## 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** | **COPPER(II) SULFATE, PENTAHYDRATE** |
| **Synonyms** | Cupric Sulfate, 5-Hydrate |

## Section 2 Hazards Identification

**Signal word:** WARNING
**Pictograms:** GHS07 / GHS09
**Target organs:** Liver, Kidneys, Lungs, Spleen.

**GHS Classification:**
Acute toxicity-oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Aquatic acute toxicity (Category 1)
Aquatic chronic toxicity (Category 1)

**GHS Label information**: **Hazard statement:**
H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H410: Very toxic to aquatic life with long lasting effects.

**Precautionary statement:**
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313: If skin irritation occurs: Get medical attention.
P337+P313: If eye irritation persists: Get medical attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
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 |
|---|---|---|---|
| Cupric sulfate | 7758-99-8 | >99% | 231-847-6 (anhydrous) |

## Section 4 First Aid Measures

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

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

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

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

## Section 5 Fire Fighting Measures

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

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

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

## Section 6 Accidental Release Measures

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

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

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

## Section 7 Handling & Storage

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

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

## Section 8 Exposure Controls / Personal Protection

**Exposure Limits:**

| Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|---|---|---|---|
| Copper, dusts and mists, as Cu | TWA: 1 mg/m$^3$ | TWA: 1 mg/m$^3$ | TWA: 1 mg/m$^3$ |

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

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

## Section 9 Physical & Chemical Properties

**Appearance:** Blue, crystalline solid
**Odor:** Odorless
**Odor threshold:** Data not available
**pH:** 3.7-4.2 (10% solution)
**Melting / Freezing point:** 150°C (302°F)
**Boiling point:** Decomposes
**Flash point:** Non-flammable

**Evaporation rate ( = 1):** Not applicable
**Flammability (solid/gas):** Not applicable
**Explosion limits: Lower / Upper:** Not applicable
**Vapor pressure (mm Hg):** 20 torr @ 22.5°C
**Vapor density (Air = 1):** Data not available
**Relative density (Specific gravity):** 2.284
**Solubility(ies):** 31.6 g/100 ml water @ 0°C

**Partition coefficient:** Data not available
**Auto-ignition temperature:** Data not available
**Decomposition temperature:** 560°C (1040°F)
**Viscosity:** Data not available.
**Molecular formula:** $CuSO_4 \cdot 5H_2O$
**Molecular weight:** 249.68

## Section 10 Stability & Reactivity

**Chemical stability:** Stable
**Hazardous polymerization:** Will not occur.
**Conditions to avoid:** Hygroscopic material. Stable when kept dry, under normal temperature and pressure. Avoid high temperatures, exposure to air and incompatible materials.

**Incompatible materials:** Reducing agents, acetylene or nitromethane, magnesium, strong bases, alkalines, phosphates, hydrazine, zirconium. Can corrode aluminum, steel and iron.

**Hazardous decomposition products:** Oxides of sulfur and copper fumes.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 300 mg/kg [Copper sulfate anhydrous]
**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 cause irritation to the mucous membranes and upper respiratory tract.
Ingestion: Ingestion can cause irritation to the digestive tract and abdominal pain.
Skin: Contact with skin causes slight irritation. Excessive exposure may cause allergic dermatitis. May cause irritation or burns on wet skin.
Eyes: Can cause severe irritation and may result in irreversible eye damage.
**Signs and symptoms of exposure:** *Note to physician*: Probable mucosal damage may contradict the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed. Wilson's disease can be aggravated by excessive exposure. Symptoms include nausea, vomiting, gastrointestinal pain, diarrhea, dizziness, jaundice, and general debility.
**Additional information: RTECS #:** GL8900000

## Section 12 Ecological Information

**Toxicity to fish:** Salmo gairdneri (fish, estuary, fresh water), LC50 = < 0.75-0.84 mg/L [Copper sulfate anhydrous]
**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:** UN3077 **Shipping name:** Environmentally hazardous substances, solid, n.o.s., (Cupric sulfate)
**Hazard class:** 9 **Packing group:** III **Reportable Quantity:** 10 lbs (4.54 kg) **Marine pollutant:** Yes
**Exceptions:** Non regulated equal to or less than 4.539 Kg ; Reportable quantity equal to or more than 4.54 Kg **2016 ERG Guide #** 171

## Section 15 Regulatory Information

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

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL | CA Prop 65 |
|---|---|---|---|---|---|---|
| Cupric sulfate | Listed | 10 lbs (4.54 kg) | Not listed | Not 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



***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** | **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

## 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** | **HYDROCHLORIC ACID, 32-36%** |
| **Synonyms** | Muriatic Acid ; Hydrogen Chloride |

## Section 2 Hazards Identification

**Signal word:** DANGER
**Pictograms:** GHS05 / GHS07
**Target organs:** Respiratory system, skin, eyes, lungs.

**GHS Classification:**
Serious eye damage (Category 1)
Skin corr. (Category 1B)
STOT SE (Category 3)

**GHS Label information**: **Hazard statement(s):**
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.

**Precautionary statement(s):**
P260: Do not breathe mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove 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.
P310: Immediately call a POISON CENTER or doctor.
P363: Wash contaminated clothing before reuse.
P403/233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to 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 | 64-68% | 231-791-2 |
| Hydrochloric acid | 7647-01-0 | 32-36% | 231-595-7 |

## Section 4 First Aid Measures

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

**INHALATION:** Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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

**SKIN ABSORPTION:** Causes skin burns. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire Fighting Measures

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

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

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with metals produce hydrogen, which is flammable and may produce explosive mixtures with air.

## Section 6 Accidental Release Measures

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

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

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

## Section 7 Handling & Storage

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

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from physical damage and sunlight. Protect from moisture.

## Section 8 Exposure Controls / Personal Protection

**Exposure Limits:**

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

## Section 9 Physical & Chemical Properties

**Appearance:** Clear, colorless, fuming liquid.
**Odor:** Pungent odor.
**Odor threshold:** Data not available.
**pH:** <1.5 acidic, in solution.
**Melting / Freezing point:** Approx. -45°C (-49°F)
**Boiling point:** 81.11-85°C (178-185°F)
**Flash point:** Not flammable.

**Evaporation rate ( = 1):** Data not available.
**Flammability (solid/gas):** Data not available.
**Explosion limits: Upper/Lower:** Data not available.
**Vapor pressure (mm Hg):** Approx. 25 @ 20°C (68°F)
**Vapor density (Air = 1):** Data not available.
**Relative density (Specific gravity):** Approx. 1.16 @ 20°C
**Solubility(ies):** Soluble in water.

**Partition coefficient: (**n-octanol / water): Data not available.
**Auto-ignition temperature:** Data not available.
**Decomposition temperature:** Data not available.
**Viscosity:** Data not available.
**Molecular formula:** HCl
**Molecular weight:** 36.46

## Section 10 Stability & Reactivity

**Chemical stability:** Stable
**Hazardous polymerization:** Will not occur.
**Conditions to avoid:** Containers may burst when heated. Avoid contact with water.

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

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

## Section 11 Toxicological Information

**Acute toxicity:** Data not available
**Skin corrosion/irritation:** Skin-rabbit - causes burns.
**Serious eye damage/irritation:** Eyes-rabbit - Corrosive to eyes.
**Respiratory or skin sensitization:** Data not available
**Germ cell mutagenicity:** Data not available
**Carcinogenity:** Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.
IARC: Group 3: Not classifiable as to its carcinogenicity to humans.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
**Reproductive toxicity:** Data not available
**STOT-single exposure:** The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.
**STOT-repeated exposure:** Data not available
**Aspiration hazard:** Data not available
**Potential health effects:**
Inhalation: May be harmful if inhaled. Material is extrememy destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.
Skin: May be harmful if absorbed through skin. Causes skin burns.
Eyes: Causes eye burns.
**Signs and symptoms of exposure:** Burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
**Additional information: RTECS #:** MW4025000

## Section 12 Ecological Information

**Toxicity to fish:** LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)
**Toxicity to daphnia and other aquatic invertebrates:** No data available
**Toxicity to algae:** No data available
**Persistence and degradability:** No data available
**Bioaccumulative potential:** No data available
**Mobility in soil:** No data available
**PBT and vPvB assessment:** No data available
**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal Considerations

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

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

**UN/NA number:** UN1789
**Shipping name:** Hydrochloric acid
**Hazard class:** 8
**Packing group:** II
**Reportable Quantity:** No
**Marine pollutant:** No
**Exceptions:** Limited quantity equal to or less than 1 Lt
**2016 ERG Guide #** 157

## 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 |
|---|---|---|---|---|---|---|
| Hydrochloric acid | Listed | Not listed | D002 | 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



***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.

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **TUMS ULTRA STRENGTH ASSORTED BERRIES 3001111-0038 (MIXED BERRY)**

**Other means of identification**

**Synonyms** TUMS ULTRA STRENGTH ASSORTED BERRIES (MIXED BERRY) * TUMS ULTRA STRENGTH ASSORTED BERRIES (MIXED BERRY) (CANADA) * FORMULATION NUMBER: 3001111-0038 * CALCIUM CARBONATE, FORMULATED PRODUCT

**Recommended use** Medicinal Product

This safety data sheet is written to provide health, safety and environmental information for people handling this formulated product in the workplace. It is not intended to provide information relevant to medicinal use of the product. In this instance patients should consult prescribing information/package insert/product label or consult their pharmacist or physician. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate safety data sheet for each ingredient.

**Recommended restrictions** No other uses are advised.

**Manufacturer/Importer/Supplier/Distributor information**

**COMPANY NAME** GlaxoSmithKline US

**Address:** 5 Moore Drive
Research Triangle Park, NC 27709 USA

**Telephone:** +1-888-825-5249 (General Inquiries)

**Email:** msds@gsk.com

**Website:** www.gsk.com

**EMERGENCY CONTACTS**

CHEMTREC EMERGENCY NUMBERS

**Telephone:** +(1) 703 527 3887 (International)
24/7; multi-language response

**Contract Number:** CCN9484

VERISK 3E GLOBAL INCIDENT RESPONSE

**Telephone:** +(1) 760 476 3971 (In country)
+(1) 760 476 3962 or +(1) 866 519 4752 (International)
24/7; multi-language response

**Contract Number:** 334878

## 2. Hazard(s) identification

**Classified hazards**

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

**Label elements**

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

**Hazard(s) not otherwise classified (HNOC)**

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| CALCIUM CARBONATE | CARBONIC ACID, CALCIUM SALT<br>CALCIUM MONOCARBONATE<br>PRECIPITATED CALCIUM CARBONATE<br>CHALK | 471-34-1 | 39.52 |
| STARCH | ARROWROOT STARCH<br>CORN STARCH<br>POTATO STARCH<br>RICE STARCH | 9005-25-8 | 5.42 |

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| TALC | TALCUM, NON-ASBESTOS FORM<br>TALC<br>HYDROUS MAGNESIUM SILICATE | 14807-96-6 | 2.1 |
| LIGHT MINERAL OIL | OHS12791<br>RTECS PY8047000 | 8042-47-5 | 1.15 |
| ADIPIC ACID | HEXANEDIOIC ACID<br>1,4-BUTANEDICARBOXYLIC ACID<br>1,6-HEXANEDIOIC ACID<br>ADIPINIC ACID | 124-04-9 | 0.8 |
| SODIUM HEXAMETAPHOSPHATE | METAPHOSPHORIC ACID, HEXASODIUM SALT<br>CALGON<br>CHEMI-CHARL<br>GILTEX<br>HAGAN PHOSPHATE<br>HEXASODIUM HEXAMETAPHOSPHATE<br>HEXASODIUM METAPHOSPHATE<br>RTECS OY3675000 | 10124-56-8 | 0.35 |
| FD&C RED NO. 40 | DISODIUM 6-HYDROXY-5-((2-METHOXY-5-METHYL-4-SULFOPHENYL)AZO)<br>DISODIUM 6-HYDROXY-5-((2-METHOXY-4-SULPHONATO-M-TOLYL)AZO)NAPHTHALENE-2-SULPHONATE DISODIUM 6-HYDROXY-5-((2-METHOXY-4-SULPHONATO-META-TOLYL)AZO)NAPHTHALENE-2-SULPHONATE FDC RED 40<br>FDC RED 40 DYE<br>ALLURA RED<br>ALLURA RED 40<br>RED 40 AND LAKE | 25956-17-6 | 0.13 |
| Other components below reportable levels | | | > 50 |

## 4. First-aid measures

**Inhalation** Move to fresh air. If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact** Immediately flush skin with plenty of water. Take off contaminated clothing and wash before reuse. Get medical attention if symptoms occur.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Ingestion** If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting without advice from poison control center.

**Most important symptoms/effects, acute and delayed** Irritant effects.

**Indication of immediate medical attention and special treatment needed** No specific antidotes are recommended. Treat according to locally accepted protocols. For additional guidance, refer to the local poison control information centre.

**General information** In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Pre-placement and periodic health surveillance is not usually indicated. The final determination of the need for health surveillance should be determined by local risk assessment.

## 5. Fire-fighting measures

**Suitable extinguishing media** Dry chemical powder. Carbon dioxide (CO2). Water. Foam.

**Unsuitable extinguishing media** None known.

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

| | |
|---|---|
| **Fire fighting equipment/instructions** | Use water spray to cool unopened containers. |
| **Specific methods** | Use standard firefighting procedures and consider the hazards of other involved materials. |
| **General fire hazards** | Expected to be non-combustible. |

## 6. Accidental release measures

| | |
|---|---|
| **Personal precautions, protective equipment and emergency procedures** | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| **Methods and materials for containment and cleaning up** | Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| **Environmental precautions** | Avoid discharge into drains, water courses or onto the ground. |

## 7. Handling and storage

| | |
|---|---|
| **Precautions for safe handling** | Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. |
| **Conditions for safe storage, including any incompatibilities** | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**GSK**

| Components | Type | Value |
|---|---|---|
| FD&C RED NO. 40 (CAS 25956-17-6) | OHC | 1 |
| SODIUM HEXAMETAPHOSPHATE (CAS 10124-56-8) | OHC | 1 |

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value | Form |
|---|---|---|---|
| CALCIUM CARBONATE (CAS 471-34-1) | PEL | 5 mg/m3 | Respirable fraction. |
| | | 15 mg/m3 | Total dust. |
| LIGHT MINERAL OIL (CAS 8042-47-5) | PEL | 5 mg/m3 | Mist. |
| STARCH (CAS 9005-25-8) | PEL | 5 mg/m3 | Respirable fraction. |
| | | 15 mg/m3 | Total dust. |

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

| Components | Type | Value | Form |
|---|---|---|---|
| TALC (CAS 14807-96-6) | TWA | 0.3 mg/m3 | Total dust. |
| | | 0.1 mg/m3 | Respirable. |
| | | 20 mppcf | |
| | | 2.4 mppcf | Respirable. |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value | Form |
|---|---|---|---|
| ADIPIC ACID (CAS 124-04-9) | TWA | 5 mg/m3 | |
| LIGHT MINERAL OIL (CAS 8042-47-5) | TWA | 5 mg/m3 | Inhalable fraction. |
| STARCH (CAS 9005-25-8) | TWA | 10 mg/m3 | |
| TALC (CAS 14807-96-6) | TWA | 2 mg/m3 | Respirable fraction. |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value | Form |
|---|---|---|---|
| CALCIUM CARBONATE (CAS 471-34-1) | TWA | 5 mg/m3 | Respirable. |
| | | 10 mg/m3 | Total |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value | Form |
|---|---|---|---|
| LIGHT MINERAL OIL (CAS 8042-47-5) | STEL | 10 mg/m3 | Mist. |
| | TWA | 5 mg/m3 | Mist. |
| STARCH (CAS 9005-25-8) | TWA | 5 mg/m3 | Respirable. |
| | | 10 mg/m3 | Total |
| TALC (CAS 14807-96-6) | TWA | 2 mg/m3 | Respirable. |

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls** General ventilation normally adequate. An Exposure Control Approach (ECA) is established for operations involving this material based upon the OEL/Occupational Hazard Category and the outcome of a site- or operation-specific risk assessment.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Not normally needed. If contact is likely, safety glasses with side shields are recommended.

**Skin protection**

**Hand protection** Not normally needed. For prolonged or repeated skin contact use suitable protective gloves.

**Other** Not normally needed. Wear suitable protective clothing as protection against splashing or contamination.

**Respiratory protection** No personal respiratory protective equipment normally required. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. For advice on suitable monitoring methods, seek guidance from a qualified environment, health and safety professional.

## 9. Physical and chemical properties

**Appearance**

**Physical state** Solid.

**Form** Tablet.

**Color** Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** Not available.

**Vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Not available.

| | |
|---|---|
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | Not available. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Contact with incompatible materials. |
| **Incompatible materials** | Acids. Fluorine. |
| **Hazardous decomposition products** | None known. Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | Health injuries are not known or expected under normal use. Inhalation of dusts may cause respiratory irritation. |
| **Skin contact** | Health injuries are not known or expected under normal use. Dust or powder may irritate the skin. |
| **Eye contact** | Health injuries are not known or expected under normal use. Dust or powder may irritate eye tissue. |
| **Ingestion** | Health injuries are not known or expected under normal use. |
| **Symptoms related to the physical, chemical and toxicological characteristics** | Irritant effects. |

**Information on toxicological effects**

**Acute toxicity** Health injuries are not known or expected under normal use.

| Components | Species | Test Results |
|---|---|---|
| ADIPIC ACID (CAS 124-04-9) | | |
| **Acute** | | |
| **Oral** | | |
| LD50 | Rat | > 11 g/kg |
| CALCIUM CARBONATE (CAS 471-34-1) | | |
| **Acute** | | |
| **Oral** | | |
| LD50 | Rat | 6450 mg/kg |
| FD&C RED NO. 40 (CAS 25956-17-6) | | |
| **Acute** | | |
| **Dermal** | | |
| LD50 | Rabbit | > 10 g/kg |
| **Oral** | | |
| LD50 | Rat | > 10 g/kg |
| LIGHT MINERAL OIL (CAS 8042-47-5) | | |
| **Acute** | | |
| **Oral** | | |
| LD50 | Rat | > 2000 mg/kg |
| SODIUM HEXAMETAPHOSPHATE (CAS 10124-56-8) | | |
| **Acute** | | |
| **Oral** | | |
| LD50 | Rat | 6200 mg/kg |

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Health injuries are not known or expected under normal use. Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Health injuries are not known or expected under normal use. Dust or powder may irritate eye tissue.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not applicable.

**Skin sensitization** Health injuries are not known or expected under normal use.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Carcinogenic effects are not expected as a result of occupational exposure. Contains a material (talc) classified as a carcinogen by external agencies. These effects are linked only to high doses of this substance; lower doses did not cause this adverse effect.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

| | |
|---|---|
| LIGHT MINERAL OIL (CAS 8042-47-5) | 3 Not classifiable as to carcinogenicity to humans. |
| TALC (CAS 14807-96-6) | 2B Possibly carcinogenic to humans. |
| | 3 Not classifiable as to carcinogenicity to humans. |

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity** Health injuries are not known or expected under normal use. Contains no ingredient listed as toxic to reproduction

**Specific target organ toxicity - single exposure** None known.

**Specific target organ toxicity - repeated exposure** None known.

**Aspiration hazard** Due to partial or complete lack of data the classification is not possible.

**Further information** Occupational exposure to the substance or mixture may cause adverse effects.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | | Species | Test Results |
|---|---|---|---|
| ADIPIC ACID (CAS 124-04-9) | | | |
| **Aquatic** | | | |
| *Acute* | | | |
| Algae | EC50 | Green algae (Scenedesmus subspicatus) | 31.3 mg/l, 72 hours |
| Crustacea | EC50 | Water flea (Daphnia magna) | 85.7 mg/l, 48 hours |
| Fish | EC50 | Fathead minnow (Adult Pimephales promelas) | 97 mg/l, 96 hours Static test |
| | | Golden ide/orfe (Adult Leuciscus idus) | 230 mg/l, 96 hours Static test |
| | | Rainbow trout (Adult Oncorhyncus mykiss) | > 100 mg/l, 48 hours Static renewal test |
| CALCIUM CARBONATE (CAS 471-34-1) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Western mosquitofish (Gambusia affinis) | > 56000 mg/l, 24 hours |
| TALC (CAS 14807-96-6) | | | |
| **Aquatic** | | | |
| *Acute* | | | |
| Fish | EC50 | Zebra fish (Adult Brachydanio rerio) | > 100 g/l, 24 hours Static renewal test |

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Photolysis**

**Half-life (Photolysis-atmospheric)**

| | |
|---|---|
| ADIPIC ACID | 2.9 Days Estimated |
| LIGHT MINERAL OIL | < 1 Days Estimated |

**Biodegradability**

**Percent degradation (Aerobic biodegradation-ready)**

| | |
|---|---|
| ADIPIC ACID | 100 %, 28 days Modified Sturm test., Activated sludge |
| LIGHT MINERAL OIL | 24 %, 28 days Modified Sturm test., Activated sludge |

**Bioaccumulative potential**

**Partition coefficient n-octanol / water (log Kow)**

| | |
|---|---|
| ADIPIC ACID | 0.08 |

**Bioconcentration factor (BCF)**

| | |
|---|---|
| ADIPIC ACID | 0.68 Estimated |

**Mobility in soil**

**Adsorption**

**Soil/sediment sorption - log Koc**

| | |
|---|---|
| ADIPIC ACID | 1.4 Estimated |

**Mobility in general**

**Volatility**

**Henry's law**

| | |
|---|---|
| ADIPIC ACID | 0 atm m^3/mol Estimated |

**Other adverse effects** Not available.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

**DOT**

Not regulated as a dangerous good.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

**US federal regulations** One or more components are not listed on TSCA.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

| | |
|---|---|
| ADIPIC ACID (CAS 124-04-9) | Listed. |
| SODIUM HEXAMETAPHOSPHATE (CAS 10124-56-8) | Listed. |

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

TALC (CAS 14807-96-6)

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 04-16-2018

**Version #** 01

**Further information** HMIS® is a registered trade and service mark of the NPCA.

**HMIS® ratings** Health: 1
Flammability: 0
Physical hazard: 0

**NFPA ratings** Health: 1
Flammability: 0
Instability: 0

**References** GSK Hazard Determination

**Disclaimer**

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create any warranty, express or implied. It is the responsibility of the user to determine the applicability of this information and the suitability of the material or product for any particular purpose.