

## Section 1 Chemical Product and Company Identification

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**HOME SCIENCE TOOLS**

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

**CHEMTREC 24 Hour Emergency USA**  
**Phone Number (800) 424-9300**  
**1 703-741-5500 (from anywhere in the world).**  
For laboratory and industrial use only.  
Not for drug, food or household use.

**Product** CALCIUM CHLORIDE, DIHYDRATE**Synonyms** Calcium Chloride, Hydrated

## Section 2 Hazards Identification

**Signal word:** WARNING**Pictograms:** GHS07**Target organs:** None known**GHS Classification:**

Eye irritation (Category 2A)

**GHS Label information: Hazard statement:**

H319: Causes serious eye irritation.

**Precautionary statement:**

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.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Calcium chloride, dihydrate	10035-04-8	100%	233-140-8 (anhydrous)
<b>Contains:</b>			
Calcium chloride, anhydrous	10043-52-4	77-80%	233-140-8
Water	7732-18-5	15-20%	231-791-2
Potassium chloride	7447-40-7	2-3%	231-211-8
Sodium chloride	7647-14-5	1-2%	231-598-3

## Section 4 First Aid Measures

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

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

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

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

## Section 5 Fire Fighting Measures

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

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

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Heat is generated when product mixes with water.

## Section 6 Accidental Release Measures

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

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

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

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

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

## Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Particulates not otherwise classified	None established	TWA: 15 mg/m <sup>3</sup> total dust	None established

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

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

## Section 9 Physical &amp; Chemical Properties

<b>Appearance:</b> Solid. White flakes.	<b>Evaporation rate ( = 1):</b> Not applicable	<b>Partition coefficient:</b> Not applicable
<b>Odor:</b> No odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> Not applicable
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> Not applicable	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available.	<b>Vapor pressure (mm Hg):</b> Negligible	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> 772°C (1422°F)	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> CaCl <sub>2</sub> •2H <sub>2</sub> O
<b>Boiling point:</b> Data not available	<b>Relative density (Specific gravity):</b> Data not available	<b>Molecular weight:</b> 147.02
<b>Flash point:</b> Not applicable	<b>Solubility(ies):</b> Soluble in water.	

## Section 10 Stability &amp; Reactivity

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

**Conditions to avoid:** Hygroscopic material. Avoid moisture.

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

**Hazardous decomposition products:** None known.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 2100 mg/kg ; Dermal-rabbit LD50: >5000 mg/kg

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

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

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

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

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

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

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

**Reproductive toxicity:** Data not available

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

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

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: Dust may cause irritation to the upper respiratory tract (nose and throat).

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

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

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

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

**Additional information:** RTECS #: EV9810000

## Section 12 Ecological Information

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

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

**Toxicity to algae:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

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

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

## Section 13 Disposal Considerations

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

## Section 14 Transport Information (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

**2016 ERG Guide #** Not applicable

## Section 15 Regulatory Information

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

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

## Section 16 Other Information

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

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

<b>Product</b>	<b>CITRIC ACID, ANHYDROUS</b>
<b>Synonyms</b>	2-Hydroxy-1,2,3-Propane Tricarboxylic Acid

## Section 2 Hazards Identification

**Signal word:** WARNING  
**Pictograms:** GHS07  
**Target organs:** None known



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

**GHS Label information: Hazard statement(s):**  
H319: Causes serious eye irritation.

**Precautionary statement(s):**

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 advice/attention.

**Hazards not otherwise classified:**

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

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Citric acid, anhydrous	77-92-9	100%	201-069-1

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

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

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

## Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Citric acid	Not listed	Not listed	Not listed

**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, deliquescent crystals	<b>Evaporation rate ( = 1):</b> Not applicable	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> No odor.	<b>Flammability (solid/gas):</b> Not applicable	<b>Auto-ignition temperature:</b> 1010°C (1850°F)
<b>Odor threshold:</b> Data not available	<b>Explosion limits: Lower / Upper:</b> Not applicable	<b>Decomposition temperature:</b> >170°C (338°F)
<b>pH:</b> 2.2 in 0.1N aqueous solution	<b>Vapor pressure (mm Hg):</b> Data not available	<b>Viscosity:</b> Not applicable
<b>Melting / Freezing point:</b> 153°C (307°F)	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>
<b>Boiling point:</b> Data not available	<b>Relative density (Specific gravity):</b> 1.665 g/cm <sup>3</sup>	<b>Molecular weight:</b> 192.13
<b>Flash point:</b> Non-flammable	<b>Solubility(ies):</b> 60 g/100 ml water	

## Section 10 Stability &amp; Reactivity

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

**Conditions to avoid:** Excessive temperature and heat. Avoid dust formation.

**Incompatible materials:** Strong bases and oxidizing materials.

**Hazardous decomposition products:** Carbon oxides.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 12,000 mg/kg

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

**Serious eye damage/irritation:** Rabbit-highly 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 may cause irritation to mucous membranes causing sore throat, coughing and shortness of breath.

Ingestion: Ingestion may cause acute gastrointestinal irritation with abdominal pain.

Skin: Contact may cause irritation.

Eyes: Contact with eyes may cause irritation with redness, pain, possible eye burns, conjunctivitis, ulceration and permanent cloudiness.

**Signs and symptoms of exposure:** Long term over-exposure may cause damage to tooth enamel.

**Additional information:** RTECS #: GE7350000

## Section 12 Ecological Information

**Toxicity to fish:** Lepomis macrochirus (Fish, Fresh water) LC50: 1,516 mg/l/96 hours

**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea) EC50: ca. 120 mg/l/72 hours

**Toxicity to algae:** Scenedesmus quadricauda (Algae) EC3: 640 mg/l/7 days

**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:** Not applicable

**Shipping name:** Not Regulated

**Hazard class:** Not applicable

**Packing group:** Not applicable

**Reportable Quantity:** No

**Marine pollutant:** No

**Exceptions:** Not applicable

**2016 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	CA Prop 65
Citric acid, anhydrous	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

## Section 16 Other Information

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

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## Distilled Water

### SECTION 1: Identification of the substance/mixture and of the supplier

**Product name:** Distilled Water

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25868

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc  
9 Barnhart Drive, Hanover, PA 17331  
(717) 632-1291

**Supplier Details:**

Fisher Science Education  
6771 Silver Crest Road, Nazareth, PA 18064  
(724)517-1954

**Emergency telephone number:**

**Fisher Science Education**  
Emergency Telephone No.: 800-535-5053

### SECTION 2: Hazards identification

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:** None

**Other Non-GHS Classification:** None

### SECTION 3: Composition/information on ingredients

#### Ingredients:

CAS 7732-18-5	Deionized Water	100 %
Percentages are by weight		

### SECTION 4: First aid measures

**Description of first aid measures**

**After inhalation:**

Move exposed individual to fresh air.

**After skin contact:**

Wash affected area with soap and water.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact

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### Distilled Water

lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

#### After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

#### Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath.

#### Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

### SECTION 5: Firefighting measures

#### Extinguishing media

##### Suitable extinguishing agents:

If in laboratory setting, follow laboratory fire suppression procedures.

##### Unsuitable extinguishing agents: None

#### Special hazards arising from the substance or mixture: None

#### Advice for firefighters:

##### Protective equipment: None

##### Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures:

Stop the spill, if possible. Contain spilled material by diking or using inert absorbent.

#### Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

#### Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

#### Reference to other sections: None

### SECTION 7: Handling and storage

#### Precautions for safe handling:

Follow good hygiene procedures when handling chemical materials. Avoid splashes or spray in enclosed areas.

#### Conditions for safe storage, including any incompatibilities:

Store in cool, dry conditions in well sealed containers.

### SECTION 8: Exposure controls/personal protection



#### Control Parameters:

No applicable occupational exposure limits.

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### Distilled Water

<b>Appropriate Engineering controls:</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling.
<b>Respiratory protection:</b>	Not required under normal conditions of use. Use suitable respiratory protective device when aerosol or mist is formed.
<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

### SECTION 9: Physical and chemical properties

<b>Appearance (physical state, color):</b>	Clear, colorless liquid.	<b>Explosion limit lower:</b>	Not Determined
		<b>Explosion limit upper:</b>	Not Determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	17.5 mmHg @20C
<b>Odor threshold:</b>	Not Determined	<b>Vapor density:</b>	Not Determined
<b>pH-value:</b>	Not Determined	<b>Relative density:</b>	1.000
<b>Melting/Freezing point:</b>	0C	<b>Solubilities:</b>	None
<b>Boiling point/Boiling range:</b>	100C	<b>Partition coefficient (n-octanol/water):</b>	Not Determined
<b>Flash point (closed cup):</b>	Not Determined	<b>Auto/Self-ignition temperature:</b>	Not Determined
<b>Evaporation rate:</b>	Not Determined	<b>Decomposition temperature:</b>	Not Determined
<b>Flammability (solid, gaseous):</b>	Not Determined	<b>Viscosity:</b>	a. Kinematic: Not Determined b. Dynamic: Not Determined
<b>Density at 20°C:</b>	Not Determined		

### SECTION 10: Stability and reactivity

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

### SECTION 11: Toxicological information

**Acute Toxicity:** No additional information.



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### Distilled Water

**Chronic Toxicity:** No additional information.  
**Skin corrosion/irritation:** No additional information.  
**Serious eye damage/irritation:** No additional information.  
**Respiratory or skin sensitization:** No additional information.  
**Carcinogenicity:** See section 15.  
**Germ cell mutagenicity:** No additional information.  
**Reproductive Toxicity:** No additional information.  
**STOT-single and repeated exposure:** No additional information.  
**Additional toxicological information:** No additional information.

### SECTION 12: Ecological information

**Ecotoxicity:** No additional information.  
**Persistence and degradability:**  
Readily degradable in the environment.  
**Bioaccumulative potential:** No additional information.  
**Mobility in soil:**  
Aqueous solution has high mobility in soil.  
**Other adverse effects:** No additional information.

### SECTION 13: Disposal considerations

#### Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

### SECTION 14: Transport information

#### US DOT

##### UN Number:

ADR, ADN, DOT, IMDG, IATA

Not Dangerous Goods

##### Limited Quantity Exception:

None

##### Bulk:

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

##### Non Bulk:

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None



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### Distilled Water

#### SECTION 15: Regulatory information

##### United States (USA)

###### SARA Section 311/312 (Specific toxic chemical listings):

None of the ingredients are listed.

###### SARA Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

###### RCRA (hazardous waste code):

None of the ingredients are listed.

###### TSCA (Toxic Substances Control Act):

All ingredients are listed.

###### CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

None of the ingredients are listed.

##### Proposition 65 (California):

###### Chemicals known to cause cancer:

None of the ingredients are listed.

###### Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

###### Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

###### Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

##### Canada

###### Canadian Domestic Substances List (DSL):

All ingredients are listed.

#### SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 0-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

##### Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.

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### Distilled Water

PNEC Predicted No-Effect Concentration (REACH).  
CFR Code of Federal Regulations (USA).  
SARA Superfund Amendments and Reauthorization Act (USA).  
RCRA Resource Conservation and Recovery Act (USA).  
TSCA Toxic Substances Control Act (USA).  
NPRI National Pollutant Release Inventory (Canada).  
DOT US Department of Transportation.  
IATA International Air Transport Association.  
GHS Globally Harmonized System of Classification and Labelling of Chemicals.  
ACGIH American Conference of Governmental Industrial Hygienists.  
CAS Chemical Abstracts Service (division of the American Chemical Society).  
NFPA National Fire Protection Association (USA).  
HMIS Hazardous Materials Identification System (USA).  
WHMIS Workplace Hazardous Materials Information System (Canada).  
DNEL Derived No-Effect Level (REACH).

**Effective date:** 01.08.2015

**Last updated:** 06.19.2015

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**Phone Number (800) 424-9300**  
**1 703-741-5500 (from anywhere in the world).**  
For laboratory and industrial use only.  
Not for drug, food or household use.

**Product** POTASSIUM IODIDE**Synonyms** None

## Section 2 Hazards Identification

**Signal word:** WARNING**Pictograms:** GHS07**Target organs:** Thyroid**GHS Classification:**

Acute toxicity, oral (Category 5)

Skin sensitization (Category 1A)

**GHS Label information: Hazard statement:**

H303: May be harmful if swallowed.

H317: May cause an allergic skin reaction.

**Precautionary statement:**

P261: Avoid breathing dust.

P272: Contaminated work clothing should not be allowed out of the workplace.

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

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

P333+P313: If skin irritation or rash occurs: Get medical attention.

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

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

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

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Potassium iodide	7681-11-0	100%	231-659-4

## Section 4 First Aid Measures

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

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

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

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

## Section 5 Fire Fighting Measures

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

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

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

## Section 6 Accidental Release Measures

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

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

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

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

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

## Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Particulates not otherwise classified	None established	TWA: 15 ppm total dust	None established

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

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

## Section 9 Physical &amp; Chemical Properties

<b>Appearance:</b> Solid, white crystals. <b>Odor:</b> No odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> 7.0 <b>Melting / Freezing point:</b> 680°C (1256°F) <b>Boiling point:</b> 1330°C (2426°F) <b>Flash point:</b> Non-combustible	<b>Evaporation rate ( = 1):</b> Not applicable <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Data not available <b>Vapor pressure (mm Hg):</b> Negligible <b>Vapor density (Air = 1):</b> Data not available <b>Relative density (Specific gravity):</b> 3.12 <b>Solubility(ies):</b> Complete in water.	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> Data not available. <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> KI <b>Molecular weight:</b> 166.01
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## Section 10 Stability &amp; Reactivity

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

**Conditions to avoid:** Protect from light, air, moisture and excessive temperatures.

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

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

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 4800 mg/kg  
**Skin corrosion/irritation:** Data not available  
**Serious eye damage/irritation:** Data not available  
**Respiratory or skin sensitization:** Data not available  
**Germ cell mutagenicity:** Data not available  
**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 cause irritation of respiratory tract.  
Ingestion: Large doses may cause gastrointestinal upset and weakness.  
Skin: May cause mild irritation and redness on prolonged contact.  
Eyes: Can be irritating with redness and pain.  
**Signs and symptoms of exposure:** Hypothyroidism with possibility of goitre (hypertrophy of the thyroid gland), possible sensitization of skin. Chronic ingestion of iodides may produce "iodism" which may be characterized by skin rash, running nose, headache, and irritation of mucous membranes. Weakness, anemia, loss of weight, and general depression may also occur. **Additional information:** RTECS #: NN1575000

## Section 12 Ecological Information

**Toxicity to fish:** No data available  
**Toxicity to daphnia and other aquatic invertebrates:** No data available  
**Toxicity to algae:** No data available  
**Persistence and degradability:** No data available **Bioaccumulative potential:** No data available  
**Mobility in soil:** No data available **PBT and vPvB assessment:** No data available  
**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal Considerations

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

## Section 14 Transport Information (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 **2016 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	CA Prop 65
Potassium iodide	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

## Section 16 Other Information

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

## Section 1 Chemical Product and Company Identification

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

**Product** SODIUM CHLORIDE**Synonyms** Common Salt / Rock Salt

## 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:** Not classified  
**Target organs:** None known

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

**Supplementary information:**

Do not breathe dust. 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.

**Hazards not otherwise classified:**

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

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium chloride	7647-14-5	100%	231-598-3

## 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:** 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.

**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. Store away from acids.

## Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium chloride	None established	None established	None established

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

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

## Section 9 Physical &amp; Chemical Properties

<b>Appearance:</b> Solid, white 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> 4.0-9.0	<b>Vapor pressure (mm Hg):</b> 2.4	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> 801°C (>1473°F)	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> NaCl
<b>Boiling point:</b> 1465°C (2669°F)	<b>Relative density (Specific gravity):</b> 2.16 @ 25°C	<b>Molecular weight:</b> 58.45
<b>Flash point:</b> Non combustible	<b>Solubility(ies):</b> 1 g/2.8 ml water at 25°C	

## Section 10 Stability &amp; Reactivity

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

**Conditions to avoid:** Wet conditions can cause caking and/or corrosion.

**Incompatible materials:** Strong acids.

**Hazardous decomposition products:** Electrolysis can produce chlorine gas.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 3000 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 of dust leaves salty taste with mild irritation to mucous membrane in nose and throat.  
 Ingestion: Ingestion of large amounts (more than 0.1 pound) may cause vomiting.  
 Skin: Contact may cause very slight irritation.  
 Eyes: Contact may cause very slight irritation.  
**Signs and symptoms of exposure:** Gross overexposure over a long period of time, results in dehydration.  
**Additional information:** RTECS #: VZ4725000

## Section 12 Ecological Information

**Toxicity to fish:** Lepomis macrochirus (fish, freshwater) LC50: 9,675 mg/l/96 hours  
**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea) EC50: 6,175 mg/l/16 hours  
**Toxicity to algae:** Anabaena variabilis (Algae) LC50: 23,565 mg/l/4 day  
**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:** Not applicable **Shipping name:** Not Regulated  
**Hazard class:** Not applicable **Packing group:** Not applicable **Reportable Quantity:** No **Marine pollutant:** No  
**Exceptions:** Not applicable **2016 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	CA Prop 65
Sodium chloride	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

## Section 16 Other Information

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

## Section 1 Chemical Product and Company Identification

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

**Product** SODIUM BICARBONATE, ANHYDROUS**Synonyms** Baking Soda / Sodium Hydrogen Carbonate / Carbonic Acid Sodium (1:1)

## 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:** Not classified**Target organs:** None known**GHS Classification:** Not classified**GHS Label information: Hazard statement(s):** Not classified**Precautionary statement(s):**

Do not breathe dust. 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.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium bicarbonate	144-55-8	100%	205-633-8

## Section 4 First Aid Measures

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

**INHALATION:** 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:** 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. This material is commonly used to extinguish fires.

## Section 6 Accidental Release Measures

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

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

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



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

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

## Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium bicarbonate	None established	None established	None established

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

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

## Section 9 Physical &amp; Chemical Properties

<b>Appearance:</b> Solid, white crystalline powder.	<b>Evaporation rate ( = 1):</b> Data not available	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> No odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> Data not available	<b>Decomposition temperature:</b> Data not available
<b>pH:</b> 8.2 (1% solution)	<b>Vapor pressure (mm Hg):</b> Negligible	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> Data not available	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> NaHCO <sub>3</sub>
<b>Boiling point:</b> Decomposes	<b>Relative density (Specific gravity):</b> 2.16 @ 20°C	<b>Molecular weight:</b> 84.01
<b>Flash point:</b> Non combustible	<b>Solubility(ies):</b> 8.6 g/100 ml water at 20°C	

## Section 10 Stability &amp; Reactivity

**Chemical stability:** Stable **Hazardous polymerization:** Will not occur.  
**Conditions to avoid:** High temperature causes decomposition to sodium carbonate, water and carbon dioxide.  
**Incompatible materials:** Reacts with acids to yield acid salts, water and carbon dioxide.  
**Hazardous decomposition products:** Gaseous carbon dioxide.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 4220-4400 mg/kg  
**Skin corrosion/irritation:** Skin-rabbit - not irritating  
**Serious eye damage/irritation:** Eye-rabbit - not irritating  
**Respiratory or skin sensitization:** Non sensitizing  
**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: Excessive dust may irritate respiratory tract.  
 Ingestion: Ingestion may cause gastrointestinal disturbance if ingested.  
 Skin: No hazard known.  
 Eyes: Contact with eyes may cause very slight irritation.  
**Signs and symptoms of exposure:** See Potential health effects above.  
**Additional information:** RTECS #: VZ0950000

## Section 12 Ecological Information

**Toxicity to fish:** Gambusia affinis (fish, freshwater) LC50: 7550 mg/l/24 hours  
**Toxicity to daphnia and other aquatic invertebrates:** Daphnia magna (Crustacea) EC50: 2350 mg/l/48 hours  
**Toxicity to algae:** Nitzschia linearis (Algae) LC50: 650 mg/l/5 day  
**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:** Not applicable **Shipping name:** Not Regulated  
**Hazard class:** Not applicable **Packing group:** Not applicable **Reportable Quantity:** No **Marine pollutant:** No  
**Exceptions:** Not applicable **2016 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	CA Prop 65
Sodium bicarbonate	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

## Section 16 Other Information

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

## Section 1 Identification

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

Product	SUCROSE
Synonyms	Cane Sugar / Beet Sugar

## 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: None required  
Pictograms: No symbol required  
Target organs: None known

GHS Classification: None required  
GHS Label information: Hazard statement: None required  
Precautionary statement: None required

## Supplemental information:

Do not breathe dust. 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.

## Hazards not otherwise classified:

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

## Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Sucrose	57-50-1	100%	200-334-9

## 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:** 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.

## 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 use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

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

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

## Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sucrose	TWA: 10 mg/m <sup>3</sup> (A4)	TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

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

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

## Section 9 Physical and chemical properties

<b>Appearance:</b> Solid. White granules.	<b>Evaporation rate ( = 1):</b> Not applicable	<b>Partition coefficient:</b> (n-octanol / water): Data not available
<b>Odor:</b> No odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> Not applicable	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available.	<b>Vapor pressure (mm Hg):</b> Negligible	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> 185°C (365°F)	<b>Vapor density (Air = 1):</b> Data not available	<b>Molecular formula:</b> C <sub>12</sub> H <sub>22</sub> O <sub>11</sub>
<b>Boiling point:</b> Decomposes	<b>Relative density (Specific gravity):</b> 1.58	<b>Molecular weight:</b> 342.30
<b>Flash point:</b> Not applicable	<b>Solubility(ies):</b> Soluble in water	

## Section 10 Stability and reactivity

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

**Conditions to avoid:** Excessive temperatures.

**Incompatible materials:** Strong oxidizers.

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

## Section 11 Toxicological information

**Acute toxicity:** Oral-rat LD50: 420 mg/kg

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

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

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

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

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

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

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

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

**Reproductive toxicity:** Data not available

**STOT-single exposure:** 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 respiratory irritation.

Ingestion: Not expected to be a health hazard.

Skin: Not expected to be a health hazard.

Eyes: Contact with eyes may cause transient irritation.

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

**Additional information:** RTECS #: WN6500000

## Section 12 Ecological information

**Toxicity to fish:** No data available

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

**Toxicity to algae:** No data available

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

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

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

## Section 13 Disposal considerations

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

## Section 14 Transport information

**UN/NA number:** Not applicable **Shipping name:** Not Regulated

**Hazard class:** Not applicable **Packing group:** Not applicable **Reportable Quantity:** No **Marine pollutant:** No

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

## Section 15 Regulatory information

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

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

## Section 16 Other information

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



# Woeber **MUSTARD** Manufacturing Company

P.O. Box 388 • 1966 Commerce Circle • Springfield, Ohio 45501

Phone 937/323-6281 • 1-800/548-2929 • FAX 937/323-1679

## Section 1: Identification

**Product Identifier:** Vinegar (5% acidity)  
**Chemical Name:** Acetic Acid (CH<sub>3</sub>COOH)  
**CAS #:** 64-19-7  
**Recommended Use:** Food  
**Manufacturer Name:** Woeber Mustard Mfg. Company  
**Address:** 1966 Commerce Circle  
Springfield, OH 45501  
**Telephone:** 1-800-548-2929  
**Emergency Number:** CHEMTREC: 1-800-424-9300

## Section 2: Hazard(s) Identification

**GHS Classification:** Skin Corrosive 2, Eye Irritant 2A, Hazardous to aquatic environment



**Signal Word : WARNING**

**Hazard Statements**  
**H320:** Causes eye irritation  
**H315:** Causes skin irritation  
**H332:** Harmful if inhaled  
**H402:** Harmful to aquatic life

**Precautionary Statements**  
**P261:** Avoid breathing fumes/mist/vapors/spray  
**P264:** Wash exposed skin thoroughly after handling.  
**P280:** Wear protective gloves to avoid prolonged exposure.  
**P304+P340:** IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
**P305+P351+P338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
**P273:** Avoid release into the environment

Concentrated vapors irritating to eyes and respiratory tract, avoid inhalation. May cause minor skin irritation.

**NFPA Scale-**



NFPA SCALE (0-4)

**HMIS Rating-**

Health	2
Flammability	1
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

### **Section 3: Composition/Information on Ingredients**

<b><u>Chemical Name</u></b>	<b><u>Amount</u></b>	<b><u>CAS Number</u></b>
Acetic Acid	5%	64-19-7
Water	95%	7732-18-5

### **Section 4: First Aid Measures**

<b>Inhalation:</b>	If exposed to excessive levels of fumes, remove to fresh air.
<b>Eye Contact:</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER.
<b>Skin Contact:</b>	If on skin; wash with plenty of soap and water. If skin irritation occurs, seek medical advice/attention. If on clothes; remove/take off all contaminated clothing. Rinse skin with soap and water.
<b>Ingestion:</b>	Intended for ingestion, however if swallowed in large quantities, water may be consumed to dilute. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

### **Section 5: Fire Fighting Measures**

<b>Flash Point:</b>	40° C (104° F) closed cup (Acetic Acid)
<b>Auto Ignition Temp.:</b>	427° C (800° F) (Acetic Acid)
<b>Flammable Limits in Air:</b>	4.0% - 16% (Acetic Acid)
<b>Extinguishing Media:</b>	Water spray, foam CO2 or dry chemical. Water may be used to dilute spills and reduce flammability.
<b>Hazards from Fire:</b>	Toxic gasses and vapors may be released in a fire involving concentrated vinegars.

### **Section 6: Accidental Release Measures**

<b>Small Spill Procedure:</b>	Treat or dispose of waste material as a weak acid in accordance with all local, state/provincial, and national requirements. Water may be used to dilute.
<b>Large Spill Procedure:</b>	Contain spilled material. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime. Avoid runoff into storm sewers and ditches that lead to waterways. Treat or dispose of waste material as a weak acid in accordance with all local, state/provincial, and national requirements.
<b>Personal Protection:</b>	Protect skin and eyes from exposure. Avoid breathing vapor.
<b>Environmental Precautions:</b>	Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

## **Section 7: Handling and Storage**

### **Precautions for Handling:**

Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Wash contaminated clothing before reusing.

### **Conditions for safe Storage:**

Store in a cool, well ventilated place.

## **Section 8: Exposure Controls/Personal Protection**

Permissible Exposure Limit (PEL): 10 ppm acetic acid

Threshold Limit Value (TLV): 10 ppm acetic acid

Short Term Exposure Limit (STEL): 15 ppm acetic acid

Recommended Exposure Limit (REL): 10 ppm acetic acid

### **Engineering Controls:**

Local exhaust ventilation may be necessary to control any air contaminants to within their TLV during the use of the product. Emergency shower and eye wash stations should be readily available.

### **Eye/Face Protection:**

Wear safety glasses and/or face shield.

### **Skin Protection:**

Rubber/neoprene gloves recommended. Rubber apron or other protective equipment as needed to reduce direct contact. (Concentrated vinegars only)

### **Respiratory Protection:**

As required to prevent exposure to concentrations which exceed the PEL.

**Thermal Hazards:** None known

**General Hygiene considerations:**

## **Section 9: Physical and Chemical Properties**

Physical State and Appearance:	Liquid
Odor:	Pungent, Vinegar-like
Color:	Colorless, Clear
Boiling Point:	100°C (212°F)
Freezing Point:	-2.22°C (28 °F)
PH:	2.6
Specific Gravity:	1.049 (Water = 1)
Vapor Pressure:	1.5 kPa @ 20°C
Solubility in Water:	Complete

## **Section 10: Stability and Reactivity**

<b>Reactivity/Stability:</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Incompatibilities:</b>	Avoid strong oxidizing agents / bases
<b>Polymerization:</b>	Will not occur

## **Section 11: Toxicological Information**

<b>Routes of entry</b>	Inhalation, ingestion and skin contact
<b>Symptoms (acute)</b>	Respiratory irritation
<b>Delayed effects</b>	No data available
<b>Carcinogenicity</b>	No evidence of a carcinogenic effect
<b>Mutagenicity</b>	No evidence of a mutagenicity effect
<b>Teratogenicity</b>	No evidence of a teratogenicity effect
<b>Sensitization</b>	No evidence of a sensitization effect
<b>Reproductive</b>	No evidence of a Reproductive effect

## **Section 12: Ecological Information**

<b>Ecotoxicity:</b>	Will biodegrade readily under aerobic and anaerobic conditions.
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## **Section 13: Disposal Considerations**

Treat or dispose of waste material as a weak acid in accordance with all local, state/provincial, and national requirements.

## **Section 14: Transportation Information**

<b>Product Label:</b>	Vinegar.
<b>DOT Shipping Name:</b>	Not applicable
<b>Technical Shipping Name:</b>	Not applicable
<b>DOT Hazard Class:</b>	Not applicable
<b>UN Number:</b>	Not applicable for vinegar containing less than 25% acetic acid, provided packaging complies with ADR Special Provision 647; UN2790 for vinegar containing more than 25% acetic acid
<b>Product RQ (lbs):</b>	Quantity containing the equivalent of 5000 lb of 100% acetic acid, (16,667 lb of vinegar containing 30% acetic acid)
<b>DOT Label:</b>	Not applicable



## **Section 15: Regulatory Information**

Canadian Disclosure List:

Acetic Acid (64-19-7)

Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA):

Acetic Acid (64-19-7)

Food & Drug Administration (FDA)

Product is a GRAS (Generally Recognized as Safe) food ingredient.

## **Section 16: Other Information**

Not Available

<b>Woeber Mustard Co.</b>	Revision Date 6/19/17	Revision Number – 3
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## Section 1 Chemical Product and Company Identification

Page E1 of E2

**HOME SCIENCE TOOLS**

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

**CHEMTREC 24 Hour Emergency USA**  
**Phone Number (800) 424-9300**  
**1 703-741-5500 (from anywhere in the world).**  
For laboratory and industrial use only.  
Not for drug, food or household use.

**Product** ETHYL ALCOHOL, DENATURED, 95%**Synonyms** Ethanol, Denatured, 95%

## Section 2 Hazards Identification

**Signal word:** DANGER**Pictograms:** GHS02 / GHS06 / GHS07 / GHS08**Target organs:** Eyes, Central nervous system, Liver, Kidneys.**GHS Classification:**

Flammable liquid (Category 2)  
Acute toxicity, oral (Category 3)  
Acute toxicity, dermal (Category 3)  
Acute toxicity, inhalation (Category 3)  
Eye irritation (Category 2B)  
STOT-SE (Category 2)  
STOT-SE (Category 3)

**GHS Label information: Hazard statement:**

H225: Highly flammable liquid and vapour.  
H301: Toxic if swallowed.  
H311: Toxic in contact with skin.  
H319: Causes serious eye irritation.  
H331: Toxic if inhaled.  
H336: May cause drowsiness or dizziness.  
H371: May cause damage to organs.

**Precautionary statement:**

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233+P235: Keep container tightly closed. Keep cool.  
P240: Ground/bond container and receiving equipment.  
P241: Use explosion-proof electrical/ventilating/lighting equipment.  
P242: Use only non-sparking tools.  
P243: Take precautionary measures against static discharge.  
P260: Do not breathe mist/vapours/spray.  
P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors or in a well-ventilated area.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.  
P337+P313: If eye irritation persists: Get medical attention.  
P361+P364: Take off immediately all contaminated clothing and wash it before reuse.  
P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.  
P403+P405: Store in a well-ventilated place. Store locked up.  
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

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

## Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Ethyl alcohol	64-17-5	80.75 - 81.51%	200-578-6
Isopropyl alcohol	67-63-0	8.55%	200-661-7
Water	7732-18-5	5.00%	231-791-2
Methanol	67-56-1	3.80 - 4.08%	200-659-6
Methyl isobutyl ketone	108-10-1	0.85 - 0.95%	203-550-1

## Section 4 First Aid Measures

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

## Section 5 Fire Fighting Measures

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

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

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

## Section 6 Accidental Release Measures

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

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

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

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

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

## Section 8 Exposure Controls / Personal Protection

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

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

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

## Section 9 Physical &amp; Chemical Properties

<b>Appearance:</b> Clear, colorless liquid.	<b>Evaporation rate ( Butyl acetate = 1):</b> Ca 2*	<b>Partition coefficient:</b> (n-octanol / water): Low Pow: -.32*
<b>Odor:</b> Mild characteristic odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> 400°C (752°F)*
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> 4.0%(V) / 20.0%(V)*	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available.	<b>Vapor pressure (mm Hg):</b> Ca 50 @ 20°C*	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> -114°C (-173°F)*	<b>Vapor density (Air = 1):</b> Ca 1.5*	<b>Molecular formula:</b> Mixture
<b>Boiling point:</b> 74-80°C (165.2-176°F)*	<b>Relative density (Specific gravity):</b> 0.7919-0.7955°C @ 60/60°F*	<b>Molecular weight:</b> Mixture
<b>Flash point:</b> 5°C (41°F)*	<b>Solubility(ies):</b> Soluble in water.	*[ Ethanol]

## 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:** Strong oxidizers, inorganic acids and halogens.

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

## Section 11 Toxicological Information

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

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

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

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

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

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

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

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

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

**Reproductive toxicity:** Data not available

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

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

**Aspiration hazard:** Data not available

**Potential health effects:**

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

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

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

Eyes: Contact with eyes may cause blindness.

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

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

## Section 12 Ecological Information

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

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

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

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

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

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

## Section 13 Disposal Considerations

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

## Section 14 Transport Information (US DOT / CANADA TDG)

**UN/NA number:** UN1170

**Shipping name:** Ethanol

**Hazard class:** 3

**Packing group:** II

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

**Marine pollutant:** No

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

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

## Section 16 Other Information

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