

## Section 1 Chemical Product and Company Information

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Phone Number (800) 424-9300**  
For laboratory use only.  
Not for drug, food or household use.

<b>Product</b>	<b>CALCIUM CARBONATE</b>
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<b>Synonyms</b>	Marble Chips / Boiling Chips / Marble Rocks / Limestone
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## Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

**Signal word:** WARNING

**Pictograms:** GHS08

**Target organs:** None known



**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 crystalline silica 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.

Ca Prop 65 - WARNING! This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Calcium carbonate	1317-65-3	≥ 99%	215-279-6
Quartz	14808-60-7	0.1-1.0%	238-878-4

## 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:** PROLONGED INHALATION OF PARTICULATE DUST MAY BE HARMFUL. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** MAY CAUSE 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 ABRASIONS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire Fighting Measures

**Suitable Extinguishing Media:** Product 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:** Limestone reacts with acids to release carbon dioxide.

## 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)
	Particulates not otherwise classified	TWA: 5 mg/m <sup>3</sup> respirable fraction	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 &amp; Chemical Properties

<b>Appearance:</b> Solid. White stone chips. <b>Odor:</b> No 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> 2.85 <b>Solubility(ies):</b> 0.001% @ 0°C in water	<b>Partition coefficient:</b> Not applicable <b>Auto-ignition temperature:</b> Not applicable <b>Decomposition temperature:</b> 826°C (1520°F) <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> CaCO <sub>3</sub> <b>Molecular weight:</b> 100.09
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## Section 10 Stability &amp; Reactivity

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

**Conditions to avoid:** Avoid contact with acids.

**Incompatible materials:** Reacts with acids to liberate carbon dioxide.

**Hazardous decomposition products:** Carbon dioxide.

## Section 11 Toxicological Information

**Acute toxicity:** Data not available

**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). [crystalline silica]\*

IARC classified: Group 1: Carcinogenic to humans. [crystalline silica]\*

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.

**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. [crystalline silica]\*

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: Dust may cause congestion and irritation in nasal and respiratory passages.

Ingestion: Ingestion may cause gastrointestinal irritation and blockage.

Skin: May cause abrasions.

Eyes: May cause mild to severe irritation by abrasion with dust or chips.

**Signs and symptoms of exposure:** Prolonged inhalation of particulate dust, 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 #: FF9335000

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

## 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

**2012 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	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Calcium carbonate	Listed	Not listed	Not listed	Not listed	Listed	 D2A

## Section 16 Additional 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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<b>Product</b>	<b>IRON(II) SULFATE, HEPTAHYDRATE</b>
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<b>Synonyms</b>	Ferrous Sulfate, 7-Hydrate
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**Section 2 Hazards Identification****Signal word:** WARNING**Pictograms:** GHS07**Target organs:** Liver, Kidneys**GHS Classification:**

Acute toxicity (Category 4)

Skin irritant (Category 2)

Eye irritant (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+P330+P312: IF SWALLOWED: Rinse mouth. 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 several minutes.

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

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.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Section 3 Composition / Information on Ingredients**

Chemical Name	CAS #	%	EINECS
Ferrous sulfate, heptahydrate	7782-63-0	100%	231-753-5

**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:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. May cause respiratory tract irritation.

**EYE CONTACT:** CAUSES 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 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 & 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)
	Iron salts, soluble, as Fe	TWA: 1 mg/m <sup>3</sup>	None established	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 dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

**Section 9 Physical & Chemical Properties**

<b>Appearance:</b> Solid. Blue-green crystalline powder <b>Odor:</b> No odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> Data not available. <b>Melting / Freezing point:</b> 72°C (147°F) <b>Boiling point:</b> Decomposes <b>Flash point:</b> Not flammable	<b>Evaporation rate ( = 1):</b> Data not available <b>Flammability (solid/gas):</b> Not applicable <b>Explosion limits: Lower / Upper:</b> Not applicable <b>Vapor pressure (mm Hg):</b> 14.6 <b>Vapor density (Air = 1):</b> 9.6 <b>Relative density (Specific gravity):</b> 1.897 <b>Solubility(ies):</b> 16 g/100 ml water @ 20°C	<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> FeSO <sub>4</sub> ·7H <sub>2</sub> O <b>Molecular weight:</b> 278.02
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**Section 10 Stability & Reactivity**

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Hygroscopic material. Efflorescent in dry air. Oxidizes in moist air forming a brown coating of basic ferric sulfate.

**Incompatible materials:** Strong oxidizers, alkalies, nitric acid. Aqueous solutions are oxidized slowly by air when cold, rapidly when hot. Rate of oxidation increased by addition of alkali or exposure to light.

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

**Section 11 Toxicological Information**

**Acute toxicity:** Oral-rat LD50: 1480 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.

**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 respiratory tract irritation.

Ingestion: Ingestion can produce gastrointestinal tract disturbances, severe shock, vomiting, liver and kidney damage and even death.

Skin: Contact with skin may cause irritation or allergic reaction.

Eyes: Contact with eyes is irritating and can be damaging.

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

**Additional information:** RTECS #: NO8510000

**Section 12 Ecological Information**

**Toxicity to fish:** *Poecilia reticulata* (fish, fresh water), LC50 = 925 mg/l/96 hours

**Toxicity to daphnia and other aquatic invertebrates:** *Daphnia magna* (Crustacea), EC50 = 152 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:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** 1,000 lbs. (454 kg)

**Marine pollutant:** No

**Exceptions:** Not applicable

**2012 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	WHMIS Classification
Ferrous sulfate, heptahydrate	Listed	1,000 lbs. (454 kg)	Not listed	Not listed	Not listed	Uncontrolled product

**Section 16 Additional 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.

**Revision Date:** September 10, 2014

**Supersedes:** December 18, 2012

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<b>Product</b>	GLYCERIN
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<b>Synonyms</b>	Glycerol
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**Section 2 Hazards Identification**

**This substance or mixture has not been classified at this time according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.**

**Signal word:** Not classified  
**Pictograms:** Not classified  
**Target organs:** None known

**GHS Classification:**  
 Not classified

**GHS Label information: Hazard statement(s):**  
 Not classified

**Precautionary statement(s):**

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Section 3 Composition / Information on Ingredients**

Chemical Name	CAS #	%	EINECS
Glycerin	56-81-5	100%	200-289-5

**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:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** 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:** DO NOT USE WATER. 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.

**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.

**Section 7 Handling & 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 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)
	Glycerin	TWA: 10 mg/m <sup>3</sup> (mist)	TWA: 5 mg/m <sup>3</sup> (respirable fraction)	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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

**Section 9 Physical & Chemical Properties**

**Appearance:** Clear, colorless liquid.

**Odor:** No odor.

**Odor threshold:** Data not available.

**pH:** Approximately 7.0

**Melting / Freezing point:** 18°C (64°F)

**Boiling point:** 290°C (554°F)

**Flash point:** 177°C (351°F) COC

**Evaporation rate ( Ether = 1):** >1

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

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

**Vapor pressure (mm Hg):** 0.01 mbar @ 20°C

**Vapor density (Air = 1):** Data not available

**Relative density (Specific gravity):** 1.2607 (25/25°C)

**Solubility(ies):** Complete

**Partition coefficient:** 2.6 calculated

**Auto-ignition temperature:** 400°C (752°F)

**Decomposition temperature:** Data not available.

**Viscosity:** Data not available.

**Molecular formula:** HOCH<sub>2</sub>CHOHCH<sub>2</sub>OH

**Molecular weight:** 92.10

**Section 10 Stability & Reactivity**

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures and heat. Absorbs moisture from the air.

**Incompatible materials:** Strong oxidizers.

**Hazardous decomposition products:** Poisonous Acrolein fumes.

**Section 11 Toxicological Information**

**Acute toxicity:** Oral-rat LD50: 25,000 mg/kg

**Skin corrosion/irritation:** Dermal-rabbit - 18,700 mg/kg

**Serious eye damage/irritation:** Rabbit - practically non-irritating

**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.

**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 mist are irritating to the respiratory tract.

Ingestion: Ingestion is considered to be a very low hazard.

Skin: Skin contact shows no significant irritation. Not absorbed through the skin.

Eyes: May cause slight eye irritation.

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

**Additional information:** RTECS #: MA8050000

**Section 12 Ecological Information**

**Toxicity to fish:** Low toxicity to aquatic organisms. LC50 (96 hour) fish >5,000 mg/l

**Toxicity to daphnia and other aquatic invertebrates:** EC50 (24 hour) Daphnia magna >10,000 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

**2012 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	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Glycerin	Listed	Not listed	Not listed	Listed	Not listed	Uncontrolled product

**Section 16 Additional 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 Chemical Product and Company Information

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<b>Product</b>	p-DICHLOROBENZENE
<b>Synonyms</b>	1,4-Dichlorobenzene / para-Dichlorobenzene

## Section 2 Hazards Identification

**Signal word:** WARNING**Pictograms:** GHS08 / GHS09**Target organs:** Liver, Kidneys, Lungs, Central nervous system**GHS Classification:**

Eye irritation (Category 2A)

Carcinogenicity (Category 2)

Aquatic acute (Category 1)

Aquatic chronic (Category 1)

**GHS Label information: Hazard statement:**

H319: Causes serious eye irritation.

H351: Suspected of causing cancer.

H400: Very toxic to aquatic life.

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.

P264: Wash hands thoroughly after handling.

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

P273: Avoid release to the environment.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

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

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

P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.

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.

Ca Prop 65: This chemical is known to the State of California to cause cancer or reproductive toxicity.

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
p-Dichlorobenzene	106-46-7	100%	203-400-5

## 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:** 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.

## 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)
	p-Dichlorobenzene	TWA: 10 ppm / 60 mg/m <sup>3</sup> (A3)	TWA: 75 ppm / 450 mg/m <sup>3</sup>	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 dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical &amp; Chemical Properties

<b>Appearance:</b> Solid. White, crystalline powder <b>Odor:</b> Mothball odor <b>Odor threshold:</b> Data not available <b>pH:</b> Data not available <b>Melting / Freezing point:</b> 53°C (127.4°F) <b>Boiling point:</b> 174°C (345.2°F) <b>Flash point:</b> 66°C (150°F) COC	<b>Evaporation rate ( Butyl acetate = 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> 0.6 @ 20°C <b>Vapor density (Air = 1):</b> 5.1 <b>Relative density (Specific gravity):</b> 1.458 @ 20/4°C <b>Solubility(ies):</b> Insoluble 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> C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub> <b>Molecular weight:</b> 147.00
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## Section 10 Stability &amp; Reactivity

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

**Conditions to avoid:** Excessive temperatures and open flame.

**Incompatible materials:** Strong oxidizers and reducing agents.

**Hazardous decomposition products:** Carbon oxides, chlorides and chlorines.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 500 mg/kg ; Dermal-rat LD50: 2000 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: Reasonably anticipated to be a human carcinogen.

IARC classified: Group 2B: Possibly carcinogenic to humans.

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 chemical is 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, drowsiness, headache, nausea, shortness of breath, vomiting and burning sensation.

Ingestion: Ingestion causes diarrhea. Further see Inhalation.

Skin: Contact with skin may cause irritation.

Eyes: Contact with eyes causes irritation with redness and pain.

**Signs and symptoms of exposure:** The substance may have effects on the liver, kidneys and blood. May effect the central nervous system. Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: CZ4550000

## Section 12 Ecological Information

**Toxicity to fish:** Lepomis macrochirus (bluegill) LC50: 6400 µg/L/96H

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (water flea) EC50: 930 µg/L/14 days (fertility impairment)

**Toxicity to algae:** Selenastrum capricornutum (algae) EC50: 1.6 mg/L/96H (inhibition of 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:** The substance is toxic to aquatic organisms. Bioaccumulation of this chemical may occur in fish.

## 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 (US DOT / CANADA TDG)

**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

**2012 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	WHMIS Classification
p-Dichlorobenzene	Listed	Not listed	U072	Listed	Not listed	  B3; D2A

## Section 16 Additional 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 Chemical Product and Company Information****HOME SCIENCE TOOLS**

665 Carbon Street  
Billings, MT 59102  
800-860-6272  
www.homesciencetools.com

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

<b>Product</b>	<b>SODIUM BORATE, DECAHYDRATE</b>
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<b>Synonyms</b>	Sodium Tetraborate ; Borax
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**Section 2 Hazards Identification****Signal word:** DANGER**Pictograms:** GHS08 / GHS07**Target organs:** None known.**GHS Classification:**

Eye irritation (Category 2A)

Reproductive toxicity (Category 1B)

**GHS Label information: Hazard statement:**

H319: Causes serious eye irritation.

H360: May damage fertility or the unborn child.

**Precautionary statement:**

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P264: Wash hands thoroughly after handling.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

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

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

P308+P313: IF exposed or concerned: Get medical attention.

P405: Store locked up.

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

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Section 3 Composition / Information on Ingredients**

Chemical Name	CAS #	%	EINECS
Sodium borate, decahydrate	1303-96-4	100%	215-540-4

**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:** This product is an inherent fire retardant. There are no unusual fire and explosion hazards.**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 & 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)
	Borate compounds, inorganic	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup> (A4)	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 & Chemical Properties**

<b>Appearance:</b> 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> Not flammable	<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> 62°C (144°F)	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> ·10H <sub>2</sub> O
<b>Boiling point:</b> Data not available	<b>Relative density (Specific gravity):</b> 1.73	<b>Molecular weight:</b> 381.37
<b>Flash point:</b> Data not available	<b>Solubility(ies):</b> Soluble in water	

**Section 10 Stability & Reactivity**

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

**Conditions to avoid:** When heated, loses water, eventually forming anhydrous borax.

**Incompatible materials:** Strong acids, oxidizers and reducing agents.

**Hazardous decomposition products:** Boron oxide and sodium oxides.

**Section 11 Toxicological Information**

**Acute toxicity:** Oral-rat LD50: 2,600 mg/kg ; Inhalation-rat LC50: >2.0 mg/l ; Dermal-rabbit LD50: >10,000 g/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.

**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. May cause respiratory tract irritation.

Ingestion: Ingestion may cause gastrointestinal irritation. Symptoms of over-exposure may include nausea, vomiting and diarrhea.

Skin: Contact may cause irritation.

Eyes: Contact may cause irritation.

**Signs and symptoms of exposure:** Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in the rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility..

**Additional information:** RTECS #: VZ2275000

**Section 12 Ecological Information**

**Toxicity to fish:** LC50 - Carassius auratus (goldfish) - 178 mg/l - 72 h

**Toxicity to daphnia and other aquatic invertebrates:** EC50 - Daphnia magna (Water flea) - 1,085 - 1,402 mg/l - 48 h

**Toxicity to algae:** IC50 - Desmodesmus subspicatus (green algae) - 158 mg/l - 96 h

**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

**2012 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	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium borate, decahydrate	Listed	Not listed	Not listed	Listed	Not listed	 D2A

**Section 16 Additional 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.

**Revision Date:** September 5, 2014

**Supersedes:** January 12, 2012

**Section 1 Chemical Product and Company Information**

Page E1 of E2

**HOME SCIENCE TOOLS**

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Billings, MT 59102  
800-860-6272  
www.homesciencetools.com

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

<b>Product</b>	POLYVINYL ALCOHOL, 87% HYDROLYZED
<b>Synonyms</b>	PVA / Ethenol Homopolymer

**Section 2 Hazards Identification**

**This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.**

**Signal word:** Not classified  
**Pictograms:** No symbol required  
**Target organs:** None known

**GHS Classification:** Not classified  
**GHS Label information: Hazard statement:** Not classified  
**Precautionary statement:** Not classified

**Supplementary information:**

Slipping hazard. Do not breathe dust. Avoid contact with eyes. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Section 3 Composition / Information on Ingredients**

Chemical Name	CAS #	%	EINECS
Polyvinyl alcohol	9002-89-5	100%	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:** 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:** 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. Dust dispersed in air is capable of creating a dust explosion when exposed to an ignition source. Avoid dispersion of dust in air. Oxidizing materials may accelerate the burning rate in a fire situation.

**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.





CEMENT &amp; CONCRETE PRODUCTS™

## B2: Packaged Aggregates

**SAFETY DATA SHEET**  
(Complies with OSHA 29 CFR 1910.1200)

### SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies  
One Securities Centre  
3490 Piedmont Road, Suite 1300  
Atlanta, GA 30305

Emergency Telephone Number  
(770) 216-9580  
Information Telephone Number  
(770) 216-9580

SDS B2  
Revision: May-15

**QUIKRETE® Product Name**  
Commercial Grade Sand

**Code #**  
Fine 1961  
Medium 1962  
Coarse 1963

**Product Use:** Silica aggregates for use in construction

### SECTION II - HAZARD IDENTIFICATION

**Hazard-determining components of labeling:** Silica

#### 2.1 Classification of the substance or mixture

Carcinogen – Category 1A  
Specific Target Organ Toxicity Single Exposure – Category 3  
Specific Target Organ Toxicity Repeat Exposure – Category 1  
Eye Irritant – Category 2B

#### 2.2a Signal word DANGER!

#### 2.2b Hazard Statements

May cause cancer through chronic inhalation  
May cause respiratory irritation  
Causes damage to lungs through prolonged or repeated inhalation  
Causes eye irritation if particles or dust get in eye

Industrial hygiene experts have studied long-term daily use of silica sands in sand-blasting and other occupations generating extreme volumes of dust. They have determined that long term, daily exposure to high concentrations of blasting sand dust causes damage to the lungs, may cause

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silicosis, and may cause cancer. **Do not use for sand blasting.** There are extensive OSHA precautions required for sand blasting.

### 2.2c Pictograms



### 2.2d Precautionary statements

Do not handle until all safety precautions have been read and understood.  
Wear protective gloves, eye protection, and protective clothing.  
Do not eat, drink or smoke when using this product.  
Wash thoroughly after handling.  
Use only in a well-ventilated area.  
Do not breathe dust.

If inhaled: Remove person to fresh air and keep comfortable for breathing.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Immediately seek medical advice or attention if symptoms are significant or persist.**

Dispose of contents/containers in accordance with all regulations.

### 2.3 Additional Information

**2.3a HNOC – Hazards not otherwise classified:** Not applicable

**2.3b Unknown Acute Toxicity:** None

#### 2.3c WHMIS Classification

Class D2A – Chronic Toxic Effects – Carcinogen  
Class D2B – Eye Irritant

### 2.3d Label Elements According To WHMIS

#### Hazard Symbols





**Signal Word**

DANGER!

---

**SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION**

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<u>Hazardous Components</u>	<u>CAS No.</u>	<u>% by Weight</u>
Sand, Silica, Quartz	14808-60-7	100

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**SECTION IV – FIRST AID MEASURES**

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**4.1 Description of the first-aid measures****General information:****After inhalation:** Remove person to fresh air and keep comfortable for breathing.**After skin contact:** Rinse skin with water.**After eye contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**After swallowing:** If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.**4.2 Most important symptoms/effects, acute and delayed****Inhalation:** May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.**Skin contact:** Causes mechanical skin irritation.**Eye Contact:** Causes eye irritation if particles or dust get in eye.**Ingestion:** Ingestion of large quantities may cause discomfort and/or distress, nausea or vomiting.**4.3 Indication of immediate medical attention and special treatment needed:**

Immediately seek medical advice or attention if symptoms are significant or persist.

---

**SECTION V - FIRE FIGHTING MEASURES**

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**5.1 Flammability of the Product:** Non-flammable and non-combustible**5.2 Suitable extinguishing agents:** Treat for surrounding material**5.3 Special hazards arising from the substance or mixture:** None**5.3a Products of Combustion:** None**5.3b Explosion Hazards in Presence of Various Substances:** Non-explosive in presence of shocks

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**SECTION VI – ACCIDENTAL RELEASE MEASURES**

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**CEMENT & CONCRETE PRODUCTS™**

**6.1 Personal precautions, protective equipment and emergency procedures:** Wear personal protective equipment (See section VIII). Keep unprotected persons away.

**6.2 Methods and material for containment and cleaning up:**

Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

---

**SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE**

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**7.1 Handling**

**Precautions for safe handling: Do not use for sand blasting.** There are extensive OSHA precautions required for sand blasting. Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8). Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

**7.2 Storage**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep out of the reach of children.

---

**SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION**

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**8.1 Components with limit values that require monitoring at the workplace:**

Hazardous Components	CAS No.	PEL (OSHA) mg/M <sup>3</sup>	TLV (ACGIH) mg/M <sup>3</sup>
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)

**8.2 Exposure Controls**

Use ventilation adequate to keep exposures below recommended exposure limits.

**8.3 General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

**8.3a Personal protective equipment**

**Protection of hands:**

Wear gloves of adequate length to offer appropriate skin protection from incidental contact. General duty work gloves have been found to offer adequate protection for most intended uses.

**Eye protection:**

Wear approved eye protection properly fitted dust- proof chemical safety glasses.

**Respiratory protection:**

A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

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**SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS**

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**General Information**

<b>Appearance</b>	Form: Granular Solid Color: Varies Odor: None
<b>pH-value at 20°C (68 °F):</b>	Not applicable
<b>Boiling point/Boiling range:</b>	Not applicable
<b>Flash point:</b>	Not applicable
<b>Auto igniting:</b>	Product is not self-igniting
<b>Vapor pressure at 21°C (70°F)</b>	Not applicable
<b>Density at 25°C (77 °F):</b>	2.5-2.8

**Solubility in / Miscibility with**

<b>Water:</b>	Insoluble
<b>VOC content:</b>	0 g/L VOC

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**SECTION X – STABILITY AND REACTIVITY**

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**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

Stable under normal storage conditions. Keep in dry storage.

**10.3 Possibility of hazardous reaction**

No dangerous reaction known under conditions of normal use.

**10.4 Thermal decomposition / conditions to be avoided**

No decomposition if used according to specifications.

**10.5 Incompatible materials**

Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

**10.6 Hazardous Decomposition or By-products**

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

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**SECTION XI – TOXICOLOGICAL INFORMATION**

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**11.1 Exposure Routes:** Inhalation, skin contact, eye contact, or ingestion.

**11.2 Symptoms related to physical/chemical/toxicological characteristics:**

**Inhalation:** May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

**Skin contact:** May cause mechanical skin irritation.

**Eye Contact:** Causes eye irritation if particles or dust gets in eye.

**Ingestion:** Ingestion of large quantities may cause discomfort and/or distress.

**11.3 Delayed, immediate and chronic effects of short-term and long-term exposure**

**Short Term**

Skin Corrosion/Irritation: Not applicable

Serious Eye Damage/Irritation: Causes eye irritation if particles or dust gets in eye

Respiratory Sensitization: Not applicable

Skin Sensitization: Not applicable

Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation

Aspiration Hazard: Not applicable

**Long Term**

Carcinogenicity: May cause cancer through chronic inhalation.

Germ Cell Mutagenicity: Not applicable

Reproductive Toxicity: Not applicable

Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure

Synergistic/Antagonistic Effects: Not applicable

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**SECTION XII – ECOLOGICAL INFORMATION**

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**12.1 Ecotoxicity**

No further relevant information available.

**12.2 Persistence and degradability**

No further relevant information available.

**12.3 Bioaccumulative potential:**

No further relevant information available.

**12.4 Mobility in soil**

No further relevant information available.

**12.5 Other Adverse Effects**

No further relevant information available.

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**SECTION XIII – DISPOSAL CONSIDERATIONS**

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**CEMENT & CONCRETE PRODUCTS™**

### 13.1 Waste Disposal Method

The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

### 13.2 Other disposal considerations

#### Uncleaned packaging

**Recommendation:** Disposal must be made in accordance with local, state and federal regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

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## SECTION XIV – TRANSPORT INFORMATION

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	<b>DOT (U.S.)</b>	<b>TDG (Canada)</b>
<b>UN-Number</b>	Not Regulated	Not Regulated
<b>UN proper shipping name</b>	Not Regulated	Not Regulated
<b>Transport Hazard Class(es)</b>	Not Regulated	Not Regulated
<b>Packing Group (if applicable)</b>	Not Regulated	Not Regulated

### 14.1 Environmental hazards:

Not applicable

### 14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code

Not applicable

### 14.3 Special precautions for user

Do not handle until all safety precautions have been read and understood.

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## SECTION XV – OTHER REGULATORY INFORMATION

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### 15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

#### Canada

**WHMIS Classification:** Considered to be a D2A and D2B hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

### 15.2 US Federal Information

#### SARA 302/311/312/313 Components

**CEMENT & CONCRETE PRODUCTS™**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.

**RCRA:** Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

**CERCLA:** Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

**Emergency Planning and Community Right to Know Act (SARA Title III):** Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

**FDA:** Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

**NTP:** Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.

**OSHA Carcinogen:** Crystalline silica (quartz) is not listed.

### 15.3 State Right to Know Laws

#### California Prop. 65 Components

**WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**California Inhalation Reference Exposure Level (REL):** California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

**Massachusetts Toxic Use Reduction Act:** Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

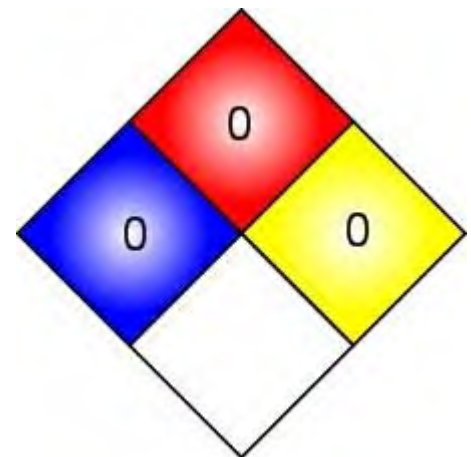
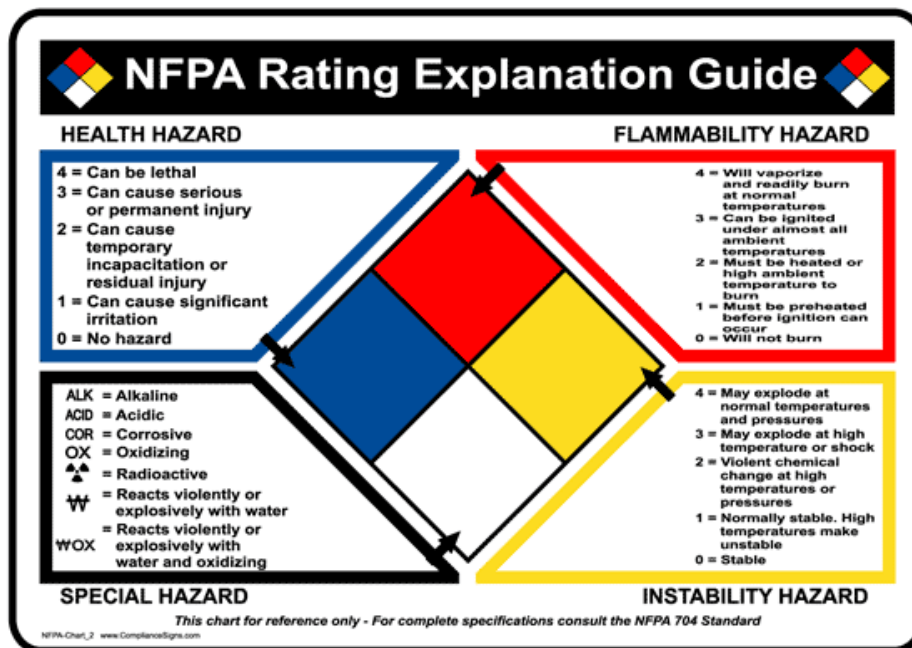
### 15.4 Global Inventories

**DSL** All components of this product are on the Canadian DSL list.

**TSCA No.:** Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.



## 15.5 NFPA Ratings



### SECTION XVI – OTHER INFORMATION

Last Updated: May 26, 2015

**NOTE:** The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by

The QUIKRETE® Companies  
 Phone (800) 282-5828  
[www.QUIKRETE.com](http://www.QUIKRETE.com)

**End of SDS**

## Section 1 Chemical Product and Company Information

Page E1 of E2

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For laboratory use only.  
Not for drug, food or household use.

<b>Product</b>	<b>ACETONE</b>
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<b>Synonyms</b>	2-Propanone / Dimethyl Ketone / Solvent
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## Section 2 Hazards Identification

**Signal word:** DANGER**Pictograms:** GHS02 / GHS07**Target organs:** Central nervous system**GHS Classification:**

Flammable liquid (Category 2)

Eye irritation (Category 2A)

STOT-SE (Category 3)

**GHS Label information: Hazard statement:**

H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

**Supplemental information:**

Repeated exposure may cause skin dryness or cracking.

**Precautionary statement:**

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

P233: Keep container tightly closed.

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.

P261: Avoid breathing 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 several minutes.

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

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

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.

P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.

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

P405+P235: Store locked up. Keep cool.

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

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Acetone	67-64-1	100%	200-662-2

## 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. 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:** REPEATED OR PROLONGED CONTACT MAY CAUSE DRYING AND DEFATTING OF 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:** 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. Acetone is extremely flammable and its vapors form explosive mixtures with air. Dangerous when exposed to heat, sparks, flame or oxidizing agents.

## 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.



## Section 1 Chemical Product and Company Information

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Not for drug, food or household use.

<b>Product</b>	<b>POTASSIUM PERMANGANATE</b>
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<b>Synonyms</b>	Chameleon Mineral
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## Section 2 Hazards Identification

**Signal word:** DANGER**Pictograms:** GHS03 / GHS07 / GHS09**Target organs:** None known**GHS Classification:**

Oxidizing solid (Category 2)  
Acute toxicity, ingestion (Category 4)  
Aquatic acute (Category 1)  
Aquatic chronic (Category 1)

**GHS Label information: Hazard statement:**

H272: May intensify fire; oxidizer.  
H302: Harmful if swallowed.  
H400: Very toxic to aquatic life.  
H410: Very toxic to aquatic life with long lasting effects.

**Precautionary statement:**

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P220: Keep away from clothing/incompatible/combustible materials.  
P221: Take any precaution to avoid mixing with combustibles/acids/oxidizers.  
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+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.  
P370+P378: In case of fire: Use water to extinguish.  
P391: Collect spillage.  
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Potassium permanganate	7722-64-7	100%	231-760-3

## 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. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES SEVERE 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:** Use water. Do not use dry chemicals or foams. CO<sub>2</sub> 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. Powerful oxidizing material, will accelerate burning when involved in a fire. Explosive in contact with sulfuric acid or hydrogen peroxide. May react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Spontaneously flammable on contact with glycerin or ethylene glycol.

## 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 & 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. Keep away from ignition sources.

**Section 8 Exposure Controls / Personal Protection**

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Manganese and inorganic compounds, as Mn	TWA: 0.2 mg/m <sup>3</sup> (A4)	STEL: C 5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> / STEL: 3 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 & Chemical Properties**

<b>Appearance:</b> Solid, shiny, dark purple crystals. <b>Odor:</b> No odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> 7-9 (20 g/L water) <b>Melting / Freezing point:</b> Decomposes <b>Boiling point:</b> Decomposes <b>Flash point:</b> Data not available	<b>Evaporation rate ( = 1):</b> Data not available <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Data not available <b>Vapor pressure (mm Hg):</b> Data not available <b>Vapor density (Air = 1):</b> 5.47 <b>Relative density (Specific gravity):</b> 2.7032 @ 25°C <b>Solubility(ies):</b> 6.5 g/100 ml water @ 20°C	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> 150°C (302°F) <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> KMnO <sub>4</sub> <b>Molecular weight:</b> 158.04
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**Section 10 Stability & Reactivity**

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

**Conditions to avoid:** Avoid exposure to incompatible materials and excessive temperatures.

**Incompatible materials:** Alcohols, arsenites, bromides, iodides, charcoal, hydrochloric acid, organic materials, ferrous or mercurous salts, hypophosphites, hyposulfites, sulfites, peroxides, oxalates, strong reducing agents, strong acids, formaldehyde, ethylene glycol, combustible organics, metal powders.

**Hazardous decomposition products:** Oxygen, oxides of potassium, oxides of manganese.

**Section 11 Toxicological Information**

**Acute toxicity:** Oral-rat LD50: 750 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.

**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 burning sensation, cough, sore throat, shortness of breath, labored breathing. Symptoms may be delayed.

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

Skin: Contact with skin causes redness, burns and pain.

Eyes: Contact with eyes causes redness, pain and severe deep burns.

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

**Additional information:** RTECS #: SD6475000

**Section 12 Ecological Information**

**Toxicity to fish:** *Gambusia affinis* (fish, fresh water), LC100 = 18 mg/L/24 hours

**Toxicity to daphnia and other aquatic invertebrates:** *Daphnia magna* (Crustacea), EC0 = >0.63 mg/L

**Toxicity to algae:** *Anabaena* sp. (Algae), EC50 = <0.5 mg/L/18 days/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:** UN1490

**Shipping name:** Potassium permanganate

**Hazard class:** 5.1

**Packing group:** II

**Reportable Quantity:** 100 lbs (45.4 kg)

**Marine pollutant:** No

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

**2012 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	WHMIS Classification
Potassium permanganate	Listed	100 lbs (45.4 kg)	D001	Listed	Not listed	C ; E

**Section 16 Additional 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.

**Revision Date:** September 5, 2014

**Supersedes:** September 6, 2013



**Section 1 Chemical Product and Company Information****HOME SCIENCE TOOLS**

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For laboratory use only.  
Not for drug, food or household use.

<b>Product</b>	<b>SILVER NITRATE</b>
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<b>Synonyms</b>	Silver(I) Nitrate
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**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 several 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 all local, state and federal regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**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<sub>2</sub> 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 & 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 <sup>3</sup>	TWA: 0.01 mg/m <sup>3</sup>	TWA: 0.01 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 & 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<sub>3</sub>

**Molecular weight:** 169.87

**Section 10 Stability & 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.

**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 #: VV4725000

**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 (Crustacea), 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 0.453 Kg

**2012 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	WHMIS Classification
Silver nitrate	Listed	Listed	D001, D011	Listed	Not listed	C ; E 

**Section 16 Additional 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 Chemical Product and Company Information****HOME SCIENCE TOOLS**

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800-860-6272  
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**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
For laboratory use only.  
Not for drug, food or household use.

<b>Product</b>	HYDROCHLORIC ACID, 32-36%
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<b>Synonyms</b>	Muriatic Acid ; Hydrogen Chloride
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**Section 2 Hazards Identification****Signal word:** DANGER**Pictograms:** GHS05 / GHS07**Target organs:** Respiratory system, skin, eyes, lungs.**GHS Classification:**

Serious eye damage (Category 1)

Skin corr. (Category 1B)

STOT SE (Category 3)

**GHS Label information: Hazard statement(s):**

H314: Causes severe skin burns and eye damage.

H335: May cause respiratory irritation.

**Precautionary statement(s):**

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.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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 several minutes.

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

P310: Immediately call a POISON CENTER or doctor/physician.

P363: Wash contaminated clothing before reuse.

P403/233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to an approved waste disposal plant.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Section 3 Composition / Information on Ingredients**

Water	7732-18-5	64-68%	231-791-2
Hydrochloric acid	7647-01-0	32-36%	231-595-7

**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:** Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.**EYE CONTACT:** Causes eye 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 skin 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:** 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. Contact with metals produce hydrogen, which is flammable and may produce explosive mixtures with air.**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:** Neutralize spill with sodium bicarbonate or calcium hydroxide, 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.

**Section 7 Handling & 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 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. Protect from physical damage and sunlight. Protect from moisture.

**Section 8 Exposure Controls / Personal Protection**

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Hydrogen chloride	STEL: C 2 ppm / C 2.98 mg/m <sup>3</sup>	STEL: C 5 ppm / C 7 mg/m <sup>3</sup>	STEL: C 5 ppm / C 7 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:** Use a chemical fume hood and/or wear a NIOSH/MSHA-approved respirator.

**Section 9 Physical & Chemical Properties**

<b>Appearance:</b> Clear, colorless, fuming liquid.	<b>Evaporation rate ( = 1):</b> Data not available.	<b>Partition coefficient:</b> (n-octanol / water): Data not available.
<b>Odor:</b> Pungent 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: Upper/Lower:</b> Data not available.	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> <1.5 acidic, in solution.	<b>Vapor pressure (mm Hg):</b> Approx. 25 @ 20°C (68°F)	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> Approx. -45°C (-49°F)	<b>Vapor density (Air = 1):</b> Data not available.	<b>Molecular formula:</b> HCl
<b>Boiling point:</b> 81.11-85°C (178-185°F)	<b>Relative density (Specific gravity):</b> Approx. 1.16 @ 20°C	<b>Molecular weight:</b> 36.46
<b>Flash point:</b> Not flammable.	<b>Solubility(ies):</b> Soluble in water.	

**Section 10 Stability & Reactivity**

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Containers may burst when heated. Avoid contact with water.

**Incompatible materials:** Metals, bases, active metals, alkali metals, oxidizing agents, hydroxides, amines, carbonates, cyanides, sulfides, sulfites, formaldehyde.

**Hazardous decomposition products:** Hydrogen chloride gas.

**Section 11 Toxicological Information**

**Acute toxicity:** Data not available

**Skin corrosion/irritation:** Skin-rabbit - causes burns.

**Serious eye damage/irritation:** Eyes-rabbit - Corrosive to eyes.

**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 carcinogen or potential carcinogen by NTP.

IARC: Group 3: Not classifiable as to its carcinogenicity to humans.

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.

**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 tract irritation.

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

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. Causes skin burns.

Eyes: Causes eye burns.

**Signs and symptoms of exposure:** Burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

**Additional information:** RTECS #: MW4025000

**Section 12 Ecological Information**

**Toxicity to fish:** LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

**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:** UN1789

**Shipping name:** Hydrochloric acid

**Hazard class:** 8 **Packing group:** II **Reportable Quantity:** No **Marine pollutant:** No **Exceptions:** Limited quantity equal to or less than 1 Lt.

**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	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Hydrochloric acid	Listed	Not listed	D002	Listed	Not listed	E; D1A

**Section 16 Additional 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.

**Section 1 Chemical Product and Company Information****HOME SCIENCE TOOLS**

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For laboratory use only.  
Not for drug, food or household use.

<b>Product</b>	<b>SODIUM HYDROXIDE, ANHYDROUS</b>
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<b>Synonyms</b>	Caustic Soda
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**Section 2 Hazards Identification****Signal word:** DANGER**Pictograms:** GHS05**Target organs:** Respiratory tract, gastrointestinal tract, eyes, skin.**GHS Classification:**

Skin. Corr. (Category 1A)

**GHS Label information: Hazard statement:**

H314: Causes severe skin burns and eye damage.

**Precautionary statement:**

P260: Do not breathe dust.

P264: Wash hands thoroughly after handling.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

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

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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.

P310: Immediately call a POISON CENTER or doctor.

P363: Wash contaminated clothing before reuse.

P405: Store locked up.

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

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Section 3 Composition / Information on Ingredients**

Chemical Name	CAS #	%	EINECS
Sodium hydroxide	1310-73-2	96-100%	215-185-5

**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:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** CAUSES SEVERE 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:** CAUSES SEVERE 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:** Flood with water, taking care not to splash or scatter. Avoid carbon dioxide as it reacts exothermically with this material.

**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:** Contact with metals can generate hydrogen gas. Contact with water produces intense heat and highly irritating and corrosive mist. Hot or molten material will react violently with water liberating heat and causing splashing. Contact with water may generate sufficient heat to ignite combustible materials.

**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 & 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)
	Sodium hydroxide	STEL: C 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	STEL: C 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 & Chemical Properties**

<b>Appearance:</b> Solid white beads or pellets. <b>Odor:</b> No odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> 13.0 - 14.0 <b>Melting / Freezing point:</b> 318°C (604°F) <b>Boiling point:</b> 1390°C (2534°F) <b>Flash point:</b> Not applicable.	<b>Evaporation rate ( = 1):</b> Not applicable. <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Not applicable. <b>Vapor pressure (mm Hg):</b> 1 mm Hg @ 739°C <b>Vapor density (Air = 1):</b> Not applicable. <b>Relative density (Specific gravity):</b> 2.13 @ 25°C (77°F) <b>Solubility(ies):</b> 29.6 @ 0°C (32°F) in water	<b>Partition coefficient: (n-octanol / water):</b> Data not available. <b>Auto-ignition temperature:</b> Not applicable. <b>Decomposition temperature:</b> Data not available. <b>Viscosity:</b> Not applicable. <b>Molecular formula:</b> NaOH <b>Molecular weight:</b> 40.00
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**Section 10 Stability & Reactivity**

**Chemical stability:** Stable  
**Hazardous polymerization:** Will not occur.  
**Conditions to avoid:** Deliquescent material. Absorbs moisture from air. Can react with carbon dioxide to form sodium carbonate.  
**Incompatible materials:** Metals, acids, organic compounds, organic nitro compounds.  
**Hazardous decomposition products:** Sodium oxide. Reacts with metals to form flammable and explosive hydrogen gas.

**Section 11 Toxicological Information**

**Acute toxicity:** Data not available  
**Skin corrosion/irritation:** Skin - rabbit - Causes severe burns. - 24 h  
**Serious eye damage/irritation:** Eyes - rabbit - Severe eye irritation - 24 h  
**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.  
**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. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
 Ingestion: May be harmful if swallowed.  
 Skin: May be harmful if absorbed through skin. Causes skin burns.  
 Eyes: Causes eye burns. Causes severe eye burns.  
**Signs and symptoms of exposure:** Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.  
**Additional information:** RTECS #: WB4900000

**Section 12 Ecological Information**

**Toxicity to fish:** LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h  
**Toxicity to daphnia and other aquatic invertebrates:** Immobilization EC50 - Daphnia - 40.38 mg/l - 48 h  
**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:** UN1823      **Shipping name:** Sodium hydroxide, solid  
**Hazard class:** 8      **Packing group:** II      **Reportable Quantity:** 1,000 lbs (454 kg)      **Marine pollutant:** No  
**Exceptions:** Limited quantity equal to or less than 1 Kg      **2012 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	WHMIS Classification
Sodium hydroxide	Listed	1,000 lbs (454 kg)	D002	Listed	Not listed	 E

**Section 16 Additional 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 Chemical Product and Company Information****HOME SCIENCE TOOLS**

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**Phone Number (800) 424-9300**  
For laboratory use only.  
Not for drug, food or household use.

<b>Product</b>	<b>AMMONIUM NITRATE</b>
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<b>Synonyms</b>	Nitric Acid Ammonium Salt
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**Section 2 Hazards Identification**

**This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.**

**Signal word:** WARNING

**Pictograms:** GHS03 / GHS07

**Target organs:** Liver, Kidneys, Blood

**GHS Classification:**

Oxidizing solid (Category 3)  
Acute toxicity, oral (Category 5)  
Skin irritation (Category 2)  
Eye irritation (Category 2A)

**GHS Label information: Hazard statement(s):**

H272: May intensify fire; oxidizer.  
H303: May be harmful if swallowed.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.

**Precautionary statement(s):**

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P220: Keep away from clothing/incompatible/combustible materials.  
P221: Take any precaution to avoid mixing with combustibles/acids/oxidizers.  
P264: Wash hands thoroughly after handling.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P312: 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 several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
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.  
P370+P378: In case of fire: Use water to extinguish.  
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Section 3 Composition / Information on Ingredients**

Chemical Name	CAS #	%	EINECS
Ammonium nitrate	6484-52-2	100%	229-347-8

**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:** 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:** Use water. Do not use dry chemicals or foams. CO<sub>2</sub> 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. Strong oxidizer. If heated under confinement, material may explode. Ammonium nitrate of any grade, including fertilizer, when contaminated with oil, charcoal or other organic materials should be considered an explosive capable of detonation by combustion or by explosion of adjacent explosive materials. Combustion by-products include oxides of nitrogen and ammonia. Closed containers may rupture violently when heated.

**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 & 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. Keep away from ignition sources.

**Section 8 Exposure Controls / Personal Protection**

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Particulates not otherwise classified/regulated	None established.	TWA: 5 mg/m <sup>3</sup> Respirable fraction	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 & Chemical Properties**

<b>Appearance:</b> Hygroscopic solid. White granules <b>Odor:</b> No odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> 5.4 <b>Melting / Freezing point:</b> 169°C (338°F) <b>Boiling point:</b> Decomposes <b>Flash point:</b> Data not available	<b>Evaporation rate ( = 1):</b> Data not available <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Data not available <b>Vapor pressure (mm Hg):</b> Data not available <b>Vapor density (Air = 1):</b> Data not available <b>Relative density (Specific gravity):</b> 1.73 @ 23°C <b>Solubility(ies):</b> 118 g/100 g water @ 30°C	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> 210°C (410°F) <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> NH <sub>4</sub> NO <sub>3</sub> <b>Molecular weight:</b> 80.05
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**Section 10 Stability & Reactivity**

**Chemical stability:** Stable  
**Hazardous polymerization:** Will not occur.  
**Conditions to avoid:** Excessive temperatures and other sources of ignition. Combustible and organic materials.  
**Incompatible materials:** Peroxides, strong oxidizers, reducing agents, organic materials.  
**Hazardous decomposition products:** Nitrogen oxides.

**Section 11 Toxicological Information**

**Acute toxicity:** Oral-rat LD50: 2217 mg/kg ; Inhalation-rat LC50: >88.8 mg/L/4 hours [Ammonium nitrate]  
**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.  
**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: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.  
 Ingestion: May cause gastroenteritis and abdominal pains. Purging and diuresis can be expected. Rare cases of nitrates being converted to the more toxic nitrites have been reported, mostly with infants.  
 Skin: Causes irritation to skin. Symptoms include redness, itching, and pain.  
 Eyes: Causes irritation, redness, and pain.  
**Signs and symptoms of exposure:** Small repeated oral doses of nitrates may cause weakness, depression, headache, and mental impairment. Persons with stomach diseases and infants are much more sensitive to nitrate ion toxicity.  
**Additional information:** RTECS #: BR9050000 [Ammonium nitrate]

**Section 12 Ecological Information**

**Toxicity to fish:** Cyprinus carpio (Fish, fresh water) LC50: 74 mg/L/48 hours  
**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea) EC50: 555 mg/L  
**Toxicity to algae:** Scenedesmus quadricauda (Algae) EC50: 83 mg/L  
**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:** UN1942      **Shipping name:** Ammonium nitrate  
**Hazard class:** 5.1      **Packing group:** III      **Reportable Quantity:** No      **Marine pollutant:** No  
**Exceptions:** Limited quantity equal to or less than 5 Kg      **2012 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	WHMIS Classification
Ammonium nitrate	Listed	Not listed	Not listed	Listed	Not listed	 C

**Section 16 Additional 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 Chemical Product and Company Information

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**HOME SCIENCE TOOLS**

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800-860-6272  
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**CHEMTREC 24 Hour Emergency**  
**Phone Number (800) 424-9300**  
For laboratory use only.  
Not for drug, food or household use.

<b>Product</b>	<b>POTASSIUM CHROMATE</b>
<b>Synonyms</b>	Dipotassium Chromate / Neutral Potassium Chromate

## Section 2 Hazards Identification

**Signal word:** DANGER**Pictograms:** GHS07 / GHS08 / GHS09**Target organs:** Respiratory system, Liver, Kidneys, Blood**GHS Classification:**

Skin irritation (Category 2)  
Skin sensitization (Category 2)  
Eye irritation (Category 2)  
STOT-SE (Category 3)  
Mutagenicity (Category 1B)  
Carcinogenicity (Category 1B)  
Aquatic toxicity, acute (Category 1)  
Aquatic toxicity, chronic (Category 1)

**GHS Label information: Hazard statement:**

H315: Causes skin irritation.  
H317: May cause an allergic skin reaction.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.  
H340: May cause genetic defects.  
H350: May cause cancer.  
H400: Very toxic to aquatic life.  
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.  
P261: Avoid breathing 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.  
P302+P352: IF ON SKIN: Wash with plenty of water and soap.  
P333+P313: If skin irritation or rash 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 several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313: If eye irritation persists: Get medical attention.  
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.  
P391: Collect spillage.  
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.

Ca Prop 65: This chemical is known to the State of California to cause cancer or reproductive toxicity. (Chromium [hexavalent compounds])

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Potassium chromate	7789-00-6	100%	232-140-5

## 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. MAY CAUSE AN ALLERGIC SKIN REACTION. 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<sub>2</sub> 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 will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated.

## 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. 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 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)
	Chromium(VI) inorganic compounds	TWA: 0.05 mg/m <sup>3</sup> (A1) as Cr	TWA: 0.005 mg/m <sup>3</sup> as Cr(VI)	TWA: 0.001 mg/m <sup>3</sup> as Cr

**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 &amp; Chemical Properties

<b>Appearance:</b> Solid. Yellow crystals	<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> 975°C (1787°F)	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> K <sub>2</sub> CrO <sub>4</sub>
<b>Boiling point:</b> Data not available	<b>Relative density (Specific gravity):</b> 2.732 @ 18°C	<b>Molecular weight:</b> 194.21
<b>Flash point:</b> Data not available	<b>Solubility(ies):</b> Soluble in water	

## Section 10 Stability &amp; 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:** Reducing agents. Most organic substances, bromides, iodides, chlorides, hypophosphites, sulfites, sulfides. Combustible materials, oxidizable materials.

**Hazardous decomposition products:** Potassium oxides.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-mouse LD50: 180 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: Known to be a human carcinogen.

IARC classified: Group 1: Carcinogenic to humans.

OSHA: Data not available.

Ca Prop 65: This chemical is known to the State of California to cause cancer or reproductive toxicity. (Chromium [hexavalent compounds])

**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 burning sensation, sore throat, cough, wheezing, labored breathing.

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

Skin: Causes skin irritation. May cause an allergic skin reaction.

Eyes: Contact with eyes may cause serious irritation.

**Signs and symptoms of exposure:** Risk of cancer depends on level and duration of exposure. Chromium compounds in the form of chromates and dichromates have been found to be mutagenic in bacterial and mammalian cells, including those of the Chinese hamster. Recent studies indicate a significant risk of lung cancer among long-term employees of the chromate producing industry. Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: GB2940000

## 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 (US DOT / CANADA TDG)

**UN/NA number:** UN3086

**Shipping name:** Toxic solid, oxidizing, n.o.s., (Potassium chromate)

**Hazard class:** 6.1, (5.1)

**Packing group:** II

**Reportable Quantity:** Yes

**Marine pollutant:** No

**Exceptions:** No exceptions

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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	WHMIS Classification
Potassium chromate	Listed	10 lbs (4.54 kg)	D001, D007	Listed	Not listed	C ; D2A ; D2B

## Section 16 Additional 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 Chemical Product and Company Information

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

<b>Product</b>	1% PHENOLPHTHALEIN IN ISOPROPYL ALCOHOL SOLUTION
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<b>Synonyms</b>	1% Phenolphthalein in IPA
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## Section 2 Hazards Identification

**Signal word:** DANGER**Pictograms:** GHS02 / GHS07 / GHS08**Target organs:** Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)

Eye irritation (Category 2)

STOT-SE (Category 2)

Mutagenicity (Category 2)

Carcinogen (Category 1B)

Reproductive toxicity (Category 2)

**GHS Label information: Hazard statement(s):**

H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

H341: Suspected of causing genetic defects.

H350: May cause cancer.

H361: Suspected of damaging fertility.

**Precautionary statement(s):**

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

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

P233: Keep container tightly closed.

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 fume/gas/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.

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

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 several minutes.

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

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

P308+P313: If exposed or concerned: Get medical advice/attention.

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

P362: Take off contaminated clothing and wash before reuse.

P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray for extinction.

P403+P235: Store in a well-ventilated place. Keep cool.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with all local, state and federal regulations.

Ca Prop 65 - WARNING! This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Isopropyl alcohol	67-63-0	70%	200-661-7
Water	7732-18-5	29%	231-791-2
Phenolphthalein	77-09-8	1%	201-004-7

## 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 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:** 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.

**Section 7 Handling & 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 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)
	Isopropanol	TWA: 200 ppm / STEL: 400 ppm	TWA: 400 ppm / 980 mg/m <sup>3</sup>	TWA: 400 ppm / STEL: 500 ppm

**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 & Chemical Properties**

<b>Appearance:</b> Clear, colorless liquid. <b>Odor:</b> Aromatic odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> Data not available. <b>Melting / Freezing point:</b> Approximately -50°C (-58°F)* <b>Boiling point:</b> Approximately 85-100°C (185-212°F)* <b>Flash point:</b> 21.7°C (71°F) TCC [70% IPA]	<b>Evaporation rate ( Butyl acetate = 1):</b> >1 <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> 2% / 12% [Pure IPA] <b>Vapor pressure (mm Hg):</b> 33 mm @20°C [Pure IPA] <b>Vapor density (Air = 1):</b> 2.1 [Pure IPA] <b>Relative density (Specific gravity):</b> 0.8* <b>Solubility(ies):</b> Complete in water.	<b>Partition coefficient: (n-octanol / water):</b> Data not available <b>Auto-ignition temperature:</b> 399°C (750°F) ASTM-E659-78 [Pure IPA] <b>Decomposition temperature:</b> Data not available. <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> Mixture <b>Molecular weight:</b> Mixture  *[70% IPA]
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**Section 10 Stability & 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 oxidizing materials, caustics, aluminums, metals, nitroform, oleum, chlorinated compounds can react vigorously with this alcohol.

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

**Section 11 Toxicological Information**

**Acute toxicity:** Oral-rat LD50: >2000 mg/kg ; Inhalation-rat LC50: >5000 ppm/1hr [Isopropanol]

**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: Reasonably anticipated to be a human carcinogen. [Phenolphthalein]

IARC classified: Group 2B: Possibly carcinogenic to humans. [Phenolphthalein]

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.

**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:** Yes

**Potential health effects:**

Inhalation: Inhalation of high vapor concentrations may cause central nervous system depression resulting in dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat. Continued inhalation may result in unconsciousness and death.

Ingestion: Aspiration hazard. Liquid can directly enter the lungs (aspirated) when swallowed or vomited. Serious lung damage and possible fatal chemical pneumonia can develop if this occurs.

Skin: Prolonged or repeated contact may cause irritation and drying, cracking and defatting of the skin which can lead to dermatitis.

Eyes: Contact causes burning sensation, redness, swelling, and/or blurred vision.

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

**Additional information:** RTECS #: NT8050000 [Isopropanol] / SM8380000 [Phenolphthalein]

**Section 12 Ecological Information**

**Toxicity to fish:** Pimephales promelas (Fish, fresh water) LC50: 9640 mg/l/96 hours [Isopropanol]

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea), EC50 = >10,000 mg/l/24 hours [Isopropanol]

**Toxicity to algae:** Scenedesmus quadricauda (Algae), LOEC50 = 1,800 mg/l/7 days [Isopropanol]

**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:** UN1219

**Shipping name:** Isopropanol solution

**Hazard class:** 3

**Packing group:** II

**Reportable Quantity:** No

**Marine pollutant:** No

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

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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	WHMIS Classification
Isopropyl alcohol	Listed	Not listed	Not listed	Listed	Not listed	B2; D2B
Phenolphthalein	Listed	Not listed	Not listed	Listed	Not listed	Not listed

**Section 16 Additional 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.

**Revision Date:** September 5, 2014

**Supersedes:** September 26, 2013