and other aquatic invertebrates:** No data available

**Toxicity to algae:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Not applicable

**2020 ERG Guide #:** Not applicable

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Sand	Listed	Not listed	Not listed	Listed	Not listed	⚠ WARNING -Cancer - www.P65Warnings.ca.gov.

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

<b>Product</b>	TIN(II) CHLORIDE, DIHYDRATE
<b>Synonyms</b>	Phosphorous indicator powder

## Section 2 Hazards identification

**Signal word:** DANGER**Pictograms:** GHS05 / GHS07 / GHS08 / GHS09**Target organs:** Liver, Kidneys, Brain**GHS Classification:**

Skin corrosion (Category 1B)  
 Skin sensitization (Category 1)  
 Serious eye damage (Category 1)  
 Acute toxicity - inhalation (Category 4)  
 Germ cell mutagenicity (Category 2)  
 Reproductive toxicity (Category 2)  
 STOT-SE (Category 3)  
 STOT-RE (Category 2)  
 Aquatic acute (Category 1)  
 Aquatic chronic (Category 1)

**GHS Label information: Hazard statement:**

H314: Causes severe skin burns and eye damage.  
 H317: May cause allergic skin reaction.  
 H332: Harmful if inhaled.  
 H335: May cause respiratory irritation.  
 H341: Suspected of causing genetic defects.  
 H361: Suspected of damaging fertility or the unborn child.  
 H373: May cause damage to organs through repeated exposure.  
 H412: Harmful to aquatic life with long lasting effects.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known  
 Physical hazards not otherwise classified (PHNOC) - Not Known

**Precautionary statement:**

P203: Obtain, read and follow all safety instructions before use.  
 P260: Do not breathe dust.  
 P264: Wash hands thoroughly after handling.  
 P271: Use only outdoors or in a well-ventilated area.  
 P272: Contaminated work clothing should not be allowed out of the workplace.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P333+P317: If skin irritation or rash occurs: Get medical help.  
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P310: Immediately call a POISON CENTER or doctor.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
 P405: Store locked up.  
 P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Stannous chloride, dihydrate	10025-69-1	98-100%	231-868-0 [anhydrous]

## Section 4 First aid measures

**INGESTION:** HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES BURNS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** CAUSES BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Do not use water. Use dry chemical.

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Stannous chloride	2mg/m <sup>3</sup> TWA	2mg/m <sup>3</sup> TWA	2mg/m <sup>3</sup> TWA

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Solid. White crystals.	<b>Evaporation rate ( = 1):</b> Not applicable	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> No odor.	<b>Flammability (solid/gas):</b> Data not available	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available	<b>Explosion limits: Lower / Upper:</b> Not applicable	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available	<b>Vapor pressure (mm Hg):</b> Data not available	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> 38°C (100°F)	<b>Vapor density (Air = 1):</b> Negligible	<b>Molecular formula:</b> SnCl <sub>2</sub> ·2H <sub>2</sub> O
<b>Boiling point:</b> Decomposes	<b>Relative density (Specific gravity):</b> 2.71	<b>Molecular weight:</b> 225.63
<b>Flash point:</b> Not flammable	<b>Solubility(ies):</b> 118 g/100 ml water @ 323°C	

## Section 10 Stability and reactivity

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Hygroscopic. Absorbs oxygen from the air and forms insoluble oxchloride. Avoid excessive temperatures.

**Incompatible materials:** Metals, strong oxidizing agents, strong reducing agents, strong acids, strong bases, bromine trifluoride, ethylene oxide, potassium, hydrogen peroxide, sodium, moisture, calcium carbide, hydrazine hydrate, organic nitrates.

**Hazardous decomposition products:** Hydrogen chloride, chlorine, tin/tin oxides.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 700mg/kg

**Skin corrosion/irritation:** Data not available

**Serious eye damage/irritation:** Data not available

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Reproductive toxicity:** The substance or mixture is classified as toxic to reproduction, category 2.

**STOT-single exposure:** The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory effects.

**STOT-repeated exposure:** Data not available

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: Inhalation causes cough, sore throat, burning sensation, labored breathing, shortness of breath, wheezing.

Ingestion: Ingestion causes abdominal pain, burning sensation, shock or collapse.

Skin: Contact causes redness, pain and burns.

Eyes: Contact causes redness, pain and severe burns.

**Signs and symptoms of exposure:** Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: XP8850000

## Section 12 Ecological information

**Toxicity to fish:** Brachydanio rerio (fish, fresh water), LC50 = >1000 mg/L/96 hours

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea), SG: 146 mg/L/64 hours

**Toxicity to algae:** Anabaena flos-aquae (Algae), EC50 = >5 mg/L/4 hours

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** UN3260

**Shipping name:** Corrosive solid, acidic, inorganic, n.o.s., (Stannous chloride)

**Hazard class:** 8

**Packing group:** III

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Limited quantity equal to or less than 5 kg

**2020 ERG Guide #** 154

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Stannic chloride, anhydrous	Listed	Not listed	Not listed	Not Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

<b>Product</b>	<b>COPPER INDICATOR POWDER</b>
----------------	--------------------------------

<b>Synonyms</b>	None
-----------------	------

## Section 2 Hazards identification

Signal word: DANGER

Pictograms: GHS05 / GHS07

Target organs: Respiratory system, Kidneys, Eyes, Skin

**GHS Classification:**

Acute toxicity, oral (Category 4)

Acute toxicity, dermal (Category 4)

Eye damage (Category 1)

**GHS Label information: Hazard statement:**

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H318: Causes serious eye damage.

**Precautionary statement:**

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P317: IF SWALLOWED: Rinse mouth. Get medical help.

P302+P317+P352: IF ON SKIN: Wash with plenty of water and soap. Get medical help.

P363: Wash contaminated clothing before reuse.

P305+P354+P338+P317: IF IN EYES: Rinse cautiously with water for 15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Sodium carbonate	497-19-8	50%	207-838-8
Oxalic acid, dihydrate	6153-56-6	25%	205-634-3 (anhydrous)
Citric acid, anhydrous	77-92-9	25%	201-069-1

## Section 4 First aid measures

**INGESTION:** HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES SERIOUS EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** HARMFUL IN CONTACT WITH SKIN. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** For small fires use water spray, dry chemical, carbon dioxide or chemical foam.

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material decomposes on heating to form carbon oxides and formic acid.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Oxalic acid, anhydrous	TWA: 1 mg/m <sup>3</sup> / STEL: 2 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> / STEL: 2 mg/m <sup>3</sup>

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Solid. White, crystalline powder	<b>Evaporation rate ( = 1):</b> Data not available	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> No odor	<b>Flammability (solid/gas):</b> Data not available	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available	<b>Explosion limits: Lower / Upper:</b> Data not available	<b>Decomposition temperature:</b> Data not available
<b>pH:</b> Data not available	<b>Vapor pressure (mm Hg):</b> Data not available	<b>Viscosity:</b> Data not available
<b>Melting / Freezing point:</b> Data not available	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> Mixture
<b>Boiling point:</b> Data not available	<b>Relative density (Specific gravity):</b> Data not available	<b>Molecular weight:</b> Mixture
<b>Flash point:</b> Non-flammable	<b>Solubility(ies):</b> Data not available	

## Section 10 Stability and reactivity

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures, heat, sparks, open flame and other sources of ignition. Avoid exposure to light and moisture.

**Incompatible materials:** Alkalies, chlorites, hypochlorites, oxidizing agents, furfuryl alcohol, silver compounds.

**Hazardous decomposition products:** Carbon oxides and formic acid.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 375 mg/kg

**Skin corrosion/irritation:** Skin-rabbit - 500 mg/24H - mild irritant.

**Serious eye damage/irritation:** Eyes-rabbit - 250 µg/24H - Severe irritant.

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Data not available

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: Inhalation may cause cough, sore throat, burning sensation, shortness of breath, labored breathing, headache.

Ingestion: Ingestion may cause sore throat, burning sensation, abdominal pain, labored breathing, convulsions, paralysis, cardiac dysrhythmia, shock kor collapse.

Skin: Contact with skin may cause redness, pain and/or burns.

Eyes: Contact with eyes may cause redness, pain, blurred vision and/or burns.

**Signs and symptoms of exposure:** Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: RO2450000

## Section 12 Ecological information

**Toxicity to fish:** Pimephales promelas (fish, fresh water), LC50 = 34.1 mg/L/96H

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea), EC50 = 137 mg/L/48H

**Toxicity to algae:** Scenedesmus quadricauda (Algae), EC50 = 790 mg/L/168H

**Persistence and degradability:** Readily biodegradable

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** UN3261

**Shipping name:** Corrosive solid, acidic, organic, n.o.s., (Oxalic acid)

**Hazard class:** 8

**Packing group:** III

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Limited quantity equal to or less than 5 Kg

**2020 ERG Guide #** 154

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Oxalic acid	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Citric acid, anhydrous	Listed	Not listed	Not listed	Listed	Not listed	
Sodium carbonate	Listed	Not listed	Not listed	Not listed	Not listed	

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

Product	SOIL SAMPLE E
---------	---------------

Synonyms	Factory soil
----------	--------------

## Section 2 Hazards identification

Signal word: WARNING

Pictograms: GHS07 / GHS08

Target organs: Lungs, Liver

**GHS Classification:**

\*STOT-RE (Category 2)

Skin irritation (Category 2)

Eye irritation (Category 2B)

STOT-SE (Category 3)

**GHS Label information: Hazard statement:**

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

\*H373: May cause damage to organs (*lungs*) through prolonged or repeated exposure (*inhalation*).

\* Respirable dust particles containing silicon dioxide may be generated by crushing. There are no known hazards associated with this material when used as recommended.

**Precautionary statement:**

P260: Do not breathe dust.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P332+P317: If skin irritation occurs: Get medical help.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P317: If eye irritation persists: Get medical help.

P362+P364: Take off contaminated clothing and wash it before reuse.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Top soil	None listed	82%	None listed
Sand	14808-60-7	12%	238-878-4
ferrous ammonium sulfate	7783-85-9	5%	231-151-8 [CAS # 10045-89-3]
Sodium Bicarbonate	144-55-8	2%	205-633-8

## Section 4 First aid measures

**INGESTION:** Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** RESPIRABLE CRYSTALLINE SILICA MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** MAY CAUSE CORNEAL ABRASIONS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Sand will not burn or support fire. Use any media suitable for extinguishing supporting fire

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool..

**Specific Hazards:** None known.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Silica, crystalline, $\alpha$ -quartz	TWA: 0.025 mg/m <sup>3</sup> respirable (A2)	TWA: 10 mg/m <sup>3</sup> respirable dust	TWA: 0.05 mg/m <sup>3</sup> respirable dust

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Solid. Brown dirt with yellow granules. <b>Odor:</b> Earthy odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> Data not available. <b>Melting / Freezing point:</b> Data not available <b>Boiling point:</b> Data not available <b>Flash point:</b> Not flammable	<b>Evaporation rate ( = 1):</b> Not applicable <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Not flammable <b>Vapor pressure (mm Hg):</b> Data not available <b>Vapor density (Air = 1):</b> Data not available <b>Relative density (Specific gravity):</b> Data not available <b>Solubility(ies):</b> Partially soluble in water.	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> Data not available. <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> Mixture <b>Molecular weight:</b> Mixture
---	---	---

## Section 10 Stability and reactivity

**Chemical stability:** Stable **Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Avoid contact with incompatible materials.

**Incompatible materials:** Contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide and oxygen difluoride may cause fire.

**Hazardous decomposition products:** Will dissolve in hydrofluoric acid and produce silicon tetrafluoride, a corrosive gas.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 500 mg/kg (Sand)

**Skin corrosion/irritation:** Data not available

**Serious eye damage/irritation:** Data not available

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: Known to be a human carcinogen (respirable). [Quartz]

IARC classified: Group 1: Carcinogenic to humans. [Quartz]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: ⚠️ WARNING! This product can expose you to a chemical, crystalline silica, which is known to the State of California to cause cancer.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Inhalation - May cause damage to organs through prolonged or repeated exposure. [Quartz]

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause transient irritation.

Eyes: May cause irritation, redness and pain.

**Signs and symptoms of exposure:** Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis.

**Additional information:** RTECS #: VV7330000 (Sand)

## Section 12 Ecological information

**Toxicity to fish:** No data available

**Toxicity to daphnia and other aquatic invertebrates:** No data available

**Toxicity to algae:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Not applicable

**2020 ERG Guide #:** Not applicable

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Sand	Listed	Not listed	Not listed	Listed	Not listed	⚠️ WARNING -Cancer - www.P65Warnings.ca.gov.

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.



## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

Product	SOIL SAMPLE F
---------	---------------

Synonyms	Farm soil
----------	-----------

## Section 2 Hazards identification

Signal word: WARNING

Pictograms: GHS08

Target organs: Lungs



GHS Classification:

\*STOT-RE (Category 2)

GHS Label information: Hazard statement:

\*H373: May cause damage to organs (*lungs*) through prolonged or repeated exposure (*inhalation*).

\* Respirable dust particles containing silicon dioxide may be generated by crushing. There are no known hazards associated with this material when used as recommended.

Precautionary statement:

P260: Do not breathe dust.

P314: Get medical attention if you feel unwell.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Top soil	None listed	44%	None listed
Potting soil	None listed	44%	None listed
Sand	14808-60-7	10%	238-878-4
Sodium Bicarbonate	144-55-8	2%	205-633-8

## Section 4 First aid measures

**INGESTION:** Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** RESPIRABLE CRYSTALLINE SILICA MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** MAY CAUSE CORNEAL ABRASIONS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Sand will not burn or support fire. Use any media suitable for extinguishing supporting fire

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool..

**Specific Hazards:** None known.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Silica, crystalline, $\alpha$ -quartz	TWA: 0.025 mg/m <sup>3</sup> respirable (A2)	TWA: 10 mg/m <sup>3</sup> respirable dust	TWA: 0.05 mg/m <sup>3</sup> respirable dust

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Solid. Brown dirt with yellow granules. <b>Odor:</b> Earthy odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> Data not available. <b>Melting / Freezing point:</b> Data not available <b>Boiling point:</b> Data not available <b>Flash point:</b> Not flammable	<b>Evaporation rate ( = 1):</b> Not applicable <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Not flammable <b>Vapor pressure (mm Hg):</b> Data not available <b>Vapor density (Air = 1):</b> Data not available <b>Relative density (Specific gravity):</b> Data not available <b>Solubility(ies):</b> Partially soluble in water.	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> Data not available. <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> Mixture <b>Molecular weight:</b> Mixture
---	---	---

## Section 10 Stability and reactivity

**Chemical stability:** Stable **Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Avoid contact with incompatible materials.

**Incompatible materials:** Contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide and oxygen difluoride may cause fire.

**Hazardous decomposition products:** Will dissolve in hydrofluoric acid and produce silicon tetrafluoride, a corrosive gas.

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 500 mg/kg (Sand)

**Skin corrosion/irritation:** Data not available

**Serious eye damage/irritation:** Data not available

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: Known to be a human carcinogen (respirable). [Quartz]

IARC classified: Group 1: Carcinogenic to humans. [Quartz]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: ⚠️ WARNING! This product can expose you to a chemical, crystalline silica, which is known to the State of California to cause cancer.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Inhalation - May cause damage to organs through prolonged or repeated exposure. [Quartz]

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause transient irritation.

Eyes: May cause transient irritation.

**Signs and symptoms of exposure:** Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis.

**Additional information:** RTECS #: VV7330000 (Sand)

## Section 12 Ecological information

**Toxicity to fish:** No data available

**Toxicity to daphnia and other aquatic invertebrates:** No data available

**Toxicity to algae:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Not applicable

**2020 ERG Guide #:** Not applicable

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Sand	Listed	Not listed	Not listed	Listed	Not listed	⚠️ WARNING -Cancer - www.P65Warnings.ca.gov.

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

## Section 1 Identification

Page E1 of E2

**INNOVATING SCIENCE**® by Aldon  
 "Cutting edge science for the classroom"  
 221 Rochester Street  
 Avon, NY 14414-9409  
 (585) 226-6177

**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
 For laboratory and industrial use only.  
 Not for drug, food or household use.

<b>Product</b>	WATER SAMPLE X
----------------	----------------

<b>Synonyms</b>	None
-----------------	------

## Section 2 Hazards identification

**Signal word:** WARNING**Pictograms:** GHS07 / GHS09**Target organs:** Respiratory system, Liver, Kidneys.**GHS Classification:**

Acute toxicity-oral (Category 4)

Skin irritation (Category 2)

Eye irritation (Category 2A)

Aquatic acute toxicity (Category 1)

Aquatic chronic toxicity (Category 1)

**GHS Label information: Hazard statement:**

H302: Harmful if swallowed.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H410: Very toxic to aquatic life with long lasting effects.

**Precautionary statement:**

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P317: IF SWALLOWED: Rinse mouth. Get medical help.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P317: If skin irritation occurs: Get medical help.

P337+P317: If eye irritation persists: Get medical help.

P362+P364: Take off contaminated clothing and wash before reuse.

P391: Collect spillage.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	99.18%	231-791-2
Cupric chloride, dihydrate	10125-13-0	0.4%	231-210-2 (anhydrous)
Ferrous ammonium sulfate, hexahydrate	7783-85-9	0.4%	231-151-8 [CAS # 10045-89-3]
Acetic acid 5% solution	64-19-7	0.015%	200-580-7

## Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES SEVERE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire fighting measures

**Suitable Extinguishing Media:** Use any media suitable for extinguishing supporting fire**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

## Section 6 Accidental release measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.**Containment and Cleanup:** Absorb with an inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, well-ventilated area away from incompatible substances.

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Copper, dusts and mists, as Cu	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical and chemical properties

<b>Appearance:</b> Clear, liquid.	<b>Evaporation rate ( Water = 1):</b> <1	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> No odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> Data not available	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> <1	<b>Vapor pressure (mm Hg):</b> 14 (water)	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> Approximately 0°C (32°F) (water)	<b>Vapor density (Air = 1):</b> 0.7 (water)	<b>Molecular formula:</b> Mixture
<b>Boiling point:</b> Approximately 100°C (212°F) (water)	<b>Relative density (Specific gravity):</b> Approximately 1.0 (water)	<b>Molecular weight:</b> Mixture
<b>Flash point:</b> Data not available	<b>Solubility(ies):</b> Complete in water.	

## Section 10 Stability and reactivity

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Hygroscopic material. Avoid exposure or contact to extreme temperatures and incompatible materials.

**Incompatible materials:** Potassium, sodium, hydrazine, nitromethane, aluminum, strong oxidizers, acetylene and sodium hypobromite.

**Hazardous decomposition products:** Copper oxides and hydrogen chloride.

## Section 11 Toxicological information

**Acute toxicity:** [Copper chloride] Oral-rat LD50: 290 mg/kg ; Oral-human LD50: 200 mg/kg [ferrous ammonium sulfate] Oral-rat LD50: 3250 mg/kg

**Skin corrosion/irritation:** Data not available

**Serious eye damage/irritation:** Data not available

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** Data not available

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: Symptoms of over-exposure may include irritation, sore throat, shortness of breath, ulceration and perforation of the nasal septum and upper respiratory tract irritation.

Ingestion: May cause gastrointestinal irritation with symptoms such as nausea, vomiting and diarrhea.

Skin: Contact with skin may cause symptoms of itching, redness, blistering and possible scarring, dermatitis.

Eyes: Contact with eyes may cause redness, pain and blurred vision. Prolonged contact may cause corneal injury.

**Signs and symptoms of exposure:** Copper salts impart a metallic taste in the mouth. Damage to the kidneys may occur in person's with Wilson's disease. High concentrations in contact with skin may result in burns. Chronic exposure may also lead to liver damage, anemia and other blood cell abnormalities.

**Additional information: RTECS #:** GL7030000 [Copper chloride]

## Section 12 Ecological information

**Toxicity to fish:** Bluegill LC50: 0.9 mg/L/96 hours [Copper chloride]

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna EC50: 0.04 mg/L/48 hours [Copper chloride]

**Toxicity to algae:** Selenastrum EC50: 0.12 mg/L/96 hours [Copper chloride]

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport information

**UN/NA number:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Exceptions:** Not applicable

**2020 ERG Guide #** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

## Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Cupric chloride (anhydrous)	Listed	10 lbs (4.54 kg)	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

## Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.