SAFETY DATA SHEET



1. Identification

| | | Quality and Service Since 1984 | |
|---------------------------------|--|---|--|
| Product identifier | Sta Clear Pool Acid | | |
| Other means of identification | | | |
| SDS number | SEN-003 | | |
| Synonyms | Sulfuric Acid Solution * Hydrogen sulfate solution | | |
| Recommended use | Cleaner for swimming pools, tiles, stone and other masonry surfaces | | |
| Recommended restrictions | None known. | | |
| Manufacturer/Importer/Supplier/ | Distributor information | | |
| Manufacturer | | | |
| Company name Address | Sentry Industries 5687 NW 36th Ave Miami, Fl, 33142 United States | | |
| leiepnone | | | |
| Website E-mail | www.SentryIndustries.net | | |
| Contact person | ESH Department | | |
| Emergency phone number | CHEMTEL - 1-800-255-3924 | | |
| Supplier | Refer to Manufacturer | | |
| 2. Hazard(s) identification | | | |
| Physical hazards | Corrosive to metals | Category 1 | |
| Health hazards | Acute toxicity, inhalation Skin Corrosion/irritation | Category 4 Category 1 | |
| | Serious eye damage/eye irritation | Category 1 | |
| | Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation | |
| Environmental hazards | This mixture does not meet the classification of | riteria according to OSHA HazCom 2012. | |
| OSHA defined hazards | This mixture does not meet the classification of | riteria according to OSHA HazCom 2012. | |
| Label elements | ^ | | |
| | | | |
| Signal word | Danger | | |
| Hazard statement | May be corrosive to metals. Causes severe skin burns and eye damage. Harmful if inhaled. May cause respiratory irritation. | | |
| Precautionary statement | | | |
| Prevention | Do not breathe mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Keep only in original container. | | |
| Response | Specific treatment (see this label).IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/ doctor. Absorb spillage to prevent material damage. | | |
| Storage | Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner. | | |

Disposal Hazard(s) not otherwise classified (HNOC) Dispose of contents/container in accordance with local/regional/national/international regulations. No OSHA defined hazard classes. Other hazards which do not result in classification: Contact with most metals will generate flammable hydrogen gas. Reacts violently with water with evolution of heat. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. In extreme cases, tooth erosion could result. Chronic skin contact with low concentrations may cause dermatitis.

Supplemental information

3. Composition/information on ingredients

None.

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---------------|------------------------------------|------------|---------|
| Sulfuric Acid | Hydrogen Sulfate Oil of Vitriol | 7664-93-9 | 32 - 33 |
| Water | Dihydrogen oxide | 7732-18-5 | Balance |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

| 4. First-aid measures | |
|--|---|
| Inhalation | IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Call a physician or poison control center immediately. |
| Skin contact | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Duration of rinsing should be at least 20 minutes. Cover wound with sterile dressing Do not rub area of contact. Wash contaminated clothing before reuse. Leather and shoes that have been contaminated with the solution may need to be destroyed. Call a physician or poison control center immediately. |
| Eye contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Duration of rinsing should be at least 20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Call a physician or poison control center immediately. |
| Ingestion | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting. Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. |
| Most important symptoms/effects, acute and delayed | Can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death. |
| Indication of immediate medical attention and special treatment needed | Immediate medical attention is required. Causes chemical burns. May be fatal if inhaled. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. |
| 5. Fire-fighting measures | |
| Suitable extinguishing media | Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical. Use water with caution. Contact with water will generate considerable heat. |
| Unsuitable extinguishing media | Use chemical extinguishing agents with caution. Some chemical extinguishing agents may react with this material. |
| Specific hazards arising from the chemical | Not considered flammable. Vapors are heavier than air and may spread along floors. Contact with most metals will generate flammable hydrogen gas. Reacts violently with water with evolution of heat. Contact with combustible material may cause fire. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Toxic fumes, gases or vapors may evolve on burning. |
| Special protective equipment and precautions for firefighters | Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn. |

| Fire fighting equipment/instructions | Fight fire with normal precautions from a reasonable distance. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Evacuate the area promptly. Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Fight fire from upwind to avoid exposure to combustion products. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control. |
|---|---|
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| Hazardous combustion products | Toxic fumes, gases or vapors may evolve on burning. Sulphur oxides. |

6. Accidental release measures

| Personal precautions, protective equipment and emergency procedures | Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS. |
|---|---|
| Methods and materials for containment and cleaning up | Ventilate the area. Remove sources of ignition. Stop leak if you can do so without risk. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. |
| | Small Spills: Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Dilute acid with water and neutralize with Sodium Carbonate (soda ash) or lime. Clean surface thoroughly to remove residual contamination. |
| | Large Spills: Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Do not flush into surface water or sanitary sewer system. If not recoverable, dilute with water or flush to holding area and neutralize. Remove with vacuum trucks or pump to storage/salvage vessels. |
| | Never return spills to original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment. |
| 7. Handling and storage | |
| Precautions for safe handling | Use only outdoors or in a well-ventilated area. Wear chemically resistant protective equipment during handling. Do not breathe mist. Do not taste or swallow. Avoid contact with eyes, skin and clothing. Keep away from heat. Keep away from metals and other incompatibles. When preparing or diluting solution, always add to water, slowly and with stirring. When diluting, always add the product to water. Never add water to the product. Label containers appropriately. Wash thoroughly after handling. When using, do not eat, drink or smoke. Avoid release to the environment. |
| Conditions for safe storage, including any incompatibilities | Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Store away from incompatible materials (see Section 10 of the SDS). Store in original tightly closed container. Store in corrosive resistant container with a resistant inner liner. |

8. Exposure controls/personal protection

Occupational exposure limits

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

| Components | Туре | Value | |
|-------------------------------------|-------------------------------------|------------------------|--------------------|
| Sulfuric Acid (CAS 7664-93-9) | PEL | 1 mg/m3 | |
| US. ACGIH Threshold L Components | imit Values Type | Value | Form |
| Sulfuric Acid (CAS 7664-93-9) | TWA | 0.2 mg/m3 | Thoracic fraction. |
| US. NIOSH: Pocket Guid | de to Chemical Hazards | | |
| Components | Туре | Value | |
| Sulfuric Acid (CAS 7664-93-9) | TWA | 1 mg/m3 | |
| iological limit values | No biological exposure limits noted | for the ingredient(s). | |

| Exposure guidelines | The NIOSH IDLH concentration for Sulfuric acid is 15 mg/m3. The purpose of establishing an IDLH value is to ensure that the worker can escape from a given contaminated environment in the event of failure of the most protective respiratory protection equipment. In the event of failure of respiratory protection equipment every effort should be made to exit immediately. |
|-----------------------------------|--|
| Appropriate engineering controls | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product. |
| Individual protection measures, | such as personal protective equipment |
| Eye/face protection | Chemical goggles and face shield are recommended. Eye wash fountains are required. |
| Skin protection | |
| Hand protection | Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers. |
| Other | Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield. A chemical protective full-body encapsulating suit may be required in some operations. Eye wash facilities and emergency shower must be available when handling this product. |
| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Seek advice from respiratory protection specialists. |
| Thermal hazards | Not applicable. |
| General hygiene considerations | Do not breathe mist. Avoid contact with eyes, skin and clothing. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice. |

9. Physical and chemical properties

| Appearance | |
|---|--------------------------------|
| Physical state | Liquid. |
| Form | Oily liquid. |
| Color | Clear, colorless. |
| Odor | Odorless. |
| Odor threshold Not available. | |
| рН | 1 (1% Solution) |
| Melting point/freezing point | - 35 to 23°F (- 37 to - 5°C) |
| Initial boiling point and boiling range | 644 °F (340 °C) |
| Flash point | Not applicable (Does not burn) |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or expl | osive limits |
| Flammability limit - lower (%) | Not applicable |
| Flammability limit - upper (%) | Not Applicable |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | <0.3 mm Hg @ 20°C |
| Vapor density | <3.4 |
| Relative density | 10.33 in pounds per gallon |
| Solubility(ies) | |
| Solubility (water) | Soluble in all proportions. |
| Solubility (other) | Decomposes in Ethanol. |

| Partition coefficient (n-octanol/water) | Not available. |
|---|--|
| Auto-ignition temperature | Not available. |
| Decomposition temperature | 644 °F (340 °C) |
| Viscosity | 13.6 mm²/s (100%) |
| Viscosity temperature | 77 °F (25 °C) |
| Other information | |
| Chemical family | Mineral acid. |
| Explosive properties | Not explosive. |
| Molecular formula | H2SO4 |
| Molecular weight | 98.08 |
| Oxidizing properties | No oxidizing properties. |
| Percent volatile | 0 % 77°F |
| Specific gravity | 1.2-1.24 |
| Surface tension | 49.6 dynes/cm at 30°C (100%) |
| 10. Stability and reactivity | |
| | |
| Reactivity | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. |
| Reactivity Chemical stability | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. Material is stable under normal conditions. Decomposes at ~ 340°C to form sulphur trioxide. |
| Reactivity Chemical stability Possibility of hazardous reactions | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. Material is stable under normal conditions. Decomposes at ~ 340°C to form sulphur trioxide. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Acetaldehyde and allyl chloride may polymerize violently in the presence of sulfuric acid. Hazardous gases, such as hydrogen cyanide, hydrogen sulfide and acetylene, are evolved on contact with chemicals such as cyanides, sulfides and carbides. |
| Reactivity Chemical stability Possibility of hazardous reactions | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. Material is stable under normal conditions. Decomposes at ~ 340°C to form sulphur trioxide. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Acetaldehyde and allyl chloride may polymerize violently in the presence of sulfuric acid. Hazardous gases, such as hydrogen cyanide, hydrogen sulfide and acetylene, are evolved on contact with chemicals such as cyanides, sulfides and carbides. Avoid high temperatures. Contact with incompatible materials. Do not use in areas without adequate ventilation. |
| Reactivity Chemical stability Possibility of hazardous reactions Conditions to avoid Incompatible materials | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. Material is stable under normal conditions. Decomposes at ~ 340°C to form sulphur trioxide. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Acetaldehyde and allyl chloride may polymerize violently in the presence of sulfuric acid. Hazardous gases, such as hydrogen cyanide, hydrogen sulfide and acetylene, are evolved on contact with chemicals such as cyanides, sulfides and carbides. Avoid high temperatures. Contact with incompatible materials. Do not use in areas without adequate ventilation. Metals. Bases. Water. Strong oxidizing agents. Strong acids. Alcohols. Carbides. Picrates. Chlorates. Nitrates. Sulfides. Cyanides. |
| Reactivity Chemical stability Possibility of hazardous reactions Conditions to avoid Incompatible materials Hazardous decomposition products | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. Material is stable under normal conditions. Decomposes at ~ 340°C to form sulphur trioxide. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Acetaldehyde and allyl chloride may polymerize violently in the presence of sulfuric acid. Hazardous gases, such as hydrogen cyanide, hydrogen sulfide and acetylene, are evolved on contact with chemicals such as cyanides, sulfides and carbides. Avoid high temperatures. Contact with incompatible materials. Do not use in areas without adequate ventilation. Metals. Bases. Water. Strong oxidizing agents. Strong acids. Alcohols. Carbides. Picrates. Chlorates. Nitrates. Sulfides. Cyanides. None known, refer to hazardous combustion products in Section 5. The following may be released during a fire: Sulphur oxides. |
| Reactivity Chemical stability Possibility of hazardous reactions Conditions to avoid Incompatible materials Hazardous decomposition products 11. Toxicological information | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. Material is stable under normal conditions. Decomposes at ~ 340°C to form sulphur trioxide. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Acetaldehyde and allyl chloride may polymerize violently in the presence of sulfuric acid. Hazardous gases, such as hydrogen cyanide, hydrogen sulfide and acetylene, are evolved on contact with chemicals such as cyanides, sulfides and carbides. Avoid high temperatures. Contact with incompatible materials. Do not use in areas without adequate ventilation. Metals. Bases. Water. Strong oxidizing agents. Strong acids. Alcohols. Carbides. Picrates. Chlorates. Nitrates. Sulfides. Cyanides. None known, refer to hazardous combustion products in Section 5. The following may be released during a fire: Sulphur oxides. |
| Reactivity Chemical stability Possibility of hazardous reactions Conditions to avoid Incompatible materials Hazardous decomposition products 11. Toxicological informati Information on likely routes of ex | Reacts violently with water with evolution of heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Brass.; Bronze Carbon steel. Stainless steel. Nickel. Copper. Cast iron. Material is stable under normal conditions. Decomposes at ~ 340°C to form sulphur trioxide. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Acetaldehyde and allyl chloride may polymerize violently in the presence of sulfuric acid. Hazardous gases, such as hydrogen cyanide, hydrogen sulfide and acetylene, are evolved on contact with chemicals such as cyanides, sulfides and carbides. Avoid high temperatures. Contact with incompatible materials. Do not use in areas without adequate ventilation. Metals. Bases. Water. Strong oxidizing agents. Strong acids. Alcohols. Carbides. Picrates. Chlorates. Nitrates. Sulfides. Cyanides. None known, refer to hazardous combustion products in Section 5. The following may be released during a fire: Sulphur oxides. |

| Skin contact | Causes severe skin burns. Not expected to be absorbed through the skin. | | |
|--|---|---|--|
| Eye contact | Causes serious eye damage | 9. | |
| Ingestion | Causes digestive tract burns | 5. | |
| Most important symptoms/effects, acute and delayed | Can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death. | | |
| Information on toxicological ef | fects | | |
| Acute toxicity | Acute Toxicity (inhalation - r values for this mixture. Indiv ATE values. | nist) - Category 4 The below product data is the calculated ATE idual ingredient component data appears below the product mixture | |
| Product | Species | Test Results | |
| Aqua Guard Pool Acid | | | |
| Acute | | | |
| Inhalation | | | |
| LC50 | Rat | 1.13 mg/l, 4 hours (Calculated ATE) | |

| Components | Species | Test Results |
|--|---|---|
| Sulfuric Acid (CAS 7664-93-9) | | |
| Acute | | |
| Dermal | | |
| | Rabbit | No Data in Literature |
| Inhalation | | |
| LC50 | Rat | 0.375 mg/l, 4 hours (mist) |
| Oral | | o |
| LD50 | Rat | 2140 mg/kg |
| Water (CAS 7732-18-5) | | |
| Acute | | |
| L D50 | Babbit | Not available |
| Inholation | habbit | Not available. |
| Innaialion | Bat | Not available |
| | nat | Not available. |
| | Bat | > 89840 ma/ka |
| | | > 000+0 mg/kg |
| Skin corrosion/irritation | Skin corrosion/irritiation - Category 1. Causes seven | e skin burns and eye damage. |
| Serious eye damage/eye irritation | Hazardous by OSHA criteria. Serious eye damage/eye irritation - Category 1. Cat | uses serious eye damage. |
| Respiratory or skin sensitization | | |
| Respiratory sensitization | Not expected to be a respiratory sensitizer. | |
| Skin sensitizer | Not expected to be a skin sensitizer. | |
| Germ cell mutagenicity | Not expected to be mutagenic. | |
| Carcinogenicity | Not expected to be hazardous by OSHA criteria. Occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans. The information located is insufficient to conclude that sulfuric acid itself is a carcinogen. IARC has concluded there is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans (Group 1). ACGIH has designated strong inorganic acid mists containing sulfuric acid as A2 (suspected human carcinogen). US NTP has listed strong inorganic acid mists containing sulfuric acid mists containing sulfuric acid as a known human carcinogen. These classifications are for inorganic acid mists containing sulfuring sulfuric acid and does not apply to sulfuric acid or sulfuric acid solutions. | |
| IARC Monographs. Overall E | valuation of Carcinogenicity | |
| Sulfuric Acid (CAS 7664-9 OSHA Specifically Regulated | 03-9) 1 Carcinogenic to hi J Substances (29 CFR 1910.1001-1050) | umans. |
| Not listed. US. National Toxicology Pro | gram (NTP) Report on Carcinogens | |
| Sulfuric Acid (CAS 7664-9 | ()3-9) Known To Be Huma | n Carcinogen. |
| Reproductive toxicity | This product is not expected to cause reproductive | or developmental effects. |
| Specific target organ toxicity - single exposure | Hazardous by OSHA criteria. The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. May cause respiratory irritation. | |
| Specific target organ toxicity - repeated exposure | Not classified as a specific target organ toxicity -rep | eated exposure. |
| Aspiration toxicity | Not expected to be an aspiration hazard. | |
| Chronic effects | Chronic skin contact with low concentrations may cause dermatitis. In extreme cases, tooth erosion could result. | |
| 12. Ecological information | | |
| Ecotoxicity | Because of the low pH of this product, it would be e | xpected to produce significant ecotoxicity upor |

| Components | | Species | Test Results |
|---------------------------------------|--|---|---|
| Sulfuric Acid (CAS 7664-93-9 |) | | |
| Aquatic | | | |
| Acute | | | |
| Algae | EC50 | Green Algae (Pseudokirchneriella subcapitata) | > 100 mg/l, 72 hours |
| Crustacea | EC50 | Water flea (Daphnia magna) | 29 mg/l, 24 hours |
| Fish | LC50 | Bluegill (Lepomis macrochirus) | 16 - 28 mg/l, 96 hours |
| Persistence and degradability | Biodegradatior | n is not applicable to inorganic substances | s. |
| Bioaccumulative potential | No accumulati | on in living organisms is expected due to I | nigh solubility and dissociation properties. |
| Mobility in soil | High water sol | ubility indicates a high mobility in soil. | |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. | | |
| 13. Disposal consideratio | ns | | |
| Disposal instructions | Collect and red this material to regulations. | claim or dispose in sealed containers at lic drain into sewers/water supplies. Dispose | ensed waste disposal site. Do not allow in accordance with all applicable |
| 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 contain Since emptied emptied. | ers should be taken to an approved waste containers may retain product residue, fo | handling site for recycling or disposal. llow label warnings even after container is |
| 14. Transport information | | | |

14. Transport information

| DOT | |
|---------------------------------|---|
| UN number | UN2796 |
| UN proper shipping name | Sulfuric acid with not more than 51% acid (RQ = 1000) |
| Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| Packing group | Ш |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. US CERCLA Reportable Quantity (RQ): 1000 lbs / 454 kg |
| Special provisions | A3, A7, B2, B15, IB2, N6, N34, T8, TP2, TP12 |
| Packaging exceptions | 154 |
| Packaging non bulk | 202 |
| Packaging bulk | 242 |
| ΙΑΤΑ | |
| UN number | UN2796 |
| UN proper shipping name | Sulfuric acid with 51% or less acid |
| Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Packing group | II |
| Environmental hazards | No. |
| ERG Code | 8L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material. |
| Other information | |
| Passenger and cargo aircraft | Allowed. |
| Cargo aircraft only | Allowed. |

IMDG

| UN number | UN2796 | | | |
|--|---|--|--|--|
| UN proper shipping name | Sulfuric Acid with not more than 51% | | | |
| Transport hazard class(es) | | | | |
| Class | 8 | | | |
| Subsidiary risk | - | | | |
| Packing group | Ш | | | |
| Environmental hazards | | | | |
| Marine pollutant | No. | | | |
| EmS | F-A, S-B | | | |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. | | | |
| Transport in bulk according to Annex II of MARPOL 73/78 and | Not available. | | | |

DOT

the IBC Code





15. Regulatory information

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

US federal regulations

CERCLA Hazardous Substance List (40 CFR 302.4)

Sulfuric Acid (CAS 7664-93-9) SARAListed.304 Emergency release notificationSulfuric Acid (CAS 7664-93-9)1000 LBSOSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

| Hazard categories | Immediate Hazard - Yes | |
|-------------------|-------------------------|--|
| | Fire Hazard - No | |
| | Pressure Hazard - No | |
| | Reactivity Hazard - Ves | |
| | neactivity nazaru - res | |

| SARA 302 Extr | emely hazardous sub | ostance | | | |
|---|---|--|---|--|--|
| Chemical name | e CAS numbe | er Reportable quantity | Threshold planning quantity | Threshold planning quantity, lower value | Threshold planning quantity, upper value |
| Sulfuric Acid | 7664-93-9 | 1000 | 1000 lbs | | |
| SARA 311/312 chemical | Hazardous No | | | | |
| SARA 313 (TRI Chemical r | reporting) name | | CAS number | % by wt. | |
| Sulfuric Aci | d | | 7664-93-9 | 32 - 33 | |
| Other federal regul | ations | | | | |
| Clean Air Act (| CAA) Section 112 Haz | zardous Air Polluta | nts (HAPs) List | | |
| Not regulate Clean Air Act (| ed. CAA) Section 112(r) A | Accidental Release | Prevention (40 CFR 6 | 8.130) | |
| Sulfuric Aci | d (CAS 7664-93-9) | | | | |
| Safe Drinking \ (SDWA) | Vater Act Not reg | gulated. | | | |
| Drug Enfor Chemical (| cement Administratio | on (DEA). List 2, Es | sential Chemicals (21 | I CFR 1310.02(b) and | 1310.04(f)(2) and |
| Sulfurio | c Acid (CAS 7664-93-9 |) | 6552 | | |
| Drug Enfor | cement Administration | on (DEA). List 1 & 2 | 2 Exempt Chemical M | ixtures (21 CFR 1310.1 | 2(c)) |
| Sulfurio DEA Exem | c Acid (CAS 7664-93-9 pt Chemical Mixtures |) s Code Number | 20 %WV | | |
| Sulfurio | c Acid (CAS 7664-93-9 |) | 6552 | | |
| US state regulation | S | | | | |
| US. California | Controlled Substance | es. CA Department | of Justice (California | Health and Safety Coo | le Section 11100) |
| Not listed. | atta DTK Subatana | a liat | | | |
| 05. Massachus Sulfurio Aoi | | | | | |
| US. New Jerse | Worker and Commu | inity Right-to-Know | / Act | | |
| US, Pennsviva | d (CAS 7664-93-9) | nunity Right-to-Kno | ow Law | | |
| Sulfuric Aci | d (CAS 7664-93-9) | | | | |
| US. Rhode Isla | nd RTK | | | | |
| Sulfuric Aci | d (CAS 7664-93-9) | | | | |
| US. California I California S any chemic | Proposition 65 afe Drinking Water and als currently listed as o | d Toxic Enforcemen carcinogens or repro | t Act of 1986 (Propositi ductive toxins. | on 65): This material is | not known to contain |
| US - Califo | rnia Proposition 65 - | CRT: Listed date/C | arcinogenic substand | e | |
| Sulfurio | c Acid (CAS 7664-93-9 |) | Listed: March 14, | 2003 | |
| International Invent | ories | | | | |
| Country(s) or r | egion Invent | ory name | | | On inventory (yes/no)* |
| Australia | Austral | lian Inventory of Che | mical Substances (AIC | S) | Yes |
| Canada | Domes | tic Substances List | (DSL) | | Yes |
| Canada | Non-De | omestic Substances | List (NDSL) | | No |
| China | Invento | ory of Existing Chem | ical Substances in Chi | na (IECSC) | Yes |
| Europe | Europe Substa | ean Inventory of Exis | ting Commercial Chem | nical | Yes |
| Europe | Europe | ean List of Notified C | hemical Substances (E | ELINCS) | No |
| Japan | Invento | ory of Existing and N | ew Chemical Substand | es (ENCS) | Yes |
| Korea | Existing | g Chemicals List (EC | CL) | | Yes |
| New Zealand | New Ze | ealand Inventory | | | Yes |
| Philippines | Philipp (PICCS | ine Inventory of Che S) | micals and Chemical S | Substances | Yes |

Country(s) or region Inventory name

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory

Yes

*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 | 12-22-2014 | | | | |
|-----------------------|---|--|--|--|--|
| Version # | 01 | | | | |
| HMIS | | | | | |
| | H= 3, F= 0, R= 2 | | | | |
| NFPA | H= 3, F= 0, R= 2, Other: No Water | | | | |
| List of abbreviations | ACGIH: American Conference of Governmental Industrial Hygienists CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation DSL: Domestic Substance List | | | | |
| | HMIS: Hazardous Materials Identification System | | | | |
| | HPA: Hazardous Products Act | | | | |
| | HSDB® - Hazardous Substances Data Bank | | | | |
| | IARC. International Agency for Research on Gancer | | | | |
| | IDLH: immediately dangerous to life or health | | | | |
| | IMDG: International Maritime Dangerous Goods | | | | |
| | I C: Lethal Concentration | | | | |
| | LD: Lethal Dose | | | | |
| | NEPA: National Fire Protection Association | | | | |
| | NIOSH: National Institute of Occupational Safety and Health | | | | |
| | NTP: National Toxicology Program | | | | |
| | OECD: Organisation for Economic Cooperation and Development | | | | |
| | OEL: National occupational exposure limits | | | | |
| | OSHA: Occupational Safety and Health Administration | | | | |
| | PPE: Personal Protective Equipment | | | | |
| | RTECS: Registry of Toxic Effects of Chemical Substances | | | | |
| | SAR: supplied-air respirator | | | | |
| | SARA: Superfund Amendments and Reauthorization Act | | | | |
| | SCBA: self-contained breathing apparatus | | | | |
| | STEL: Short Term Exposure Limit | | | | |
| | TWA: Time Weighted Average | | | | |

Bibliography

Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2014 (Chempendium, RTECs, HSDB, INCHEM) European Chemicals Agency, Classification Legislation, 2014. Material Safety Data Sheet from manufacturer. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2014.