



Product Identifier: Benzalkonium Chloride
Revision Date: 05/28/2015

SAFETY DATA SHEET

This SDS complies with 29 CFR 1910.1200 (Hazard Communication Standard)
IMPORTANT: Read this SDS before handling & disposing of this product. Pass this information on to employees, customers, and users of this product.

1. Identification

1.1. Product identifier

Product Identity	Benzalkonium Chloride
Alternate Names	Benzalkonium Chloride (BC)
Product Code	940-06

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	Cleaner
Application Method	See Label Instructions.

1.3. Details of the supplier of the safety data sheet

Company Name	Diamond Products Inc. 1216 Bozeman Ave. Helena, MT 59601
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Emergency

24 hour Emergency Telephone No.	Infotrac: 1 800-535-5053 Emergency: (406) 449-6570
Customer Service: Diamond Products Inc.	(406) 449-6570

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Flam. Liq. 3;H226	Flammable liquid and vapor
Acute Tox. Or. 4;H302	Harmful if swallowed.
Acute Tox. Inh. 2;H330	Fatal if inhaled.
Skin Corr. 1B;H314	Causes severe skin burns and eye damage.
Eye Dam. 1;H318	Causes serious eye damage.
STOT SE 2;H371	May cause damage to organs
Aquatic Acute 1;H400	Very toxic to aquatic life
Aquatic Chronic 1;H410	Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Danger

H226 Flammable liquid and vapor

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

H371 May cause damage to organs

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects.

[Prevention]:

P233: Keep container tightly closed.

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P271: Use only outdoors or in a well-ventilated area.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260 Do not breathe mist / vapors / spray.

P264 Wash thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

P281: Use personal protective equipment as required. Respiratory equipment in particular.

[Response]:

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.

P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P310: Immediately call a POISON CENTER/doctor

P320: Specific treatment is urgent (see label instructions).

P363 Wash contaminated clothing before reuse.

P370+378: In case of fire: Use appropriate media to extinguish.

P391 Collect spillage.

[Storage]:

P403+233: Store in a well ventilated place. Keep container tightly closed.

P403+235: Store in a well ventilated place. Keep cool.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Quaternary ammonium compound CAS Number: Proprietary	50	Flam. Liq. 3;H226 Acute Tox. 4;H302 Acute Tox. Inh. 2;H330 Skin Corr. 1B;H314 Eye Dam. 1;H318 STOT SE 2;H371 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	[1]
Ethanol CAS Number: 0000064-17-5	1.0 - 11	Flam. Liq. 2;H225	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim 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. Call a physician or poison control center immediately.
Eyes	Immediately flush eyes with plenty of water holding the eyelids apart for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Skin	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Ingestion	Corrosive and irritating to digestive tract; may cause gastric distress, stomach pains, and vomiting. Promptly drink a large quantity of egg whites, gelatin solution, or (if these are not available) water; DO NOT induce vomiting; seek medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Overview	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. See section 2 for further details. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Eyes	Causes serious eye damage.
Skin	May be harmful in contact with skin. (Not adopted by US OSHA) Causes severe skin burns and eye damage.
Ingestion	If the product is ingested, probable mucosal damage may contraindicate the use of gastric lavage. Treat the affected person appropriately.

5. Fire-fighting measures

5.1. Extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

5.3. Advice for fire-fighters

Firefighters should wear full protective clothing including self contained breathing apparatus.
Use standard firefighting procedures and consider the hazards of other involved materials.

ERG Guide No. ----

6. Accidental release measures

6.1. 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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not breathe vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant 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 notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

7. Handling and storage

7.1. Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not taste or swallow. Avoid prolonged exposure. Do not get this material on clothing. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

7.2. Conditions for safe storage, including any incompatibilities

DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL. PESTICIDE STORAGE: Store in a dry place no lower in temperature than 50°F or higher than 120°F. Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

Incompatible materials: Strong Oxidizing Agents and Anionic Surfactants.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0000064-17-5	Ethanol	OSHA	TWA 1000 ppm (1900 mg/m3)
		ACGIH	STEL: 1000 ppm Revised 2009,
		NIOSH	TWA 1000 ppm (1900 mg/m3)
		Supplier	No Established Limit
Proprietary	Quaternary ammonium compound	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0000064-17-5	Ethanol	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: Yes; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
Proprietary	Quaternary ammonium compound	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Respiratory	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Eyes	Wear safety glasses with side shields (or goggles) and a face shield.
Skin	Wear appropriate chemical resistant gloves and clothing.
Engineering Controls	Ensure adequate ventilation, especially in confined areas. Eye wash facilities and emergency shower must be available when handling this product.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance	Light Yellow Liquid
Odor	Characteristic Quaternary odor
Odor threshold	Not Measured
pH	10% solution: 7.5 – 8.5
Melting point / freezing point	Not applicable
Initial boiling point and boiling range	Not Available
Flash Point	106 °F (41.1 °C) PMCC
Evaporation rate (Ether = 1)	Not available
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not available Upper Explosive Limit: Not available
Vapor pressure (Pa)	Not available
Vapor Density	Not available
Specific Gravity	0.96 g/ml
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity (cSt)	80 cps @ 25 C
VOC Content	Not available

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents. Anionic surfactants.

10.6. Hazardous decomposition products

Upon decomposition, this product may yield oxides of nitrogen and ammonia, carbon dioxide, carbon monoxide and other low molecular weight hydrocarbons.

11. Toxicological information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin.

Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Quaternary ammonium compound - (Proprietary)	344.00, Rat - Category: 4	>2000.00, Rabbit	0.054 – 0.51	No data available	No data available
Ethanol - (64-17-5)	7,060.00, Rat - Category: NA	20,000.00, Rabbit - Category: NA	124.70, Rat - Category: NA	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	5	May be harmful if swallowed. (Not adopted by US OSHA)
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	2	Fatal if inhaled
Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.

Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	2	May cause damage to organs.
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Quaternary ammonium compound - (Proprietary)	0.86, Fish	0.0058 – 0.016, Daphnia	0.063 (96 hr), Algae
Ethanol - (64-17-5)	42.00, Oncorhynchus mykiss	2.00, Daphnia magna	17.921 (96 hr), Ulva pertusa

12.2. Persistence and degradability

Readily biodegradable.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

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.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN2920	UN2920	UN2920
14.2. UN proper shipping name	UN2920, Corrosive liquid, flammable, N.O.S. (Quaternary ammonium chloride, Ethanol), 8,3, PG II	UN2920, Corrosive liquid, flammable, N.O.S. (Quaternary ammonium chloride, Ethanol), 8,3, PG II	UN2920, Corrosive liquid, flammable, N.O.S. (Quaternary ammonium chloride, Ethanol), 8,3, PG II
14.3. Transport hazard class(es)	DOT Hazard Class: 8,3	IMDG: 8 Sub Class: 3	Air Class: 8,3
14.4. Packing group	II	II	II
14.5. Environmental hazards			
IMDG	Marine Pollutant: Yes (Alkyl dimethyl benzyl ammonium chloride)		
14.6. Special precautions for user			
No further information			

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.
WHMIS Classification	D2B E
US EPA Tier II Hazards	<p style="text-align: right;">Fire: Yes</p> <p style="text-align: right;">Sudden Release of Pressure: No</p> <p style="text-align: right;">Reactive: No</p> <p style="text-align: right;">Immediate (Acute): Yes</p> <p style="text-align: right;">Delayed (Chronic): No</p>

EPCRA 311/312 Chemicals and RQs:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Ethanol

Pennsylvania RTK Substances (>1%):

Ethanol

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H330: Fatal if inhaled.

H371: May cause damage to organs

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

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