



Ultra-Kleen Solution 1

USING PATENTED PERQUAT® TECHNOLOGY

Penetrates and Removes Biofilm and other Organic Contaminants. Use as a Bactericide, Silticide, Mildewstat, and Algicide In:

- Recirculating Cooling Water System
- Brewery Pasteurizing Systems
- Pulp and Paper Mills producing pulp and paper that will not come in contact with food products
- Air Washers
- Dye Machines
- Water-Jet Looms
- Tanks, Piping and Industrial Equipment used to store and convey Industrial Process Water or Aqueous Mixtures not related to food processing
- Deionized Water Supply Systems not used in food processing or for human drinking water or dental lines
- Drains and Filter Traps

Active Ingredients:

n-Alkyl(C ₁₄ 60%, C ₁₆ 30%, C ₁₂ 5%, C ₁₈ 5%) dimethylbenzylammonium chloride	3.00%
n- Alkyl(C ₁₂ 68%, C ₁₄ 32%) dimethylethylbenzylammonium chloride	3.00%
Inert Ingredients	94.00%

TOTAL 100.00%

Controls Mold and Mildew

DANGER KEEP OUT OF REACH OF CHILDREN

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eyes. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER. CORROSIVE. Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin, or on clothing. Wear goggles and/or face shield, protective clothing and rubber gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

ENVIRONMENTAL HAZARDS. This product is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, ocean or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously consulting the local sewage treatment plant authority. For guidance contact your local State Water Board or Regional Office of the EPA. **PHYSICAL AND CHEMICAL HAZARDS.** When exposed to fire Ultra-Kleen Solution 1 may release oxygen and oxides of carbon and/or nitrogen.

EPA Reg. No.: 63761-3

EPA Establish Number 56485-PA-001

DIRECTION FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECIRCULATING COOLING WATER SYSTEMS, INCLUDING COOLING TOWERS, EVAPORATIVE CONDENSERS, DAIRY SWEET WATER SYSTEMS AND BREWERY PASTEURIZERS. Effectively removes and controls biofilm and other organic contaminants in commercial and industrial cooling towers: influent water systems such as flow-through filters; and heat exchange water systems. **DOSAGE RATES. Initial Dose for badly fouled systems:** Add 1 to 4 gal. (1000–4000 ppm of this product) Ultra-Kleen Solution 1 per 1000 gallons of water in the system. If cleaning is desired or if the pH of the system is below 8, optionally add simultaneously Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1. Repeat until control is evident. **Routine Dose, when microbial control is evident:** Subsequent slug additions of 5 to 64 fl. oz. (40-499 ppm of this product) Ultra-Kleen Solution 1 per 1000 gallons of water (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) are applied every 2 to 5 days or as needed. The frequency of addition depends on the relative amount of bleed-off, the quality of the makeup water and rate of inflow of airborne or other contaminants. Slug additions are made in the sump of water cooling towers. **Continuous Dosage:** For continuous, or semi-continuous, low level dosage of Ultra-Kleen Solution 1, add 1 oz. to 20 oz. (8-156 ppm of this product) Ultra-Kleen Solution 1 per 1000 gallons of water (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1).

PULP AND PAPER MILLS. For use only in the production of pulp and paper that will not come in contact with food. Effectively removes and controls biofilm and other organic contaminants in pulp and paper mill fresh and seawater influent, water systems, wastewater treatment systems, non-potable water systems, and other process water. **DOSAGE RATES: Initial Dose for badly fouled systems:** Add 3 to 16 gal. (3000-16,000 ppm of this product) of Ultra-Kleen Solution 1 per 1000 gallons of water in the system. If cleaning is desired or if the pH of the system is below 8, optionally add simultaneously Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1. If necessary, apply a solution containing 0.4 to 2 oz. Ultra-Kleen Solution 1 per gallon of water (and if cleaning is desired or if the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) onto interior surfaces of the system that are not continuously submerged. **Routine Dose, when microbial control is evident:** Subsequent slug additions of 8 to 50 oz. (62-390 ppm of this product) Ultra-Kleen Solution 1 per 1000 gallons of water (and if cleaning is desired or if the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) are applied every 1 to 5 days as needed. The frequency of addition depends on the quality of the makeup water and rate of inflow of airborne or other contaminants. **Continuous Dosage:** For continuous low level dosage of Ultra-Kleen Solution 1, add 1 oz. to 20 oz. (8-156 ppm of this product) Ultra-Kleen Solution 1 per 1000 gallons of water (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1).

AIR WASHERS. For use only in industrial air washing systems that maintain effective mist eliminating components. Effectively removes and controls biofilm and other organic contaminants in Industrial Water Scrubbing Systems. **DOSAGE RATES. Initial Dose for badly fouled systems:** Add 3 to 16 gal. (3000-16,000 ppm of this product) of Ultra-Kleen Solution 1 per 1000 gallons of water in the system. If cleaning is desired or if the pH of the system is below 8, optionally add simultaneously Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1. If necessary, apply a solution containing 0.4 to 2 fl. oz. Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per gallon of water onto interior surfaces of the system that are not continuously submerged. Repeat until control is evident. **Routine Dose, when microbial control is evident:** Subsequent slug additions of 28 to 128 fl. oz. (218-1000 ppm of this product) Ultra-Kleen Solution 1 per 1000 gallons of water and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1 are applied every 1 to 5 days or as needed. The frequency of addition depends on the relative amount of bleed-off, the quality of the makeup water and rate of inflow of airborne or other contaminants. Slug additions are made in the sump of Industrial Water Scrubbing Systems.

DYE MACHINES. Effectively removes and controls biofilm and other organic contaminants in Textile Dyeing Machines. **DOSAGE RATES.** Add 16 to 40 gal. (16,000 – 40,000 ppm of this product) of Ultra-Kleen Solution 1 per 1000 gallons of water in a dye storage tank. If cleaning is desired or the pH of the mixture is below 8, optionally add simultaneously Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen. Circulate the mixture from the dye storage tank through the dye machine and all associated piping and other dye storage tanks. If necessary, apply a solution containing 2 to 5 fl. oz. Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the mixture is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per gallon of water onto surfaces of the system that are not continuously submerged.

WATER-JET LOOMS. Effectively removes and controls biofilm and other organic contaminants in Water-Jet Looms. **DOSAGE RATES. Initial Dose for badly fouled systems:** Prepare a mixture of 2 to 5 fl. oz. of Ultra-Kleen Solution 1 per gallon of water. If cleaning is desired or if the pH of the mixture is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1. Pump the mixture through the Water-Jet Loom and all associated piping. If necessary, apply a solution containing 2 to 5 fl. oz. of Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per gallon of water onto surfaces of the system that are not continuously submerged. **Subsequent Dose, when microbial control is evident:** Subsequent slug additions of 5 to 25 fl. oz. (40-195 ppm of this product) Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the mixture is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per 1000 gallons of daily water use are applied every 1 to 5 days or as needed. The frequency of addition depends on the quality of the makeup water and rate of inflow of airborne or other contaminants.

TANKS, SUMPS, AND OTHER HOLDING VESSELS, PIPING AND INDUSTRIAL EQUIPMENT USED TO STORE AND CONVEY INDUSTRIAL OR COMMERCIAL PROCESS WATER OR AQUEOUS MIXTURES. Do Not Use in equipment that will contact food. Effectively removes and controls biofilm and other organic contaminants in Tanks, Piping and Industrial Equipment used to store and convey Industrial Process Water or Aqueous Mixtures. **DOSAGE RATES. Dose for badly fouled systems:** Fill equipment as completely as possible with a solution of 8 to 80 gal. (800-80,000 ppm of this product) of Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the mixture is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per 1000 gallons of system capacity. Circulate for at least 4 hours and then drain system. Rinse system with 6 volumes of water. If necessary, apply a solution containing 1 to 10 fl. oz. Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the mixture is below 8,

optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per gallon onto surfaces of the equipment that are not submerged. **Subsequent Dose, when microbial control is evident:** Subsequent slug additions of 5 to 25 fl. Oz. (40-195 ppm of this product) Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the mixture is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per 1000 gallons of daily water use are applied ever 1 to 5 days or as needed. The frequency of addition depends on the quality of the makeup water on rate of inflow of airborne or other contaminants.

DEIONIZED WATER SUPPLY SYSTEMS NOT USED IN FOOD PROCESSING, FOR HUMAN DRINKING WATER OR DENTAL LINES. Effectively removes and controls biofilm and other organic contaminants in Tanks, Filters and Piping used to store and convey Deionized Water. **DOSAGE RATES. Dose for badly fouled systems:** Add 3 to 16 gal. (3000-16,000 ppm of this product) of Ultra-Kleen Solution 1 and if cleaning is desired or the pH of the mixture is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1 per 1000 gallons of system capacity. Circulate for at least four hours and then drain system. Rinse system with 6 volumes of water. If necessary, apply a solution containing 0.4 to 2 fl. oz. Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per gallon onto surfaces of the equipment that are not submerged. **Subsequent Dose, when microbial control is evident:** Add subsequent slug additions of 5 oz. to 1 gal. (40-1000 ppm of this product) Ultra-Kleen Solution 1 (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per 1000 gallons of system capacity. Circulate for at least four hours and then drain system. Rinse system with 6 volumes of water. If necessary, apply a solution container 0.4 to 2 fl. Oz. Ultra-Kleen 1 (and if cleaning is desired or the pH of the system is below 8, optionally add Ultra-Kleen Solution 2 at the rate of 1 to 3 times the volume of Ultra-Kleen Solution 1) per gallon onto surfaces of the equipment that are not submerged.

Penetrates and Removes Biofilm and Other Organic Contaminants. Use as a Bactericide, Silticide, Mildewstat, and Algacide In:

DRAINS. Effectively removes and controls plugging and odors caused by accumulation of biofilm and other organic contaminants in drains. Prevents stoppage and odors. **DOSAGE RATES. Initial Dose for badly fouled systems.** This product can be poured, foamed, wiped, brushed, applied using a clean in place CIP system, pumping it through the system or mopping. Apply from 6 fl. oz. to 15 fl. oz. Ultra-Kleen Solution 1 per gallon of water to drain. Repeat until control is evident. Optionally, pour from 1 fl. oz. Ultra-Kleen Solution 1 around or into one-inch diameter or smaller drains up to 90 fl. oz. Ultra-Kleen Solution 1 around or into three-inch diameter drains. If cleaning is desired, add simultaneously Ultra-Kleen Solution 2 at the same volume as Ultra-Kleen Solution 1 (1 – 90 fl. oz.). For foam cleaning, add 6-15 oz. Sterilix Ultra-Kleen Solution 1 and an equal amount of Sterilix Ultra-Kleen Solution 2 per gallon of water to a foaming device and foam the mixture into the drain. **Subsequent Dose:** When microbial control is evident, subsequent additions of 1-6 fl. oz. Ultra-Kleen Solution 1 per gallon of water are applied every 7 days or as needed. This product can be poured, foamed, wiped, brushed, applied using a clean in place CIP system, pumping it through the system or mopping. If cleaning is desired, add simultaneously Ultra-Kleen Solution 2 at the same volume as Ultra-Kleen Solution 1 (1 – 6 fl. oz.) per gallon of water. Optionally, subsequent additions of 1 – 6 fl. oz. Ultra-Kleen Solution 1 into one-inch diameter or smaller drains up to 6 fl. oz. Ultra-Kleen Solution 1 into three-inch diameter drains are applied every 7 days or as needed. If cleaning is desired, add simultaneously Ultra-Kleen Solution 2 at the same volume as Ultra-Kleen Solution 1 (1 – 6 fl. oz.). For foam cleaning, add 1 – 6 oz. Sterilix Ultra-Kleen Solution 1 and an equal amount of Sterilix Ultra-Kleen Solution 2 per gallon of water to a foaming device and foam the mixture into the drain.

When mixtures of Ultra-Kleen Solution 1 and Ultra-Kleen Solution 2 are prepared in a batch process, always use the mixtures the same day they are prepared.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by improper storage or disposal. **STORAGE:** Keep product in closed original container when not in use. Store in a cool area away from potential sources of heat, open flames, sunlight or other chemicals. Product should be stored below 90°F.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities . If rinsate cannot be used, follow pesticide disposal instructions. If not triple rinsed these containers are acute hazardous wastes and must be disposed in accordance with local, state and federal regulations. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

NOTE: Seller warrants that this product complies with the specifications expressed in this label. Seller makes no other warranties; and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. Seller's liability for default, breach or failure under this label shall be limited to the amount of the purchase price. Seller shall have no liability for consequential damages.

For Technical Service Call 1-800-511-1659

Issuing Date 03-Sep-2008

Revision Date

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Sterilex Ultra-Kleen Solution 1
UN-No UN1760
Recommended Use Biocide solution.
EPA Registration Number 63761-3

Supplier Address

Sterilex Corporation
 11409 Cronhill Drive, Suite L
 Owings Mills, MD 21117

Telephone: 1-800-511-1659

Company Emergency Phone Number 1-800-255-3924

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Corrosive

Harmful by inhalation, in contact with skin and if swallowed
 The product causes burns of eyes, skin and mucous membranes
 Mist or aerosol may be irritating to eyes, nose, throat, and lungs

Appearance Clear, colorless solution

Physical State Liquid

Odor Odorless

Potential Health Effects

Principle Routes of Exposure Skin contact, Eye contact.

Acute Toxicity

Eyes

Causes burns. Corrosive to the eyes and may cause irreversible eye damage.

Skin

Corrosive to skin. Causes burns.

Inhalation

Harmful by inhalation. Inhalation in high concentration may cause irritation of respiratory system.

Ingestion

Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tract. Can burn mouth, throat, and stomach.

Chronic Effects

Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risks of irreversible effects.

Aggravated Medical Conditions

Preexisting eye disorders. Skin disorders. Respiratory disorders.

Environmental Hazard

See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Water	7732-18-5	85.06 - 90.33
Hydrogen peroxide	7722-84-1	5.99 - 6.62
Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides	85409-23-0	2.85 - 3.15
Alkylbenzyltrimethylammonium chloride	68391-01-5	2.85 - 3.15

4. FIRST AID MEASURES

General Advice	Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment.
Eye Contact	Call a poison control center or doctor for treatment advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Skin Contact	Call a poison control center or doctor for treatment advice. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move victim to fresh air. Call a physician or Poison Control Center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Call a physician or Poison Control Center. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.
Notes to Physician	Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.
Protection of First-aiders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. May decompose to form oxygen and oxides of carbon and/or nitrogen.
Flash Point	Not combustible.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Move containers from fire area if you can do it without risk. Dike fire control water for later disposal; do not scatter the material.
Hazardous Combustion Products	Carbon monoxide, Carbon dioxide (CO ₂), Hydrogen chloride, On decomposition product releases oxygen which may intensify fire.
Explosion Data	
Sensitivity to Mechanical Impact	No data available.
Sensitivity to Static Discharge	No data available.
Specific Hazards Arising from the Chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA	Health Hazard 3	Flammability 0	Stability 0	Physical and Chemical Hazards -
HMIS	Health Hazard 3*	Flammability 0	Physical Hazard 0	Personal Protection -

*Indicates a chronic health hazard.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Dam up. Soak up with inert absorbent material. Use personal protective equipment. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Prevent product from entering drains.
Other Information	Refer to protective measures listed in Sections 7 and 8. Combustible materials exposed to hydrogen peroxide should be thoroughly rinsed to remove all hydrogen peroxide.

7. HANDLING AND STORAGE

Handling	Ensure adequate ventilation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. If spilled, take caution, as material can cause surfaces to become very slippery.
Storage	Keep containers in cool areas out of direct sunlight and away from combustibles. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment. Keep container tightly closed. Keep out of the reach of children. Keep in properly labeled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures	Showers Eyewash stations Ventilation systems
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Personal Protective Equipment

Eye/Face Protection	Tightly fitting safety goggles. Face-shield.
Skin and Body Protection	Rubber or neoprene footwear. Impervious clothing materials such as rubber, neoprene, nitrile or polyvinyl chloride. Wear liquid proof rubber or neoprene gloves.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless solution.	Odor	Odorless.
Odor Threshold	No information available	Physical State	Liquid
pH	3.01-5.86	Autoignition Temperature	Not combustible
Flash Point	Not combustible.	Boiling Point/Range	>100°C / >212°F
Decomposition Temperature	No information available	Explosion Limits	Not applicable
Melting Point/Range	Not applicable	Water Solubility	Completely soluble
Flammability Limits in Air	Not applicable	Evaporation Rate	No information available
Specific Gravity	1.00-1.03	Vapor Density	No data available
Solubility	Not applicable		
Vapor Pressure	No data available		
VOC Content	Not applicable		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible Products	Caustic. Iron and heavy metals. Copper alloys, galvanized iron. Incompatible with strong acids and bases. Incompatible with oxidizing agents.
Conditions to Avoid	Extremes of temperature and direct sunlight.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO ₂). Hydrogen chloride. Oxygen which supports combustion.
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information	The below results are based on testing performed on representative samples of a mixture similar to this product. Harmful by inhalation, in contact with skin and if swallowed.
Irritation	Corrosive to eyes Corrosive to skin Primary Irritation Index (PII) = 6.9 (rabbit)
LD50 Oral VALUE (mg/kg)	5,100 mg/kg (rat)
LD50 Dermal VALUE	Not performed.
LC50 Inhalation (VAPOR) VALUE	Not performed.

Chronic Toxicity

Chronic Toxicity	Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risks of irreversible effects.
Target Organ Effects	Eyes, Respiratory system, Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Hydrogen peroxide	EC50 = 2.5 mg/L 72 h	LC50= 16.4 mg/L Pimephales promelas 96 h		EC50 = 7.7 mg/L 24 h

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.

Contaminated Packaging

Do not re-use empty containers. Dispose of in accordance with local regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Hydrogen peroxide	Toxic; Corrosive; Ignitable; Reactive

14. TRANSPORT INFORMATION

Note This corrosive material, as per 49 CFR §173.154 and when the product meets the packaging requirements of 49 CFR §173.154 (b)(2) [inner packagings not over 5.0 L (1.3 gallons) net capacity each for liquid] is excepted from labeling and placarding requirements so long as the material is not offered for transport by aircraft.

DOT

Proper Shipping Name	Corrosive liquids, n.o.s.
Hazard Class	8
UN-No	UN1760
Packing Group	III
Description	UN1760, Corrosive liquids, n.o.s. (Quaternary ammonium compounds), 8, PG III
Emergency Response Guide Number	154

TDG

Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
UN-No	UN1760
Packing Group	III
Description	UN1760, CORROSIVE LIQUID, N.O.S. (Quaternary ammonium compounds), 8, PG III

MEX

Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
UN-No	UN1760
Packing Group	III
Description	UN1760, Corrosive liquid, n.o.s. (Quaternary ammonium compounds), 8, III

ICAO

UN-No	UN1760
Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
Packing Group	III
Description	UN1760, Corrosive liquid, n.o.s. (Quaternary ammonium compounds), 8, PG III

IATA

UN-No	UN1760
Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
Packing Group	III
ERG Code	8L
Description	UN1760, Corrosive liquid, n.o.s. (Quaternary ammonium compounds), 8, PG III

IMDG/IMO

Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
Subsidiary Class	+
UN-No	UN1760
Packing Group	III
EmS No.	F-A, S-B
Description	UN1760, Corrosive liquid, n.o.s. (Quaternary ammonium compounds), 8(+), PG III

RID

Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
UN-No	UN1760

Packing Group	III
Classification Code	C9
Description	UN1760, Corrosive liquid, n.o.s. (Quaternary ammonium compounds), 8, III, RID
ADR/RID-Labels	8

ADR

Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
UN-No	UN1760
Packing Group	III
Classification Code	C9
Description	UN1760, Corrosive liquid, n.o.s. (Quaternary ammonium compounds), 8, III

ADN

Proper Shipping Name	Corrosive liquid, n.o.s.
Hazard Class	8
Packing Group	III
Classification Code	C9
Special Provisions	274
Description	UN1760, Corrosive liquid, n.o.s. (Quaternary ammonium compounds), 8, III
Hazard Labels	8
Limited Quantity	LQ7

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Does not comply
EINECS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Does not comply
PICCS	Does not comply

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Hydrogen peroxide	X	X	X	X
Benzyl chloride	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Hydrogen peroxide		1000 lb
Benzyl chloride	100 lb	100 lb

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Benzyl chloride	100-44-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Hydrogen peroxide	X	X	X		X
Benzyl chloride	X	X	X	X	X

International Regulations

Mexico - Grade

Serious risk, Grade 3

Chemical Name	Carcinogen Status	Exposure Limits
Hydrogen peroxide	A3	Mexico: TWA= 1.5 mg/m ³ Mexico: TWA= 1 ppm Mexico: STEL= 2 ppm Mexico: STEL= 3 mg/m ³
Benzyl chloride	A3	Mexico: TWA= 1 ppm Mexico: TWA= 5 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

E Corrosive material



Chemical Name	NPRI
Benzyl chloride	X

Legend

X - Listed

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Issuing Date 02-Sep-2008

Revision Date

Revision Note No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

End of Safety Data Sheet