## Section 1 Chemical Product and Company Identification



***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** | **IODINE-POTASSIUM IODIDE SOLUTION** |
| **Synonyms** | Iodine-Iodide / Iodine Solution / Iodine / Iodine Lugol's Dilute / Gram's Iodine Solution / Dilute Lugol's Solution |

## Section 2 Hazards Identification

**Signal word:** WARNING
**Pictograms:** GHS07 / GHS09
**Target organs:** Thyroid, kidneys, endocrine system, skin, eyes, reproductive system, central nervous system.

**GHS Classification:**
Acute toxicity, dermal (Category 4)
Acute toxicity, inhalation (Category 4)
Aquatic toxicity, acute (Category 1)

**GHS Label information**: **Hazard statement(s):**
H312: Harmful in contact with skin.
H332: Harmful if inhaled.
H400: Very toxic to aquatic life.

**Precautionary statement(s):**
P261: Avoid breathing mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.
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.
P312: Call a POISON CENTER or doctor if you feel unwell.
P362+P364: Take off contaminated clothing and wash it before reuse.
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.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

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

## Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|---|---|---|---|
| Water | 7732-18-5 | 95.10% | 231-791-2 |
| Potassium iodide | 7681-11-0 | 3.05% | 231-659-4 |
| Iodine | 7553-56-2 | 1.85% | 231-442-4 |

## 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:** HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. Harmful if inhaled.

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

## Section 5 Fire Fighting Measures

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

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

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

## Section 6 Accidental Release Measures

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

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

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

## Section 7 Handling & Storage

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

**Handling:** Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale vapors, mist or spray. Wash thoroughly after handling. Remove and wash clothing before reuse.

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

## Section 8 Exposure Controls / Personal Protection

**Exposure Limits:**

| Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|---|---|---|---|
| Iodine CAS # 7553-56-2 | TWA: 0.01 ppm(IFV)/ STEL: 0.1 ppm(V) | STEL: C 0.1 ppm/C 1 mg/m$^3$ | STEL: C 0.1 ppm/C 1 mg/m$^3$ |

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

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

## Section 9 Physical & Chemical Properties

**Appearance:** Deep amber liquid.
**Odor:** Characteristic odor.
**Odor threshold:** Not applicable.
**pH:** Data not available.
**Melting / Freezing point:** ~ 0°C (~ 32°F) [water]
**Boiling point:** ~ 100°C (212°F) [water]
**Flash point:** Not flammable.

**Evaporation rate (** Water **= 1):** < 1
**Flammability (solid/gas):** Not applicable.
**Explosion limits: Lower / Upper:** Not applicable
**Vapor pressure (mm Hg):** 14 [water]
**Vapor density (Air = 1):** 0.7 [water]
**Relative density (Specific gravity):** 1.0 [water]
**Solubility(ies):** Complete in water.

**Partition coefficient: (**n-octanol / water): Not applicable
**Auto-ignition temperature:** Not applicable
**Decomposition temperature:** Data not available.
**Viscosity:** Data not available.
**Molecular formula:** Mixture
**Molecular weight:** Mixture

## Section 10 Stability & Reactivity

**Chemical stability:** Stable
**Hazardous polymerization:** Will not occur.
**Conditions to avoid:** Stable under recommended storage conditions. Excessive temperatures which cause evaporation.

**Incompatibilities with other materials:** Metals or unsaturated organic compounds, ammonia solutions or alkaline solutions of ammonia salts. Will form explosive nitrogen iodides when reacted with gaseous ammonia.

**Hazardous decomposition products:** Toxic iodide fumes.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-Rat LD50: 14,000 mg/kg [Iodine CAS # 7553-56-2]
**Skin corrosion/irritation:** Data not available
**Serious eye damage/irritation:** Data not available
**Respiratory or skin sensitization:** Inhalation-rat 3.1 mg/m$^3$ / 24 hour / 13 weeks - continuous [Iodine CAS # 7553-56-2]
**Germ cell mutagenicity:** Data not available
**Carcinogenity:** Data not available
**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.
**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.
**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: Symptoms include cough, wheezing, and labored breathing. Symptoms may be delayed.
Ingestion: Causes abdominal pain, diarrhea, nausea, and vomiting. Ingestion of levels of 2-3 grams of iodine may cause death.
Skin: Contact may cause redness and pain.
Eyes: Contact causes watering of the eyes, redness and pain.
**Signs and symptoms of exposure:** Effects of short-term exposure: Lachrymator. The substance is severely irritating to the eyes and the respiratory tract, and is irritating to the skin. Inhalation of the vapor may cause asthma-like reactions. Inhalation of the vapor may cause lung edema. The effects may be delayed. Effects of long-term exposure: Repeated or prolonged contact may cause skin sensitization in rate cases. Repeated or prolonged inhalation exposure may cause asthma-like syndrome. The substance may have effects on the thyroid. Specific data not available for this mixture. Exercise appropriate procedures to minimize potential hazards..
**Additional information: RTECS #:** NN1575000 [Iodine CAS # 7553-56-2]

## Section 12 Ecological Information

**Toxicity to fish:** Very toxic to aquatic life.
**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 | CERLCA (RQ) | RCRA code | DSL | NDSL | CA Prop 65 |
|---|---|---|---|---|---|---|
| Iodine | 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. |
| Potassium iodide | 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.



**Revision Date:** February 27, 2018 **Supercedes:** February 22, 2018

## Section 1 Chemical Product and Company Identification



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| | |
|---|---|
| **Product** | **SODIUM BORATE, DECAHYDRATE** |
| **Synonyms** | Sodium Tetraborate ; Borax |

## 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.

**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 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$^3$ STEL: 6 mg/m$^3$(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

**Appearance:** White, crystalline powder
**Odor:** No odor
**Odor threshold:** Data not available
**pH:** Data not available
**Melting / Freezing point:** 62°C (144°F)
**Boiling point:** Data not available
**Flash point:** Data not available

**Evaporation rate ( = 1):** Data not available
**Flammability (solid/gas):** Not flammable
**Explosion limits: Lower / Upper:** Data not available
**Vapor pressure (mm Hg):** Data not available
**Vapor density (Air = 1):** Data not available
**Relative density (Specific gravity):** 1.73
**Solubility(ies):** Soluble in water

**Partition coefficient:** Data not available
**Auto-ignition temperature:** Data not available
**Decomposition temperature:** Data not available
**Viscosity:** Data not available
**Molecular formula:** $Na_2B_4O_7 \cdot 10H_2O$
**Molecular weight:** 381.37

## 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
**Carcinogenity:** Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
**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 my 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 cronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational eposure 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 (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 |
|---|---|---|---|---|---|---|
| Sodium borate, decahydrate | 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.



**Revision Date:** March 28, 2018 **Supercedes:** December 15, 2016

# Sakrete Sands & Gravel

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Date of issue: 09/26/2016 Revision date: 01/31/2018 Version: 1.0

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product name : Sakrete Sands & Gravel

Product code : Not available

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Various

### 1.3. Details of the supplier of the safety data sheet

Sakrete of North America
625 Griffith Rd., Ste 100
Charlotte, NC 28217
T 866-725-7383

### 1.4. Emergency telephone number

Emergency number : For Hazardous Materials [or Dangerous Goods] Incident
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
1-800-424-9300 [USA] / +1 703-527-3887 [CAN]

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

Carc. 1A

STOT RE 1

### 2.2. Label elements

**GHS-US labeling**

Hazard pictograms (GHS-US) :

GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : May cause cancer. Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US) : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. If exposed or concerned: Get medical advice/attention. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3. Other hazards

No additional information available.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable.

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable.

### 3.2. Mixtures

| Name | Product identifier | % |
|---|---|---|
| Quartz | (CAS No) 14808-60-7 | 60 - 100 |

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

### 4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Treat for surrounding material.

Unsuitable extinguishing media : None known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

### 5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

### 6.2. Methods and material for containment and cleaning up

For containment : Contain spill, then place in a suitable container. Minimize dust generation. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Vacuum or sweep material and place in a disposal container.

### 6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe dust. Do not swallow. Handle and open container with care. Avoid dust formation. Good housekeeping is important to prevent accumulation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. When using do not eat, drink or smoke.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Avoid any dust build-up by frequent cleaning and suitable construction of the storage area. Do not store in an area equipped with emergency water sprinklers.

### 7.3. Specific end use(s)

Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Quartz (14808-60-7)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 0.025 mg/m³ (respirable fraction) |
| OSHA | OSHA PEL (mg/m³) | (30)/(%SiO2 + 2) mg/m3 TWA (total dust)<br>(250)/(%SiO2 + 5) mppcf TWA (respirable fraction)<br>(10)/(%SiO2 + 2) mg/m3 TWA (respirable fraction) |

### 8.2. Exposure controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection : Wear suitable waterproof gloves.

Eye protection : Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).

Skin and body protection : Wear suitable waterproof protective clothing.

Respiratory protection : A NIOSH approved dust mask or filtering facepiece 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).

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

Other information : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Granular powder

Color : No data available

Odor : No data available

Odor threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Flammability (solid, gas) : Not flammable

Explosion limits : No data available

Explosive properties : No data available

Oxidizing properties : No data available

Vapor pressure : No data available

Relative density : No data available

Relative vapor density at 20 °C : No data available

Solubility : No data available

Partition coefficient n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

### 9.2. Other information

No additional information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2. Chemical stability

Stable under normal storage conditions. Keep dry in storage.

### 10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4. Conditions to avoid

Heat. Incompatible materials.

### 10.5. Incompatible materials

Moisture. Wet cement is alkaline and incompatible with acid, ammonium salts and aluminum metal.

### 10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

| Sakrete Sands & Gravel | |
|---|---|
| LD50 oral rat | No data available |
| LD50 dermal rat | No data available |
| LC50 inhalation rat | No data available |

Skin corrosion/irritation : Based on available data, the classification criteria are not met.

Serious eye damage/irritation : Based on available data, the classification criteria are not met.

Respiratory or skin sensitization : Based on available data, the classification criteria are not met.

Germ cell mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : May cause cancer.

| Quartz (14808-60-7) | |
|---|---|
| IARC group | 1 - Carcinogenic to humans |
| National Toxicology Program (NTP) Status | 2 - Known Human Carcinogens |

Reproductive toxicity : Based on available data, the classification criteria are not met.

STOT-single exposure : Based on available data, the classification criteria are not met.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure. Respirable crystalline silica in the form of quartz or cristobalite from occupational sources is listed by the International Agency for Research on Cancer (IARC) and National Toxicology Program (NTP) as a lung carcinogen. Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a lung disease, which may be disabling. While there may be a factor of individual susceptibility to a given exposure to respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of dust exposure and the length of time (usually years) of exposure.

Aspiration hazard : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : No ecological consideration when used according to directions. Normal dilution of this product to drains, sewers, septic systems and treatment plants is not considered environmentally harmful.

### 12.2. Persistence and degradability

| Sakrete Sands & Gravel | |
|---|---|
| Persistence and degradability | Not established. |

### 12.3. Bioaccumulative potential

| Sakrete Sands & Gravel | |
|---|---|
| Bioaccumulative potential | Not established. |

### 12.4. Mobility in soil

No additional information available.

### 12.5. Other adverse effects

Effect on global warming : No known effects from this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

## SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

Not regulated for transport

**Additional information**

Other information : No supplementary information available.

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

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

### 15.3. US State regulations

| Sakrete Sands & Gravel | |
|---|---|
| State or local regulations | This product contains Crystalline Silica, Quartz and may also contain trace amounts of other chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. |

## SECTION 16: Other information

Date of issue : 09/26/2016

Revision date : 01/31/2018

Other information : None.

*Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.*

## Section 1 Chemical Product and Company Identification



***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** | **AMMONIUM HYDROXIDE, 28-30%** |
| **Synonyms** | Ammonium Hydroxide, Water Solution |

## Section 2 Hazards Identification

**Signal word:** DANGER
**Pictograms:** GHS05 / GHS09
**Target organs:** Eyes, Skin, Mucous membranes

**GHS Classification:**
Skin corrosion (Category 1B)
Acute aquatic (Category 1)
STOT-SE (Category 3)

**GHS Label information**: **Hazard statement:**
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.
H400: Very toxic to aquatic life.

**Precautionary statement:**
P260: Do not breathe mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310: Immediately call a POISON CENTER or doctor.
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.
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 if you feel unwell.
P363: Wash contaminated clothing before reuse.
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.

**Hazards not otherwise classified:**
Health hazards not otherwise classified (HHNOC) - Lachrymator
Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|---|---|---|---|
| Water | 7732-18-5 | Approximately 70-72% | 231-791-2 |
| Ammonium hydroxide (as Ammonia) | 1336-21-6 | Approximately 28-30% | 215-647-6 |

## 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 FATAL 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 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 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:** 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.

## 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:** Carefully neutralize with Sodium bicarbonate, 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 dusts/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) |
|---|---|---|---|
| Ammonia CAS No. 7664-41-7 | TWA: 17 mg/m$^3$ ; STEL: 24 mg/m$^3$ | TWA: 50 ppm, 35 mg/m$^3$ | TWA: 18 mg/m$^3$ ; STEL: 27 mg/m$^3$ |

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

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

## Section 9 Physical & Chemical Properties

**Appearance:** Clear, colorless liquid.
**Odor:** Strong, pungent, suffocating odor.
**Odor threshold:** Data not available.
**pH:** Data not available.
**Melting / Freezing point:** -77°C (-106°F)
**Boiling point:** 36°C (97°F)
**Flash point:** Data not available

**Evaporation rate (** Water **= 1):** 1
**Flammability (solid/gas):** Data not available.
**Explosion limits: Lower / Upper:** 16% / 27%($NH_3$ gas)
**Vapor pressure (mm Hg):** 115 mm @ 20°C (68°F)
**Vapor density (Air = 1):** 0.6-1.2
**Relative density (Specific gravity):** 0.900
**Solubility(ies):** Complete in water.

**Partition coefficient:** Data not available
**Auto-ignition temperature:** 651°C (1204°F)
**Decomposition temperature:** Data not available.
**Viscosity:** Data not available.
**Molecular formula:** $NH_4OH$
**Molecular weight:** 35.05

## Section 10 Stability & Reactivity

**Chemical stability:** Stable
**Hazardous polymerization:** Will not occur.
**Conditions to avoid:** Excessive temperatures which cause evaporation.

**Incompatible materials:** Acids, strong oxidizers, halogens, heavy metals.

**Hazardous decomposition products:** Decomposes to ammonia gas and above 450°C (842°F) to hydrogen gas and nitrogen oxides.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 350 mg/kg [Ammonium hydroxide, anhydrous]
**Skin corrosion/irritation:** Skin-rabbit - Severe irritant.
**Serious eye damage/irritation:** Eyes-rabbit - Severe irritant.
**Respiratory or skin sensitization:** Data not available
**Germ cell mutagenicity:** Data not available
**Carcinogenity:** Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
**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: Burning sensation, cough, labored breathing, shortness of breath, sore throat.
Ingestion: Abdominal cramps, abdominal pain, sore throat, vomiting,
Skin: Redness, skin burns, pain, blisters.
Eyes: Redness, pain, blurred vision, burns.
**Signs and symptoms of exposure:** Material is extremely destructive to tissue of the mucous membranes, upper respiratory, gastrointestinal and digestive tracts, eyes and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.
**Additional information: RTECS #:** BQ9625000 [Ammonium hydroxide, anhydrous]

## Section 12 Ecological Information

**Toxicity to fish:** LC50 Lepomis macrochirus (bluegill) 0.024-0.093 mg/L/48H
**Toxicity to daphnia and other aquatic invertebrates:** LC50 Daphnia magna (water flea) 0.66 mg/L/48H @ 22°C
**Toxicity to algae:** TLm Diatom (algae) 420 mg/L/120H @ 22°C (50% growth reduction)
**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:** UN2672 **Shipping name:** Ammonia solution
**Hazard class:** 8 **Packing group:** III **Reportable Quantity:** 1,000 lbs (454 kg) **Marine pollutant:** No
**Exceptions:** Limited quantity equal to or less than 5 L **2016 ERG Guide #** 154

## Section 15 Regulatory Information

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

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL | CA Prop 65 |
|---|---|---|---|---|---|---|
| Ammonium hydroxide | Listed | 1,000 lbs (454 kg) | Not listed | Listed | Not listed | This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity. |

## Section 16 Other Information

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