

Section 1 Identification

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| | |
|----------------|-----------------------------|
| Product | CALCIUM CHLORIDE, ANHYDROUS |
|----------------|-----------------------------|

| | |
|-----------------|-----|
| Synonyms | N/A |
|-----------------|-----|

Section 2 Hazards identification

Signal word: WARNING

Pictograms: GHS07

Target organs: None known

**GHS Classification:**

Acute toxicity (Oral) (Category 4)

Eye irritation (Category 2A)

Skin irritation (Category 2)

GHS Label information: Hazard statement:

H302: Harmful if swallowed.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

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

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.

P330: Rinse mouth.

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.

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 |
|--------------------|------------|--------|-----------|
| Calcium chloride | 10043-52-4 | >93.0% | 233-140-8 |
| Potassium chloride | 7447-40-7 | < 3% | 231-211-8 |
| Sodium chloride | 7647-14-5 | < 2% | 231-598-3 |
| Calcium bromide | 7789-41-5 | < 1% | 232-164-6 |
| Water | 7732-18-5 | < 1% | 231-791-2 |

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: 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: MAY CAUSE 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. Heat is generated when product mixes with water.

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. 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: Hygroscopic material. 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 mg/m ³ 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 pellets. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 772°C (1422°F) Boiling point: Data not available Flash point: Not applicable | Evaporation rate (= 1): Not applicable Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Negligible Vapor density (Air = 1): Data not available Relative density (Specific gravity): Data not available Solubility(ies): Soluble in water. | Partition coefficient: Not applicable Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: CaCl ₂ Molecular weight: 110.99 |
|--|--|--|

Section 10 Stability and reactivity

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

Conditions to avoid: Hygroscopic material. Avoid moisture.

Incompatible materials: Heat is generated when mixed with water. Spattering and boiling can occur. Avoid contact with sulfuric acid. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as zinc and sodium.

Hazardous decomposition products: None known.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 2100 mg/kg ; Dermal-rabbit LD50: >5000 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: Dust may cause irritation to the upper respiratory tract (nose and throat).

Ingestion: Low toxicity if swallowed. However, large amounts may result in gastrointestinal irritation or ulceration.

Skin: Contact with skin may cause irritation and/or defatting on prolonged contact.

Eyes: Contact with eyes may cause severe irritation and/or corneal injury.

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

Additional information: RTECS #: EV9810000

Section 12 Ecological information

Toxicity to fish: Lepomis macrochirus (bluegill) LC50: 8,350-10,650 mg/L

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (water flea), LC50: 759-3,005 mg/L

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 |
|------------------|--------|-------------|------------|--------|------------|--|
| Calcium chloride | 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

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Phone Number (800) 424-9300
For laboratory and industrial use only.
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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. CO₂ 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.

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. | Evaporation rate (= 1): Not applicable | Partition coefficient: Data not available |
| Odor: No odor. | Flammability (solid/gas): Data not available. | Auto-ignition temperature: Data not available |
| Odor threshold: Data not available. | Explosion limits: Lower / Upper: Data not available | Decomposition temperature: 444°C (>831°F) |
| pH: Data not available. | Vapor pressure (mm Hg): Data not available | Viscosity: Not applicable |
| Melting / Freezing point: 212°C (>413°F) | Vapor density (Air = 1): 5.8 | Molecular formula: AgNO ₃ |
| Boiling point: Decomposes | Relative density (Specific gravity): 4.35 | Molecular weight: 169.87 |
| Flash point: Data not available | Solubility(ies): +/- 10% in water | |

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

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 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

2020 ERG Guide # 140

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.