
Safety Data Sheet

Product Name	Benzalkonium chloride
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:**Product Description:** Benzalkonium chloride**Synonyms:** Alkyl-benzyl-dimethylammonium chloride**CAS-No:** 8001-54-5**EC-No.:** 264-151-6**Molecular Formula:** C₂₂H₄₀ClN (based on average value of C8-C18 mixed alkyl groups)**REACH Registration No:****1.2. Relevant identified uses of the substance or mixture and uses advised against:****Recommended Use:** Reagent for analysis, disinfectant, preservative**1.3. Details of the supplier of the safety data sheet:**

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad-382110, Gujarat, India.
Web: www.finarchemicals.com
- **E-Mail Address** safety.finar@aceto.com; info.finar@aceto.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717

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SECTION 2: HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture:****Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 4, Oral, H302

Acute toxicity, Category 4, Dermal, H312

Skin corrosion, Category 1B, H314

Acute aquatic toxicity, Category 1, H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:**Labeling according Regulation (EC) No 1272/2008****Pictogram****Signal word: Danger**

Hazard statement(s)

H302 + H312 Harmful if swallowed or in contact with skin.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

Precautionary statement(s)

Prevention

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

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Reduced labelling (≤125 ml)

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

2.3. Other Hazards: None Known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Benzalkonium chloride

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Benzalkonium chloride	8001-54-5	264-151-6	>= 50 %

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

- **General advice**

First aider needs to protect himself.

- **If inhaled**

Fresh air. Immediately call in physician.

- **If Contact with skin**

Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Call a physician immediately.

- **In case of eye contact**

Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

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- **If swallowed**

Make victim drink water (two glasses at most), avoid vomiting (risk of perforation).
Call a physician immediately. Do not attempt to neutralise.

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

Allergic reactions, Unconsciousness, Bloody vomiting, Nausea, shock, confusion
Irritation and corrosion, Cough, Shortness of breath
Risk of blindness!

4.3. Indication of any immediate medical attention and special treatment needed:

No Information available

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable Extinguishing Media- Foam, Carbon dioxide (CO2), Dry powder

Unsuitable Extinguishing Media- For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture:

Combustible.

Vapours are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of: Hydrogen chloride gas, nitrogen oxides

5.3. Advice for firefighters:

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus.

Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further Information:

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures:**

Advice for non-emergency personnel: Do not breathe vapours, aerosols, or dusts. Avoid substance contact.

Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling:**

Wash thoroughly after handling. Use with adequate ventilation.

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection.

Wash hands and face after working with substance.

7.2. Conditions for safe storage, including any incompatibilities:

Avoid contact with oxidizing materials, strong acid and reactive metals.

Containers should be tightly closed.

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Contains no substances with occupational exposure limit values.

8.2. Exposure Controls:

- **Appropriate Engineering Controls:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Personal Protective Equipment:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

- **Eye & Face Protection-**

Tightly fitting safety goggles

- **Hand Protection -**

Full contact: -

Glove material:	Nitrile rubber
Glove thickness:	0.40 mm
Break through time:	> 480 min

Splash contact: -

Glove material:	Nitrile rubber
Glove thickness:	0.40 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 730 Camatril® -Velours (full contact), KCL 730 Camatril® -Velours (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

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- **Body Protection-**

Protective clothing

- **Respiratory Protection-**

Required when vapours/aerosols are generated.

Recommended Filter type: Filter A-(P2)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

- **Environmental Exposure Controls-**

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance:** Clear liquid, colorless or slightly yellow
- **Physical State:** Liquid
- **Odour:** No data available
- **pH:** 4.5 -6.5 @10% aqueous solution
- **Melting Point:** No data available
- **Auto Ignition Temperature:** 370 °C
- **Decomposition Temperature:** No data available
- **Vapor Pressure:** No data available
- **Relative Vapor Density:** No data available
- **Density:** 0.98 g/cm³ at 20 °C
- **Volatility:** No data available
- **Bulk Density:** No data available
- **Odor Threshold:** No data available
- **Viscosity:** 130 mPa.s at 20 °C
- **Water/Oil Dist. Co eff.:** No data available
- **Ionicity (in Water):** No data available
- **Boiling Point/Range:** > 100 °C
- **Flash Point:** No data available
- **Water Solubility:** soluble at 20 °C (Miscible with water and alcohol)

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9.2. Other information:

Molecular Formula: C₂₂H₄₀ClN

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity:**

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2. Chemical stability:

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions:

Violent reactions possible with: Strong oxidizing agents.

10.4. Conditions to avoid:

Strong Heating (Decomposition)

10.5. Incompatible materials:

No information Available

10.6. Hazardous decomposition products:

In the event of fire: See section 5.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects:****Acute Oral Toxicity**

Acute toxicity estimate: 430.13 mg/kg

Calculation method

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute Inhalation Toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract

Acute Dermal Toxicity

Acute toxicity estimate : 1,100 mg/kg

Calculation method

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Skin corrosion/irritation

Mixture causes burns.

Serious eye damage/eye irritation

Mixture causes serious eye damage. Risk of blindness!

Sensitisation

Sensitisation possible in predisposed persons.

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further Information:

After uptake:

Nausea, Bloody vomiting, confusion, shock, Unconsciousness

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

benzododecinium chloride

Acute oral toxicity

LD50 Rat: 400 mg/kg

(RTECS)

Acute dermal toxicity

Acute toxicity estimate : 1,100.1 mg/kg

Expert judgement

miristalkonium chloride

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Acute oral toxicity

Acute toxicity estimate: 500.1 mg/kg

Expert judgement

Acute dermal toxicity

Acute toxicity estimate : 1,100.1 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

No data available

12.2 Persistence and degradability:

No data available

12.3 Bioaccumulate potential:

No data available

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment:

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

12.6 Other adverse effects:

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Waste material must be disposed of in accordance with the national and local regulations.

Leave chemicals in original containers. No mixing with other waste.

Handle uncleaned containers like the product itself.

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SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	UN 1760		
14.2 Proper shipping name	CORROSIVE LIQUID, (BENZALKONIUMCHLORIDE)		
14.3 Class	8		
14.4 Packing group	II		
14.5 Environmentally hazardous	Yes		
14.6 Special precautions for user	Tunnel restriction code E	no	EmS F-A S-B
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Revalent		

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

National Legislation

Storage class 8A

15.2 Chemical safety assessment:

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms

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Signal word: **Warning**

Hazard statements

H302 + H332 Harmful if swallowed or in contact with skin.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

Precautionary statements

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

References: Not available

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