

## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name Benzalkonium Chloride 50% Solution

CAS number 8001-54-5

Synonyms Alkyl-benzyl-dimethylammonium chloride

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

Identified uses Laboratory chemicals

#### 1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC  
12501 Pauls Valley Road  
Austin, Texas 78737  
U.S.A.

Telephone 512-668-9918

Fax 512-886-4008

#### 1.4 Emergency telephone

<b>Emergency Phone #</b>	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC


### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute oral toxicity	Category 4
Skin Corrosion/irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system	

#### 2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.
Precautionary statements	
Prevention	Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area.
Response	Immediately call a POISON CENTER or doctor/physician.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Rinse mouth. Do NOT induce vomiting.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal	Dispose of contents/container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Very toxic to aquatic life with long lasting effects.

## SECTION 3: Composition/information on ingredients

### 3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Water	H <sub>2</sub> O	7732-18-5	50%
Benzalkonium chloride	Alkyl-benzyl-dimethylammonium chloride	8001-54-5	50%

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

<b>If inhaled</b>	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. Remove from exposure, lie down. Call a physician immediately. If not breathing, give artificial respiration.
<b>In case of skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Call a physician immediately.
<b>In case of eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.
<b>If swallowed</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water. Call a physician immediately.

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

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing media** CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

**Unsuitable extinguishing media** No information available.

#### 5.2 Specific hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Do not allow run-off from fire fighting to enter drains or water courses. Hazardous combustion products: Thermal decomposition can lead to release of irritating gases and vapors.

#### 5.3 Special 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. Thermal decomposition can lead to release of irritating gases and vapors.

#### 5.4 Further information

**Flash Point** No information available

**Autoignition Temperature** No information available

## Explosion limits

Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

## NFPA

Health	Flammability	Instability	Physical hazards
3	1	0	N/A

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Precautions on safe handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not ingest.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

#### Incompatibilities

No information available.

## SECTION 8: Exposure controls/personal protection

## 8.1 Occupational exposure limits

No information available

### Biological occupational exposure limits

No information available

## 8.2 Exposure controls

### Appropriate engineering controls

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protective equipment

#### Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tightly fitting safety goggles. Face-shield.

#### Skin and body protection

Long sleeved clothing.

#### Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Control of environmental exposure

No information available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Light yellow
Odor	No information available
Odor Threshold	No information available
pH	6.0 - 9.0 10% aq.sol
Melting Point/Range	No data available.
Boiling Point/Range	>100 °C / >212 °F @ 760 mmHg
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available

Lower	No data available
Vapor Pressure	120 hPa (50 °C)
Vapor Density	No information available.
Density	0.980
Solubility	Miscible
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	370 °C / 698 °F
Decomposition Temp	>140 °C
Viscosity	130 mPa.s at 20 °C
Molecular Formula	C21H38ClN
Molecular Weight	339.98
VOC Content(%)	No information available.
Oxidizing properties	No information available.

## 9.2 Other safety information

No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None known, based on information available.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

None under normal processing.

### 10.4 Conditions to avoid

Incompatible products. Excess heat.

### 10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong bases, metals.

### 10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Product Information, Component Information

#### Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Benzalkonium chloride	>300-2000 mg/kg (rat)	1420 mg/kg (rat)	-

#### Skin corrosion/irritation

Causes burns by all exposure routes.

**Serious eye damage/eye irritation**

Causes burns by all exposure routes.

**Respiratory or skin sensitization**

Causes burns by all exposure routes.

**Germ cell mutagenicity**

Not mutagenic in AMES Test.

**Carcinogenicity**

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Benzalkonium chloride	8001-54-5	Not listed	Not listed	Not listed	Not listed	Not listed

**Specific target organ toxicity - single exposure**

Respiratory system

**Specific target organ toxicity - repeated exposure**

None known

**Reproductive toxicity**

No information available

**Chronic effects**

No information available

**11.2 Additional Information**

No information available

## SECTION 12: Ecological information

**12.1 Toxicity**

Product		Species	Test Results
Benzalkonium chloride	LC50	Poecillia reticulata	1.3 mg/L 96 h
	LC50	Oryzias latipes	2.4 mg/L 96 h
	LC50	Lepomis macrochirus	0.223 - 0.46 mg/L 96 h
	LC50	Oncorhynchus mykiss	0.823 - 1.61 mg/L 96 h
	EC50	Photobacterium phosphoreum	0.6 mg/L 15 min

**12.2 Persistence and degradability**

Miscible with water, persistence is unlikely based on information available.

**12.3 Bio accumulative potential**

No information available

**12.4 Mobility in soil**

Will likely be mobile in the environment due to its water solubility.

### 12.5 Results of PBT and vPvB assessment

No information available.

### 12.6 Endocrine disrupting properties

No information available

### 12.7 Other adverse effects

The toxicological properties have not been fully investigated.

## SECTION 13: Disposal considerations

### 13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## SECTION 14: Transport information

#### DOT (US)

UN-No	UN1760
Proper Shipping Name	CORROSIVE LIQUID, N.O.S.
Hazard Class	8
Packing Group	II

#### IMDG

UN-No	UN1760
Proper Shipping Name	CORROSIVE LIQUID, N.O.S.
Hazard Class	8
Packing Group	II

#### IATA

UN-No	UN1760
Proper Shipping Name	CORROSIVE LIQUID, N.O.S.
Hazard Class	8
Packing Group	II

## SECTION 15: Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**



Not listed.

**SARA 304 Emergency release notification**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous**

See section 2 for more information

**SARA 313 (TRI reporting)**

Not regulated

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act**

Not regulated

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Not listed

**US state regulations**

**US. Massachusetts RTK - Substance List**

Not listed

**US. New Jersey Worker and Community Right-to-Know Act**

Not listed

**US. Pennsylvania Worker and Community Right-to-Know Law**

Listed

**California Proposition 65**

Not listed

**SECTION 16: Other information**

Issue date: 07/14/2014

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## **SECTION 17: Disclaimer**

The information provided on this Safety Data Sheet 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.