

# Safety data sheet

according to Regulation (EC) No. 1907/2006

Printing date 22.04.2013

Version number 2

Revision: 22.04.2013

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

### 1.1 Product identifier

**Trade name:** BENZALKONIUM CHLORIDE 50 %, aqueous solution**Article number:** 5091

### Registration number

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

No further relevant information available.

**Application of the substance / the preparation** Laboratory chemical

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

**Manufacturer/Supplier:**

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5

76185 Karlsruhe

Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**Further information obtainable from:** Department Health, Safety and Environment

### 1.4 Emergency telephone number:

Poison Centre Munich

Telefon +49/(0)89 19240

## 2 Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

C; Corrosive

R34: Causes burns.

Xn; Harmful

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

N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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**Hazard pictograms****Signal word** Danger**Hazard-determining components of labelling:**

quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides

**Hazard statements**

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 statements**

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

P273 Avoid release to the environment.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 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 or doctor/physician.

**2.3 Other hazards**

All chemicals are potentially dangerous. They should only be handled by specially trained personnel.

**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

### 3 Composition/information on ingredients

**3.2 Chemical characterization: Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 63449-41-2 EINECS: 264-151-6 Index Number: 612-140-00-5	quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides C R34; Xn R21/22; N R50 Skin Corr. 1B, H314; Aquatic Acute 1, H400; Acute Tox. 4, H302; Acute Tox. 4, H312	50%

**Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

**4.1 Description of first aid measures****General information:**

Immediately remove any clothing soiled by the product.

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**After inhalation:**

Supply fresh air.

If breathing is difficult, give oxygen. Seek medical treatment.

**After skin contact:**

Immediately rinse with water.

If available swab with polyethylene glycol 400.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

**After eye contact:**

Rinse immediately for 15 minutes with plenty of water with the eyelid held wide open. Seek medical advice.

**After swallowing:**

Risk of perforation!

Rinse out mouth and then drink water.

Do not induce vomiting; call for medical help immediately.

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

Irritations

Burns

Coughing

Breathing difficulty

Cramp

agitation

Unconsciousness

**Hazards**

blindness

Risk of perforation

Danger of disturbed cardiac rhythm.

Danger of pulmonary oedema.

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

No further relevant information available.

**5 Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:** CO<sub>2</sub>, powder, foam or water spray.**For safety reasons unsuitable extinguishing agents:**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Forms explosive mixtures with air on intense heating.

In the event of fire development of hazardous combustion gases or vapours possible.

In case of fire, the following can be released:Nitrogen oxides (NO<sub>x</sub>)

Hydrogen chloride (HCl)

Carbon monoxide and carbon dioxide

**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

**Additional information** Prevent fire-fighting water from entering surface water or groundwater.

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## 6 Accidental release measures

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

Wear protective clothing.

Do not inhale vapours. Avoid contact with the eyes and skin.

### 6.2 Environmental precautions

Do not allow product to reach sewage system or any water course.

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

Absorb with liquid-binding material (e.g. Rotisorb® Art.-Nr. 1710.1).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

### 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Keep containers, equipment and working place clean.

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

#### Storage:

#### **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

#### **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from oxidizing agents.

#### **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from exposure to the light.

**Recommended storage temperature:** +15 °C - +25 °C

## 8 Exposure controls/personal protection

#### **Additional information about design of technical facilities:**

No further data; see item 7.

### 8.1 Control parameters

#### **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### **Additional information:**

The lists valid during the making were used as basis.

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**8.2 Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Avoid contact with the eyes and skin.

Wash hands before breaks and at the end of work.

**Individual protection measures**

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.

**Respiratory protection:**

Required when vapours/aerosols are generated. Filter A (colour code: brown).

**Protection of hands:**

Protective gloves

Check protective gloves prior to each use for their proper condition.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

**Material of gloves**

Nitrile, thickness: 0,4 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**Value for the permeation: Level  $\geq 6$ 

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:**

Tightly sealed goggles

**Body protection:**

Protective work clothing

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## 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

#### Appearance:

Form:	Fluid
Colour:	Colourless to yellowish
Odour:	Aromatic
Odour threshold:	No information available.

pH-value (10 g/l) at 20 °C: 5-7

#### Change in condition

Melting point/Melting range:	No information available.
Boiling point/Boiling range:	100 °C

Flash point: &gt; 150 °C

Flammability (solid, gaseous): No information available

Ignition temperature: No information available

Decomposition temperature: No information available

Self-igniting: No information available

Danger of explosion: Forms explosive mixtures with air on intense heating.

#### Explosion limits:

Lower:	No information available.
Upper:	No information available.

Oxidizing properties: No information available.

Vapour pressure: No information available

Density at 20 °C: 0.98 g/cm<sup>3</sup>

Vapour density: No information available

Evaporation rate: No information available

Solubility in / Miscibility with water:

Fully miscible.

Partition coefficient (n-octanol/water): No information available

#### Viscosity:

Dynamic:	No information available.
Kinematic:	No information available.

9.2 Other information: No further relevant information available.

## 10 Stability and reactivity

10.1 Reactivity: No further relevant information available.

### 10.2 Chemical stability

#### Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

### 10.3 Possibility of hazardous reactions

Strong reaction possible with:

Strong oxidizing agents

### 10.4 Conditions to avoid

Strong Heating.

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**10.5 Incompatible materials:**

various metals

**10.6 Hazardous decomposition products:**

In case of fire: see item 5.

**11 Toxicological information****11.1 Information on toxicological effects****Acute toxicity:****LD/LC50 values relevant for classification:****63449-41-2 quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides**

Oral	LD50	398 mg/kg (rat)
Dermal	LD50	1420 mg/kg (rat) (TOXNET)

**Specific symptoms in biological assay:****Primary irritant effect:****on the skin:**

Danger through skin adsorption.

Caustic effect on skin and mucous membranes.

**on the eye:**

Burns, risk of blindness.

**after inhalation:**

After inhalation of vapors:

Burns of the mucous membranes, coughing and dyspnoea.

Pulmonary oedema latency period until onset of action.

**Sensitization:**

Sensitization possible in prediposed persons.

**CMR effects:****Germ cell mutagenicity:**

No information available.

**Carcinogenicity:**

No information available.

**Reproductive toxicity:**

No information available.

**Aspiration hazard:**

No aspiration toxicity classification.

**Specific target organ toxicity - single exposure**

The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Specific target organ toxicity - repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**11.2 Further information:**

Further hazardous properties cannot be excluded.

The product should be handled with the care usual when dealing with chemicals.

**Additional toxicological information:**

After swallowing: burns in the mouth, throat, oesophagus and gastrointestinal tract, risk of perforation in the oesophagus and gastrointestinal tract.

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After absorption:

Nausea  
 Vomiting  
 Irritation  
 Spasms  
 Muscle complaints  
 cardiovascular failure  
 Coma

## 12 Ecological information

**12.1 Toxicity****Aquatic toxicity:****Fish toxicity:****63449-41-2 quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides**

LC50 0.31 mg/l/96 h (Lepomis macrochirus)

**Daphnia toxicity:****63449-41-2 quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides**

EC50 0.185 mg/l/48 h (algae)

**12.2 Persistence and degradability**

Not easily biodegradable

**12.3 Bioaccumulative potential**

No further relevant information available.

**12.4 Mobility in soil**

No further relevant information available.

**Ecotoxicological effects:****Remark:**

Very toxic to aquatic organisms.  
 Do not allow to enter waters, waste water, or soil!

**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects**

No further relevant information available.

## 13 Disposal considerations

**13.1 Waste treatment methods****Recommendation**

This material and its container must be disposed of as hazardous waste.  
 The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

**Uncleaned packaging:****Recommendation:**

Disposal according to official regulations.

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## 14 Transport information

**14.1 UN-Number**

ADR, IMDG, IATA

UN1760

**14.2 UN proper shipping name**

ADR

1760 CORROSIVE LIQUID, N.O.S. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides), ENVIRONMENTALLY HAZARDOUS CORROSIVE LIQUID, N.O.S. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides), MARINE POLLUTANT

IMDG

IATA

CORROSIVE LIQUID, N.O.S. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides)

**14.3 Transport hazard class(es)**

ADR, IMDG

Class  
Label8 Corrosive substances.  
8

IATA

Class  
Label8 Corrosive substances.  
8**14.4 Packing group**

ADR, IMDG, IATA

II

**14.5 Environmental hazards:**

Marine pollutant:

Yes  
Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

**14.6 Special precautions for user**

Danger code (Kemler):

Warning: Corrosive substances.

EMS Number:

80

Segregation groups

F-A,S-B

Acids

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**Transport/Additional information:**

ADR

Limited quantities (LQ)

1L

Transport category

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<b>Tunnel restriction code</b>	E
<b>UN "Model Regulation":</b>	UN1760, CORROSIVE LIQUID, N.O.S. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides), ENVIRONMENTALLY HAZARDOUS, 8, II

### 15 Regulatory information

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

##### National regulations:

##### Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

##### Waterhazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### Relevant phrases

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

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

R34 Causes burns.

R50 Very toxic to aquatic organisms.

**Department issuing MSDS:** Department: Health, Safety and Environment

**Contact:** Frau Weckemann

#### Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

LD50\*: Lethal Dose, 50 percent (Not relevant for classification)

LD50\*: Lethal Concentration, 50 percent (Not relevant for classification)

**\* Data compared to the previous version altered.**