SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 14-January-2025 **Revision Number** 3

1. Identification

Product identifier

Product Name BENZALKONIUM CHLORIDE, 50 PERCENT SOLUTION, NF

Other means of identification

Product Code(s) B1068

UN number or ID number UN2920

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address
Spectrum Chemical Mfg. Corp.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

Flammable liquids	Category 3
Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Respiratory sensitization	Category 1A
Skin sensitization	Category 1A
Reproductive toxicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements

Danger

Hazard statements
Flammable liquid and vapor.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements - Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/clothing and eye/face protection.
Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
In case of inadequate ventilation wear respiratory protection.
Contaminated work clothing must not be allowed out of the workplace.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ ventilating / lighting/ .? / equipment.
Use only non-sparking tools.
Take action to prevent static discharges.
Keep cool.

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor.
Specific treatment (see .? on this label).
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 or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Wash contaminated clothing before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor.
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
Rinse mouth.
Do NOT induce vomiting.
In case of fire: Use CO2, dry chemical, or foam to extinguish.

Precautionary Statements - Storage
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

Other information

May be harmful in contact with skin. Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%
Benzalkonium Chloride	8001-54-5	50
Water	7732-18-5	46
Ethyl Alcohol 200 proof	64-17-5	4
Benzyl Chloride	100-44-7	<=0.05 (impurity)

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention. May cause allergic respiratory reaction. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. May cause an allergic skin reaction.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention. May produce an allergic reaction.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact.

Hazardous combustion products Carbon Monoxide, Carbon Dioxide.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Attention! Corrosive material.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Technical Measures/Precautions: Provide sufficient air exchange and/or exhaust in work rooms Remove all sources of ignition To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded Keep away from incompatible materials

Advice on safe handling Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Provide extract ventilation to points where emissions occur. Remove contaminated clothing and shoes.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up. Store away from other materials.

Incompatible Materials: Strong oxidizing agents Nitrates Anionic surfactants

8. Exposure controls/personal protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Ethyl Alcohol 200 proof 64-17-5	-	1000 ppm TWA 1900 mg/m³ TWA	-
Benzyl Chloride 100-44-7	-	1 ppm TWA 5 mg/m³ TWA	-

Appropriate engineering controls

Engineering controls Showers

Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	Colorless
Odor	Aromatic
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No data available	None known
pH (as aqueous solution)		None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	52 °C / 125.6 °F	None known
Evaporation rate	no data available	None known
Flammability	no data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	0.97	None known
Water solubility	Miscible in water	None known
Solubility(ies)		None known
	Soluble in Alcohol	
	Soluble in Acetone	
	Partially soluble in diethyl ether	
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available

VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks. Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous decomposition products	Spontaneous polymerisation.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause sensitization in susceptible persons. May cause drowsiness or dizziness. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause sensitization by skin contact. May be harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. May cause additional affects as listed under "Inhalation".

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Itching. Rashes. Hives. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Acute toxicity	No information available.

Numerical measures of toxicity No information available

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Benzalkonium Chloride 8001-54-5	= 240 mg/kg (Rat)	= 1420 mg/kg (rat)	-
Water 7732-18-5	90 mL/kg (Rat)	-	-
Ethyl Alcohol 200 proof 64-17-5	= 7060 mg/kg (Rat)	-	124.7 mg/L (Rat) 4 h
Benzyl Chloride 100-44-7	= 625 mg/kg (Rat)	-	= 0.74 mg/L (Rat) 2 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.

Respiratory or skin sensitization May cause sensitization by inhalation. May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Ethyl Alcohol 200 proof 64-17-5	-	Group 1 - Monograph 100E [2012] in alcoholic beverages Monograph 96 [2010] in alcoholic beverages	-	-
Benzyl Chloride 100-44-7	-	Group 2A - Probably Carcinogenic to Humans - Monograph 71 [1999] combined exposures to .alpha.-Chlorinated toluenes and Benzoyl chloride	-	-

Legend

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

STOT - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Benzalkonium Chloride 8001-54-5	-	LC50: 0.223 - 0.46mg/L (96h, Lepomis macrochirus) LC50: 0.823 - 1.61mg/L (96h, Oncorhynchus mykiss) LC50: =1.3mg/L (96h, Poecilia reticulata) LC50: =2.4mg/L (96h, Oryzias latipes)	-	-
Ethyl Alcohol 200 proof 64-17-5	-	LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: 13400 - 15100mg/L (96h, Pimephales promelas) LC50: >100mg/L (96h, Pimephales promelas)	-	LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =10800mg/L (24h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)
Benzyl Chloride 100-44-7	-	LC50: 4.4 - 5.6mg/L (96h, Pimephales promelas) LC50: =4mg/L (96h, Brachydanio rerio)	-	EC50: =1.3mg/L (24h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Ethyl Alcohol 200 proof 64-17-5	-0.32
Benzyl Chloride 100-44-7	2.3

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

14. Transport information

DOT

UN number or ID number	UN2920
Proper shipping name	Corrosive liquids, flammable, n.o.s.
Transport hazard class(es)	8
Subsidiary Class	3
Special Provisions	II
Special Provisions	B2, IB2, T11, TP2, TP27
DOT Marine Pollutant	NP
Description	UN2920, Corrosive liquids, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II
Emergency Response Guide Number	132

TDG

UN/ID no.	UN2920
Proper shipping name	Corrosive liquid, flammable, n.o.s.
Transport hazard class(es)	8
Subsidiary Class	3
Packing Group	II
Description	UN2920, Corrosive liquid, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II

MEX

UN-No	UN2920
Proper Shipping Name	Corrosive liquid, flammable, n.o.s.
Transport hazard class(es)	8
Subsidiary class	3
Packing Group	II
Technical Name	Benzalkonium Chloride
Description	UN2920, Corrosive liquid, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II
Special Provisions	274

ICAO (air)

UN/ID no.	UN2920
Proper shipping name	Corrosive liquid, flammable, n.o.s.
Transport hazard class(es)	8
Subsidiary hazard class	3
Packing Group	II
Description	UN2920, Corrosive liquid, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II

IATA

UN number or ID number	UN2920
Proper shipping name	Corrosive liquid, flammable, n.o.s.
Transport hazard class(es)	8
Subsidiary hazard class	3
Packing group	II
Technical Name	Benzalkonium Chloride
Description	UN2920, Corrosive liquid, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II
ERG Code	8F

IMDG

UN number or ID number	UN2920
Proper shipping name	Corrosive liquid, flammable, n.o.s.
Transport hazard class(es)	8
Subsidiary hazard class	3
Packing group	II

EmS-No.	F-E, S-C
Special Provisions	274
Marine pollutant	NP
Description	UN2920, Corrosive liquid, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II, (52°C c.c.)

ADR

UN number or ID number	UN2920
Proper shipping name	Corrosive liquid, flammable, n.o.s.
Transport hazard class(es)	8
Packing group	II
Subsidiary Risk:	3
Special Provisions	274
Description	UN2920, Corrosive liquid, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II, (D/E)

RID

UN number or ID number	UN2920
Proper shipping name	Corrosive liquid, flammable, n.o.s.
Transport hazard class(es)	8
Subsidiary Risk:	3
Packing group	II
Special Provisions	274
Description	UN2920, Corrosive liquid, flammable, n.o.s. (Benzalkonium Chloride), 8 (3), II

15. Regulatory information

International Inventories

TSCA	Not listed

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

DSL/NDSL	Complies
EINECS/ELINCS	Does not Comply
ENCS	This product complies with ENCS:
IECSC	This product complies with China:
KECL	Complies
PICCS	Complies
AIIC	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).
NZIoC	Does not comply
TCSI	Does not comply

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

NZIoC - New Zealand Inventory of Chemicals
TCSI - Taiwan Chemical Substance Inventory

US 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
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CAA (Clean Air Act)
This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Benzyl Chloride 100-44-7	100 lb final RQ 45.4 kg final RQ	

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:.

Chemical name	California Proposition 65
Ethyl Alcohol 200 proof - 64-17-5	developmental toxicity carcinogen
Benzyl Chloride - 100-44-7	carcinogen

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

International Inventories

Chemical name	CAS No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	IECSC	AIIC	EINECS-No.
	8001-54-5	Not Listed	Present KE-00790	Present	Not present	X	X	Not present
	7732-18-5	PresentACTIVE	Present KE-35400	Present	Present -	X	X	Present 231-791-2
	64-17-5	Present(ACTI	KE-13217	Present	(2)-202	Present	Present	Present

		VE)						200-578-6
	100-44-7	PresentACTIVE	Present KE-05729	Present	Present (3)-39,(3)-102	X	X	Present 202-853-6

U.S. Regulations

Chemical name	Massachusetts	M.A. EHS:	New Jersey	New Jersey - Environmental Hazardous Su	N.J.- Discharge Prevention:	New Jersey TCPA - EHS:	Pennsylvania	P.A. RTK - Environmental Hazard	P.A. RTK - Special Hazardous
Ethyl Alcohol 200 proof	Present		0844				Present		
Benzyl Chloride	Present		0217		Present		Environmental hazard	Present	

Chemical name	Michigan - Critical Materials:	Michigan PSM HHC:	Minnesota - Hazardous Substance:	N.Y. Release - Hazardous Substances:	C.T. - Carcinogenic:
Ethyl Alcohol 200 proof			Present		
Benzyl Chloride			Present	100 lb RQ 1 lb RQ	

Chemical name	Louisana Reportable Quantity List for Pollutants:	California Directors List of Hazardous Substances:	FDA - Food Additives Generally Recognized as Safe (GRAS):	FDA - Direct Food Additives	FDA - 21 CFR - Total Food Additives - List Sourced from EAFUS
Ethyl Alcohol 200 proof	Present (listed as Volatile Organic Compounds)	Present	21 CFR 184.1293		169.175, 169.176, 169.177, 169.181, 172.340, 172.560, 172.580, 175.105, 176.180, 176.200, 177.1200, 177.1650, 178.1010, 184.1293, 73.30, 73.345, 73.615
Benzyl Chloride	100lbfinal RQ 45.4kgfinal RQ	Present			

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

⚠WARNING: This product can expose you to chemicals including (see table and list below) which is (are) known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov. Safrole.

Chemicals Known to the State of California to Cause Reproductive Toxicity:

⚠WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Chemical name	CAS No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
	8001-54-5	Not Listed	Not Listed	Not Listed	Not Listed
	7732-18-5	Not Listed	Not Listed	Not Listed	Not Listed
	64-17-5	carcinogen (Ethanol in alcoholic beverages)	developmental toxicity (Ethyl alcohol in alcoholic beverages)	Not Listed	Not Listed
	100-44-7	carcinogen	Not Listed	Not Listed	Not Listed

CERCLA/SARA

CERCLA

TSCA

Chemical name	CAS No.	Hazardous Substances RQs	TPQ	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category
	8001-54-5			None	None
	7732-18-5			None	None

	64-17-5			None	None
	100-44-7	100 lb final RQ 45.4 kg final RQ	500 lb TPQ 100 lb EPCRA RQ	None	None

U.S. TSCA

Chemical name	CAS No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
	8001-54-5	Not Applicable	Not Applicable
	7732-18-5	Not Applicable	Not Applicable
	64-17-5	Not Applicable	Not Applicable
	100-44-7	Not Applicable	03/11/199406/30/1998

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component	WHMIS 2015 Hazard Classification
Benzalkonium Chloride 8001-54-5 (50)	Acute toxicity - Oral - Category 3: H301 Toxic if swallowed.; Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.
Water 7732-18-5 (46)	Not a dangerous product according to HPR classification criteria
Ethyl Alcohol 200 proof 64-17-5 (4)	Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2B: H320 Causes eye irritation.
Benzyl Chloride 100-44-7 (<=0.05 (impurity))	Flammable liquids - Category 4: H227 Combustible liquid.; Corrosive to Metals - Category 1: H290 May be corrosive to metals. (potentially corrosive to metals; the supplier should be contacted for more information); Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.; Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled.; Skin corrosion/irritation - Category 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Skin sensitizers - Category 1: H317 May cause allergic skin reaction.; Carcinogenicity - Category 2: H351 Suspected of causing cancer.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Chemical name	CAS No.	Canada (DSL)	Canada (NDSL)
	8001-54-5	Present	Not Listed
	7732-18-5	Present	Not Listed
	64-17-5	Present	Not Listed
	100-44-7	Present	Not Listed

Chemical name	CAS No.	CEPA Schedule I - Toxic Substances
	8001-54-5	Not listed
	7732-18-5	Not listed
	64-17-5	Not listed
	100-44-7	Present
Chemical name	**CAS No.**	**CEPA - 2010 Greenhouse Gases Subject**

		to Mandatory Reporting
	8001-54-5	Not listed
	7732-18-5	Not listed
	64-17-5	Not listed
	100-44-7	Not listed

Chemical name	CAS No.	EU GHS - SV - CLP (1272/2008)
	8001-54-5	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Acute toxicity - Dermal - Acute Tox. 4: H312 Harmful in contact with skin. (Minimum classification); Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage.; Hazardous to aquatic environment - acute hazard - Aquatic Acute 1: H400 Very toxic to aquatic life.612-140-00-5
	7732-18-5	
	64-17-5	Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.603-002-00-5
	100-44-7	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Acute toxicity - Inhalation - Acute Tox. 3: H331 Toxic if inhaled. (Minimum classification); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Eye Dam. 1: H318 Causes serious eye damage.; Carcinogenicity - Carc. 1B: H350 May cause cancer.; Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation.; Specific target organ toxicity - Repeated exposure - STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Minimum classification; No information to prove exclusion of certain routes of exposure)602-037-00-3

R-Phrases

R10 - Flammable
R34 - Causes burns
R21/22 - Harmful in contact with skin and if swallowed

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

Chemical name	CAS No.	Classification according to Directive	Concentration Limits:	Safety Phrases

		67/548/EEC or 1999/45/EC		
Benzalkonium Chloride	8001-54-5	R34 R50 R21/22	No information	S: (2)-36/37/39-45-61
Water	7732-18-5		No information	
Ethyl Alcohol 200 proof	64-17-5		No information	S(2) S7 S16
Benzyl Chloride	100-44-7	Xn; R22-48/22 T; R23 Xi; R37/38-41 Carc.Cat.2; R45	No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC
Contains Benzalkonium Chloride

Indication of danger:
C - Corrosive

16. Other information

NFPA **Health hazards** 3 **Flammability** 2 **Instability** 0 **Special hazards** -
HMIS **Health hazards** * 2 **Flammability** 2 **Physical hazards** 0 **Personal protection** X
Chronic Hazard Star Legend ** = Chronic Health Hazard*

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date	14-January-2025
Revision Note	No information available.

Disclaimer

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End of Safety Data Sheet