




Safety Data Sheet

Section 1. Identification													
Product Identification and Item Numbers:	Benzalkonium Chloride Solution, 50% (B/CHL)												
Product Description:	Benzalkonium Chloride Solution, 50%												
Recommended use and restrictions on use:	N/A												
Supplier:	Delasco 608 13 th Avenue Council Bluffs, IA 51501 1-712-323-3269 www.delasco.com questions@delasco.com												
In Case of Emergency, Contact:	Chemtrec (24 hour) 1-800-424-9300												
Section 2. Hazard(s) Identification													
Classification:	Flammable Liquid (Category 2) Serious Eye Damage (Category 1) Acute toxicity, Oral (Category 3) Skin Corrosion (Category 1B) Aquatic Acute (Category 1) Aquatic Chronic (Category 1)												
Labeling:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 5px;">Hazard symbol(s):</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="text-align: center; padding: 5px;">GHS09: environment</td> <td style="text-align: center; padding: 5px;">GHS02: flame</td> <td style="text-align: center; padding: 5px;">GHS07: exclamation mark</td> <td style="text-align: center; padding: 5px;">GHS05: corrosive</td> <td style="text-align: center; padding: 5px;">GHS06: skull and crossbones</td> </tr> </table>	Hazard symbol(s):							GHS09: environment	GHS02: flame	GHS07: exclamation mark	GHS05: corrosive	GHS06: skull and crossbones
Hazard symbol(s):													
	GHS09: environment	GHS02: flame	GHS07: exclamation mark	GHS05: corrosive	GHS06: skull and crossbones								
Signal word:	Danger!												
Hazard statements:	H301: Toxic if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H318: Causes serious eye damage. H410 Very toxic to aquatic life with long lasting effects.												
Precautionary statements:	P210: Keep away from heat/sparks/open flames/.../hot surfaces. ... No smoking. P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell. P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P391: Collect spillage.												

Section 3. Composition/Information on Ingredients	
Chemical Name and Concentration:	Benzalkonium chloride, 50% w/v Water, 46% Ethyl alcohol 200 Proof, 4%
Other Names, Common Names, Synonyms:	N/A
CAS Number, other unique identifiers:	Mixture: Benzalkonium chloride, 50% w/v CAS# 8001-54-5 Water, 46% CAS# 7732-18-5 Ethyl alcohol 200 Proof, 4% CAS# 64-17-5
Other classified impurities or stabilizers:	N/A
Other ingredients posing health hazards:	N/A
Concentration of other hazardous ingredients:	N/A

Section 4. First-aid Measures	
Inhalation exposure:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Skin exposure:	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Eye contact:	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately.
Ingestion:	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing, such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures	
Suitable / unsuitable extinguishing media:	SMALL FIRE: Dry chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
Specific hazards / combustion products:	FLAMMABLE: Will be easily ignited by heat, sparks or flames. <ul style="list-style-type: none"> Carbon monoxide and carbon dioxide are produced during combustion. Containers should be grounded. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME Vapor may travel considerable distance to source of ignition and flash back. (Ethyl alcohol 200 Proof)
Special protective equipment and precautions for fire-fighters:	Ethanol has an explosive reaction with the oxidized coating around potassium metal. Ethanol ignites and then explodes on contact with acetic anhydride + sodium hydrosulfate (ignites and may explode), disulfuric acid + nitric acid, phosphorous(III) oxide platinum, potassium-tert-butoxide+ acids. Ethanol forms explosive products in reaction with the following compound : ammonia + silver nitrate (forms silver nitride and silver fulminate), iodine + phosphorus (forms ethane iodide), magnesium perchlorate (forms ethyl perchlorate), mercuric nitrate, nitric acid + silver (forms silver fulminate) silver nitrate (forms ethyl nitrate) silver(I) oxide + ammonia or hydrazine (forms silver nitride and silver fulminate), sodium (evolves hydrogen gas).
NFPA Hazard Classification	Health – 2 Flammability – 2 Instability – 0
	0-Minimal 1-Slight 2-Moderate 3-Serious 4-Severe

Section 6. Accidental Release Measures	
Personal precautions and protective equipment:	<ul style="list-style-type: none"> • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). • Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. • Wear appropriate personal protective equipment.
Environmental Precautions:	<ul style="list-style-type: none"> • Stop leak if you can do it without risk. • Prevent entry into drains, waterways, sewers, basements or confined areas.
Containment / clean up methods:	<p><u>Small spill:</u> Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.</p> <p><u>Large Spill:</u> Flammable liquid. Corrosive liquid. Poisonous liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.</p>

Section 7. Handling and Storage	
Precautions for safe handling:	Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.
Conditions for safe storage:	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
Incompatibilities to avoid:	Do not store with oxidizing agents.

Section 8. Exposure Controls and Personal Protection	
OSHA Permissible Exposure Limit (PEL):	Ethyl alcohol 200 Proof TWA: 1900 (mg/m3) from OSHA (PEL) [United States] TWA: 1000 (ppm) from OSHA (PEL) [United States]
Threshold Limit Value (TLV):	Not available.
Other exposure limits:	<u>Ethanol:</u> TWA: 1900 (mg/m3) from NIOSH [United States] TWA: 1000 (ppm) from NIOSH [United States] TWA: 1000 (ppm) [United Kingdom (UK)] TWA: 1920 (mg/m3) [United Kingdom (UK)] TWA: 1000 STEL: 1250 (ppm) [Canada]
Engineering controls:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal protective equipment:	<p>Respiratory Protection Vapor respirator. Be sure to use an approved/certified respirator or equivalent.</p> <p>Eye Protection Face shield.</p> <p>Skin Protection Gloves.</p>
Other personal protection measures:	Provide nearby eyewash station and safety shower.

Section 9. Physical and Chemical Properties	
Appearance (physical state, color, etc.):	Liquid.
Odor:	Slightly aromatic.
Odor threshold:	Data not available
pH:	Acidic
Melting point / freezing point:	Data not available
Initial boiling point and boiling range:	Data not available
Flash point:	12°C (Ethanol)
Evaporation rate:	Data not available for this mixture.
Flammability	Data not available for this mixture.
Upper / lower flammability or explosive limits:	Lower explosion limit: 3.3% Upper explosion limit: 19% (Ethanol)
Vapor Pressure:	Data not available for this mixture.
Vapor density:	Data not available for this mixture.
Relative density:	Data not available for this mixture.
Solubility:	Data not available for this mixture.
Partition coefficient: n-octanol/water:	Data not available for this mixture.
Auto-ignition temperature:	363-426 °C / 685.4-798.8 °F (Ethanol)
Decomposition temperature:	Data not available for this mixture.
Viscosity:	Data not available for this mixture.

Section 10. Stability and Reactivity	
Chemical stability:	The product is stable.
Possibility of hazardous reactions:	Reactive with oxidizing agents. Slightly reactive to reactive with acids, alkalis.
Conditions to avoid (static, shock, vibration...)	Excess heat, ignition sources, incompatible materials.
Incompatible materials:	Reactive with oxidizing agents. Slightly reactive to reactive with acids, alkalis. Hygroscopic. Also incompatible with nitrates, anion detergents (Benzalkonium chloride).
Hazardous decomposition products:	Carbon oxides when heated to decomposition.

Section 11. Toxicological Information	
Routes of exposure:	Skin and/or eye contact.
Acute Symptoms (acute):	Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Hazardous in case of skin contact (corrosive), of eye contact (corrosive), inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Symptoms (chronic): Chronic effects from short and long term exposure:	MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. [Ethyl alcohol 200 Proof]. TERATOGENIC EFFECTS: Classified PROVEN for human [Ethyl alcohol 200 Proof]. DEVELOPMENTAL TOXICITY: Classified Development toxin [PROVEN] [Ethyl alcohol 200 Proof]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Ethyl alcohol 200 Proof]. The substance is toxic to blood, liver, central nervous system (CNS). The substance may be toxic to kidneys, the reproductive system, heart, gastrointestinal tract, cardiovascular system, skin. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Numerical measures of toxicity (e.g., acute toxicity estimates):	Benzalkonium chloride: ORAL (LD50): Acute: 240 mg/kg [Rat]. Ethyl alcohol 200 Proof: ORAL (LD50): Acute: 7060 mg/kg [Rat]. 3450 mg/kg [Mouse]. VAPOR (LC50): Acute: 20000 ppm 8 hours [Rat]. 39000 mg/m3 4 hours [Mouse].
NTP carcinogen:	Not available
EPA carcinogen:	Not available
ACGIH carcinogen:	Not available
IARC potential carcinogen:	Not available
OSHA carcinogen:	Not available

Section 12. Ecological Information (Non-mandatory)

Ecotoxicity (aquatic and terrestrial, where available):	<u>Ethanol:</u> Acute Fish Toxicity (Ethanol) LC50 / 96 HOUR <i>Oncorhynchus mykiss</i> (rainbow trout) > 10,000 mg/l LC50 / 96 HOUR <i>Pimephales promelas</i> (fathead minnow) > 13,400 mg/l Toxicity to aquatic plants (Ethanol) Growth inhibition / 96 HOURS <i>Chlorella vulgaris</i> (Fresh water algae) 1,000 mg/l Toxicity to microorganisms (Ethanol) Toxicity Threshold / <i>Pseudomonas putida</i> 6,500 mg/l Summary: Inhibition of cell multiplication begins.
Persistence and degradability:	Not available
Bioaccumulative potential:	Not available
Mobility in soil:	Not available
Other adverse effects:	Not available

Section 13. Disposal Considerations (Non-mandatory)

Safe methods of disposal:	Dispose of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information (Non-mandatory)

US DOT	UN number:	UN2920	Class:	3, 8	Packing Group:	III
UN proper shipping name:			Corrosive liquid, toxic, n.o.s., (benzalkonium chloride solution, 50%)			
Packing group, if applicable:			III			
Environmental hazards (marine pollutant, etc...)			Not available			
Special transport precautions:			N/A			

Section 15. Regulatory Information (Non-mandatory)

Specific safety, health, and environmental regulations:	N/A
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Section 16. Other information

Date of preparation or last revision:	September 11, 2018
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