

# SAFETY DATA SHEET



Product name: Benzalkonium Chloride (55/22.5/22.5) Ph.Eur., USP/NF  
Revision Date: 2009-08-26

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Print date: 2009-08-26  
SDS-ID: GB/4.0

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name: Benzalkonium Chloride (55/22.5/22.5)  
Ph.Eur., USP/NF

Application: Preservative and active ingredient in the cosmetic and pharmaceutical industries. Container size: 1 kg  
5 kg

Supplier: FeF Chemicals A/S  
Københavnsvej 216  
DK-4600 Køge  
Tel.: +45 56 67 10 00

Responsible for safety data sheet authoring:  
SDS\_info@dhigroup.com

## 2. HAZARDS IDENTIFICATION

The product is classified: Xn; R21/22 C; R34 N; R50

Human health: Harmful in contact with skin and if swallowed. Corrosive to skin and eyes. Repeated or prolonged contact with skin may cause allergic reactions in sensitive individuals.

Environment: Very toxic to aquatic organisms.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

The product contains: quaternary ammonium compounds

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
50	139-07-1	205-351-5	Benzyl(dodecyl)dimethyl-ammonium chloride	C;R34 Xn;R21/22 N;R50	
22.5	139-08-2	205-352-0	Benzyl(tetradecyl)dimethyl-ammonium chloride	C;R34 Xn;R21/22 N;R50	
22.5	122-18-9	204-526-3	Benzyl(hexadecyl)dimethyl-ammonium chloride	C;R34 Xn;R21/22 N;R50	

## 4. FIRST-AID MEASURES

Inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.

Eye contact: Immediately flush with plenty of water. Remove any contact lenses and open eyes wide apart. Call an ambulance and continue flushing during transportation to hospital. Bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Call an ambulance. Bring along these instructions. Do not induce vomiting.

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## 5. FIRE-FIGHTING MEASURES

Extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Specific hazards: During fire, gases hazardous to health may be formed.  
Water used for fire extinguishing, which has been in contact with the product, may be corrosive.

Protective equipment for fire-fighters: Use air-supplied respirator during fire fighting. Severe corrosive hazard. Wear chemical protection suit.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Look out! The product is corrosive.  
Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet. For personal protection, see section 8.

Environmental precautions: Do not discharge into drains, water courses or onto the ground.

Methods for cleaning up: Collect spillage with shovel, broom or the like. Flush contaminated area with plenty of water. For waste disposal, see section 13.

## 7. HANDLING AND STORAGE

Safe handling advice: Observe good chemical hygiene practices. Avoid contact with skin and eyes. Change contaminated clothing.

Technical measures: Work practice should minimise contact.

Technical precautions: Provide easy access to water supply and eye wash facilities.

Technical measures for safe storage: No special precautions.

Storage conditions: Store in closed original container. Do not store near heat sources or expose to excessive temperatures.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures: Provide adequate ventilation. An eye wash bottle must be available at the work site.

Personal protection: Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment

Respiratory equipment: Not relevant.

Hand protection: Risk of contact: Wear protective gloves. Nitrile gloves are recommended. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection: Wear goggles/face shield.

Skin protection: Wear apron or protective clothing in case of splashes.

Hygiene measures: Wash hands after contact.

Environmental Exposure Controls: Not available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear or white to yellowish-white solid or thick gel. May contain yellowish-white fragments. Liquid, paste or solid, depending on the storage conditions.

Odour: not available

pH: 5-6 (10-20 g/l)

Melting point: 40°C

Boiling point: not available

Decomposition temperature: 150-300°C

Flash point: not relevant

Explosion limits: not relevant

Relative density: approx. 0,98

Solubility: Miscible with: Water and lower alcohols.

## 10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature conditions.

Conditions/ materials to avoid: Heating. Strong oxidising substances.

Hazardous decomposition products: If heated to more than 150°C, the following substance(s) will be released: Benzyl chloride and Methyl chloride.

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## 11. TOXICOLOGICAL INFORMATION

Inhalation: Not relevant at normal room temperatures. When heated, harmful vapours may be formed.

Skin contact: Harmful in contact with skin. Causes burns. Repeated or prolonged contact with skin may cause allergic reactions in sensitive individuals.

Eye contact: Causes burns. Risk of serious damage to eyes. Immediate first aid is necessary.

Ingestion: Harmful if swallowed. Causes burns. Burning pain. Increased flow of saliva (froth at the mouth) and vomiting, sometimes with bloody vomit. Restlessness, confusion and weakness, laboured breathing, bluish colouring of skin and mucous membranes, shock and unconsciousness.

Specific effects: May cause sensitisation.

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## 12. ECOLOGICAL INFORMATION

Mobility: The product is water soluble and may spread in water systems.

Degradability: The product is easily biodegradable.  
Degradability: approx. 70% (FeF Chemicals A/S, 1993)

Ecotoxicity: Very toxic to aquatic organisms.  
  
Benzalkonium chloride ( $0,01 < LC50 \leq 0,1$  mg/l):  
LC50 (Danio rerio, 96 hours): 0,31 mg/l  
EC50 (Daphnia magna, 48 hours): 0,02 mg/l  
IC50 (Pseudokirchneriella subcapitata, 72 hours): 0,07 mg/l

Bioaccumulative potential: Bioaccumulation: Is not expected to be bioaccumulable.

Other adverse effects: None known.

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## 13. DISPOSAL CONSIDERATIONS

Dispose of waste and residues in accordance with local authority requirements. Waste is classified as hazardous waste.

Waste from residues: EWC-code:  
07 05 07  
07 06 07

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## 14. TRANSPORT INFORMATION

**UN-number:** 3261

**Proper shipping name:** CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Benzalkonium chloride)

Other information:

The product is classified: Environmentally Hazardous substance

Sea (IMDG):

**Class:** 8

**PG:** III

**MP:** Yes

**EmS:** F-A , S-B

**MFAG:** 1

Inland waterways: To be handled locally.

Air (ICAO/IATA):

**Class:** 8

**PG:** III

Land (RID/ADR):

**Class:** 8

**Packing group:** III

**Primary risk label:** 8

**Subsidiary risk label:** -

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## 15. REGULATORY INFORMATION

### Labelling:

Contains: Benzyl(dodecyl)dimethyl-ammonium chloride  
Benzyl(tetradecyl)dimethyl-ammonium chloride  
Benzyl(hexadecyl)dimethyl-ammonium chloride



Corrosive



Dangerous for the environment

- R21/22 Harmful in contact with skin and if swallowed.  
R34 Causes burns.  
R50 Very toxic to aquatic organisms.
- S24/25 Avoid contact with skin and eyes.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).  
S60 This material and its container must be disposed of as hazardous waste.  
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.

### National regulation:

Statutory Instruments 2008 No. 2852 - The REACH Enforcement Regulations 2008.  
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).  
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.  
The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242).  
The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).

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## 16. OTHER INFORMATION

For restrictions on use see section 15.

The following sections contain revisions or new statements: 3, 12, 14, 15, 16.

Classification according to Regulation (EC) No. 1272/2008:

Acute Tox. 4;H302 - Acute Tox. 4;H312 - Skin Corr. 1B;H314 - Aquatic Acute 1;H400

Wording of Risk Phrases:

R21/22 Harmful in contact with skin and if swallowed.

R34 Causes burns.

R50 Very toxic to aquatic organisms.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Centre for Environment and Toxicology, Artillerivej 5, DK-2970 Hørsholm, Denmark. [www.dhigroup.com](http://www.dhigroup.com).