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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300
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Product	**COPPER(II) CHLORIDE, ANHYDROUS**
Synonyms	Cupric Chloride, Anhydrous

Section 2 Hazards identification

Signal word: DANGER
Pictograms: GHS06 / GHS09
Target organs: Respiratory system, Liver, Kidneys.

GHS Classification:
Acute toxicity-oral (Category 3)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Aquatic acute toxicity (Category 1)
Aquatic chronic toxicity (Category 1)

GHS Label information: **Hazard statement:**
H301: Toxic 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+P310: IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor.
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+P313: If skin irritation occurs: Get medical advice/attention.
P337+P313: If eye irritation persists: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash before reuse.
P391: Collect spillage.
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
Cupric chloride, anhydrous	7447-39-4	>98%	231-210-2 (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: 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: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling and storage

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)
Copper, dusts and mists, as Cu	TWA: 1 mg/m^3	TWA: 1 mg/m^3	TWA: 1 mg/m^3

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

Appearance: Yellow-brown, crystalline solid
Odor: Odorless
Odor threshold: Data not available
pH: Data not available
Melting / Freezing point: 100°C (230°F)
Boiling point: Decomposes
Flash point: Non-flammable

Evaporation rate (= 1): Not applicable
Flammability (solid/gas): Not applicable
Explosion limits: Lower / Upper: Not applicable
Vapor pressure (mm Hg): Data not available
Vapor density (Air = 1): Data not available
Relative density (Specific gravity): 2.54
Solubility(ies): Soluble in water

Partition coefficient: Data not available
Auto-ignition temperature: Data not available
Decomposition temperature: Data not available
Viscosity: Data not available.
Molecular formula: $CuCl_2$
Molecular weight: 134.45

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: Oral-rat LD50: 290 mg/kg ; Oral-human LD50: 200 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
Carcinogenity: 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

Section 12 Ecological information

Toxicity to fish: Bluegill LC50: 0.9 mg/L/96 hours
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna EC50: 0.04 mg/L/48 hours
Toxicity to algae: Selenastrum EC50: 0.12 mg/L/96 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: UN2802
Shipping name: Copper chloride
Hazard class: 8
Packing group: III
Reportable Quantity: 10 lbs (4.54 kg)
Marine pollutant: Yes
Exceptions: Limited quantity equal to or less than 4.539 Kg ; Reportable quantity equal to or more than 4.54 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
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.

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Product	**MERCURIC CHLORIDE**
Synonyms	Mercury(II) Chloride ; Mercury Bichloride ; Mercury Dichloride

Section 2 Hazards identification

Signal word: DANGER
Pictograms: GHS06 / GHS05 / GHS08 / GHS09
Target organs: Central nervous system, Reproductive system, Kidneys

GHS Classification:
Acute toxicity, oral (Category 2)
Skin corrosion (Category 1B)
Mutagenicity (Category 2)
Reproductive (Category 2)
STOT-RE (Category 1)
Aquatic acute (Category 1)
Aquatic chronic (Category 1)

GHS Label information: **Hazard statement:**
H300: Fatal if swallowed.
H314: Causes severe skin burns and eye damage.
H341: Suspected of causing genetic defects.
H361f: Suspected of damaging fertility.
H372: Causes damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement:
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust.
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+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P330: Rinse mouth.
P331: Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363: Wash contaminated clothing before reuse.
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.
P308+P313: IF exposed or concerned: Get medical attention.
P391: Collect spillage.
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) - Rapidly absorbed through skin
Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Mercuric chloride	7487-94-7	100%	231-299-8

Section 4 First aid measures

INGESTION: FATAL 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 BURNS TO THE RESPIRATORY TRACT. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE BURNS. MAY CAUSE PERMANENT 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: MAY BE FATAL IF ABSORBED THROUGH SKIN. CAUSES SEVERE IRRITATION AND/OR 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: 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: 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.

Section 7 Handling and storage

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)
Mercuric chloride	None established	None established	None 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 dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Solid. White powder
Odor: No odor
Odor threshold: Data not available
pH: 4.7
Melting / Freezing point: 277°C (530°F)
Boiling point: 300°C (572°F)
Flash point: Not applicable

Evaporation rate (= 1): Data not available
Flammability (solid/gas): Data not available
Explosion limits: Lower / Upper: Not applicable
Vapor pressure (mm Hg): 1 @ 136.2°C
Vapor density (Air = 1): 8.7
Relative density (Specific gravity): 5.44
Solubility(ies): Soluble in water.

Partition coefficient: Data not available
Auto-ignition temperature: Data not available
Decomposition temperature: Data not available.
Viscosity: Data not available.
Molecular formula: $HgCl_2$
Molecular weight: 271.50

Section 10 Stability and reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Excessive temperatures, light, dust generation, moisture, incompatible substances.

Incompatible materials: Strong oxidizers, strong bases. Reacts with light metals.

Hazardous decomposition products: Mercury oxides and chlorine fumes.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 1 mg/kg ; Dermal-rat LD50: 41 mg/kg
Skin corrosion/irritation: Skin-rabbit - 500 mg/24 hour - severe
Serious eye damage/irritation: Eyes-rabbit - 50 ug/24 hour - severe
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. [Mercury and inorganic compounds]
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 chemicals including Mercury compounds, which are known to the State of California to cause 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 respiratory effects.
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.
Ingestion: Ingestion causes abdominal cramps, abdominal pain, burning sensation, metallic taste, diarrhea, nausea, sore throat, vomiting, shock or collapse.
Skin: May be aborbed through skin. Causes redness, pain, blisters, and burns.
Eyes: Contact with eyes causes pain, redness, blurred vision, and severe deep burns.
Signs and symptoms of exposure: Symptoms of acute mercury salt poisoning include nausea, vomiting, bloody diarrhea, foul taste, loosened teeth, circulatory collapse, peripheral neurological disease, and kidney damage requiring dialysis. May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. May be rapidly transferred across the placenta and cause adverse fetal effects. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: OV9100000

Section 12 Ecological information

Toxicity to fish: Fathead minnow, LC50 = 0.037 mg/L/48 hours
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (water flea), LC50 = 0.093 mg/L/48 hours
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: UN1624
Shipping name: Mercuric chloride
Hazard class: 6.1
Packing group: II
Reportable Quantity: No
Marine pollutant: Yes
Exceptions: Limited quantity equal to or less than 0.5 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
Mercuric chloride	Listed	Not listed	Not listed	Listed	Not listed	⚠ WARNING - Reproductive Harm - 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.

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Product	**POTASSIUM IODIDE**
Synonyms	None

Section 2 Hazards identification

Signal word: WARNING
Pictograms: GHS07
Target organs: Thyroid

GHS Classification:
Acute toxicity, oral (Category 5)
Skin sensitization (Category 1A)

GHS Label information: **Hazard statement:**
H303: May be harmful if swallowed.
H317: May cause an allergic skin reaction.

Precautionary statement:
P261: Avoid breathing dust.
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.
P333+P313: If skin irritation or rash occurs: Get medical attention.
P312: Call a POISON CENTER or doctor if you feel unwell.
P362+P364: Take off contaminated clothing and wash it before reuse.
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
Potassium iodide	7681-11-0	100%	231-659-4

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: 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: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with strong oxidizers may cause fire or explosion.

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.

Section 7 Handling and storage

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 dust. 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)
Particulates not otherwise classified	None established	TWA: 15 ppm total dust	None 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 dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Solid, white crystals.
Odor: No odor.
Odor threshold: Data not available.
pH: 7.0
Melting / Freezing point: 680°C (1256°F)
Boiling point: 1330°C (2426°F)
Flash point: Non-combustible

Evaporation rate (= 1): Not applicable
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Data not available
Vapor pressure (mm Hg): Negligible
Vapor density (Air = 1): Data not available
Relative density (Specific gravity): 3.12
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: KI
Molecular weight: 166.01

Section 10 Stability and reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Protect from light, air, moisture and excessive temperatures.

Incompatible materials: Reacts violently with alkaline metals, diazonium salts, oxidants, bromine and chlorine trifluorides, and fluorine perchlorate, and may cause explosion and/or fire. NOTE: Solutions of this product are corrosive to most metals.

Hazardous decomposition products: Yields iodine when in contact with air. Releases iodine, potassium monoxide, and hydrogen iodide, when in contact with moist air.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 4800 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
Carcinogenity: 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 cause irritation of respiratory tract.
Ingestion: Large doses may cause gastrointestinal upset and weakness.
Skin: May cause mild irritation and redness on prolonged contact.
Eyes: Can be irritating with redness and pain.
Signs and symptoms of exposure: Hypothyroidism with possibility of goitre (hypertrophy of the throid gland), possible sensitization of skin. Chronic ingestion of iodides may produce “iodism” which may be characterized by skin rash, running nose, headache, and irritation of mucous membranes. Weakness, anemia, loss of weight, and general depression may also occur. **Additional information: RTECS #:** NN1575000

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
Potassium iodide	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.

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Phone Number (800) 424-9300
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Product	**SILVER NITRATE**
Synonyms	Silver(I) Nitrate

Section 2 Hazards identification

Signal word: DANGER
Pictograms: GHS03 / GHS05 / GHS09
Target organs: Kidneys, Liver, Eyes, Skin

GHS Classification:
Ox. Sol. (Category 2)
Skin Corr. (Category 1B)
Aquatic Acute (Category 1)
Aquatic Chronic (Category 1)

GHS Label information: **Hazard statement:**
H272: May intensify fire; oxidizer.
H314: Causes severe skin burns and eye damage.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220: Store away from clothing and combustible materials.
P221: Take any precaution to avoid mixing with combustibles.
P260: Do not breathe dust.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P310: Immediately call a POISON CENTER or doctor.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P363: Wash contaminated clothing before reuse.
P370+P378: In case of fire: Use water to extinguish.
P391: Collect spillage.
P405: Store locked up.
H501: 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
Silver nitrate	7761-88-8	100%	231-853-9

Section 4 First aid measures

INGESTION: MAY BE FATAL 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. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CONTACT CAUSES CORNEAL DAMAGE OR BLINDNESS. 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: CONTACT CAN CAUSE 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: Use water. Do not use dry chemicals or foams. CO_2 or Halon® may provide limited control.

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. Substance is a strong oxidizer which releases oxygen on heating. The oxygen will intensify any fire in the immediate surroundings.

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

Section 7 Handling and storage

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. Keep away from ignition sources. Store in resistant containers. Do not store in wooden, cardboard or paper containers. Store away from flammable and combustible materials.

Section 8 Exposure controls / personal protection

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Silver, soluble compounds, as Ag	TWA: 0.01 mg/m^3	TWA: 0.01 mg/m^3	TWA: 0.01 mg/m^3

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

Appearance: Solid, white crystals.
Odor: No odor.
Odor threshold: Data not available.
pH: Data not available.
Melting / Freezing point: 212°C (>413°F)
Boiling point: Decomposes
Flash point: Data not available

Evaporation rate (= 1): Not applicable
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Data not available
Vapor pressure (mm Hg): Data not available
Vapor density (Air = 1): 5.8
Relative density (Specific gravity): 4.35
Solubility(ies): +/- 10% in water

Partition coefficient: Data not available
Auto-ignition temperature: Data not available
Decomposition temperature: 444°C (>831°F)
Viscosity: Not applicable
Molecular formula: $AgNO_3$
Molecular weight: 169.87

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: Combustible materials, reducing agents, organic substances, strong basis and alkalis.

Hazardous decomposition products: Nitrogen oxides.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 1,173 mg/kg ; Dermal-guinea pig LD50: >216 mg/kg
Skin corrosion/irritation: Human - Corrosive
Serious eye damage/irritation: Rabbit - Corrosive
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenity: 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 of dust will produce irritation to gastrointestinal or respiratory tract, characterized by burning, sneezing, and coughing. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.
Ingestion: Poisonous if swallowed. Ingestion causes severe gastroenteritis.
Skin: Contact with skin can produce inflammation and blistering.
Eyes: Contact with eyes may cause corneal damage or blindness.
Signs and symptoms of exposure: Irritation of upper respiratory tract. Skin irritation or burns. Severe irritation or burns to eyes.
Additional information: RTECS #: VW4725000

Section 12 Ecological information

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 0.0086 mg/l/96 hours
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = 0.0006 mg/l/48 hours
Toxicity to algae: Chlorella vulgaris (Algae), EC50 = Ca. 0.1 mg/l/14 day - growth rate
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: UN1493
Shipping name: Silver nitrate
Hazard class: 5.1
Packing group: II
Reportable Quantity: > 1 lbs (0.454 kg)
Marine pollutant: No
Exceptions: Limited quantity equal to or less than 1 Kg
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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
Silver nitrate	Listed	Listed	D001, D011	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.

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