



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

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

- **Product identifier**
- **Trade name:** Benzalkonium chloride
- **Article number:** 5083
- **Registration number** The substance is exempt from REACH-registration.
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the mixture** Ingredient for pharmaceutical drugs
- **Uses advised against** No relevant information available.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
CAELO
Caesar & Loretz GmbH
Herderstr. 31
D-40721 Hilden
GERMANY
- **Further information obtainable from:**
E-mail: info@caelo.de
Tel.: +49210349940 (during regular opening hours)
- **Emergency telephone number:**
Poison Information Center Bonn
Venusberg-Campus 1, 53127 Bonn
Tel: +49 (0) 228-192400

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Aquatic Acute 1 H400 Very toxic to aquatic life.
- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05



GHS07



GHS09

- **Signal word** Danger

(Contd. on page 2)



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 1)

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

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

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

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

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

Other hazards**Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Determination of endocrine-disrupting properties** Not applicable.

3 Composition/information on ingredients

Mixtures· **Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 139-07-1 benzododecinium chloride

>50-<70%

EINECS: 205-351-5 Acute Tox. 3, H301; Aquatic Acute 1, H400

CAS: 139-08-2 miristalkonium chloride

>30-<50%

EINECS: 205-352-0 Acute Tox. 3, H301; Aquatic Acute 1, H400

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

4 First aid measures

Description of first aid measures· **General information:** Immediately remove any clothing soiled by the product.**After inhalation:**

Bring the person out of the contaminated area to fresh air.

Call a doctor immediately.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Take off contaminated clothes and shoes, wash immediately with plenty of water and soap.

Call a doctor immediately.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

(Contd. on page 3)



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 2)

- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
 - **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
 - **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.
-

5 Firefighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
All regular extinguishing media can be used.
Use fire extinguishing methods suitable to surrounding conditions.
 - **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
 - **Advice for firefighters**
 - **Protective equipment:** In case of fire wear suitable protective clothes and respiratory protection.
 - **Additional information**
Prevent from entering into drains. Fire residues must be disposed in accordance with official regulations.
-

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
 - **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
 - **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
 - **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

- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
 - **Information about fire - and explosion protection:** Keep respiratory protective device available.
 - **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:**
Tightly closed. Store at a dry place. At room temperature (+15°C to +25°C).
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** No further information
-

(Contd. on page 4)



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 3)

- **Storage class:** TRHS 510: 8A Combustible corrosive substances
 - **Specific end use(s)** No further relevant information available.
-

8 Exposure controls/personal protection

- **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.
 - **Exposure controls**
 - **Appropriate engineering controls** No further data; see section 7.
 - **Individual protection measures, such as personal protective equipment**
 - **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
 - **Respiratory protection:** Dust protection mask.
 - **Hand protection** Protective gloves
 - **Material of gloves**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
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.
 - **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
 - **Eye/face protection** Tightly sealed goggles
-

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Physical state** Liquid
- **Colour:** Colourless
- **Odour:** Odourless
- **Odour threshold:** Not determined.
- **Melting point/freezing point:** Undetermined.
- **Boiling point or initial boiling point and boiling range** Undetermined.
- **Flammability** Not applicable.
- **Lower and upper explosion limit**
- **Lower:** Not determined.
- **Upper:** Not determined.
- **Flash point:** Not applicable.
- **Decomposition temperature:** Not determined.

(Contd. on page 5)



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 4)

· pH	Not determined.
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Other information	
· Appearance:	
· Form:	Viscous
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· VOC (EC)	0.00 %
· Change in condition	
· Evaporation rate	Not determined.
· Information with regard to physical hazard classes	
· Explosives	Void Void
· Flammable gases	Void Void
· Aerosols	Void Void
· Oxidising gases	Void Void
· Gases under pressure	Void Void
· Flammable liquids	Void Void
· Flammable solids	Void Void
· Self-reactive substances and mixtures	Void Void
· Pyrophoric liquids	Void Void
· Pyrophoric solids	Void Void

(Contd. on page 6)



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 5)

- | | |
|--|------|
| · Self-heating substances and mixtures | Void |
| | Void |
| · Substances and mixtures, which emit flammable gases in contact with water | Void |
| | Void |
| · Oxidising liquids | Void |
| | Void |
| · Oxidising solids | Void |
| | Void |
| · Organic peroxides | Void |
| | Void |
| · Corrosive to metals | Void |
| | Void |
| · Desensitised explosives | Void |
| | Void |
-

10 Stability and reactivity

- **Reactivity** No further relevant information available.
 - **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
 - **Possibility of hazardous reactions**
In contact with nitrites, nitrates, nitrous acid release of nitrosamines possible.
Reacts with strong oxidising agents.
 - **Conditions to avoid** No further relevant information available.
 - **Incompatible materials:** No further relevant information available.
 - **Hazardous decomposition products:**
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)
-

11 Toxicological information

- **Information on hazard classes as defined in Regulation (EC) No 1272/2008**
 - **Acute toxicity** Harmful if swallowed or in contact with skin.
 - **LD/LC50 values relevant for classification:**
Oral LD50 400 mg/kg (rat)
LD50 (i.v.) 18 mg/kg (mouse)
 - **Primary irritant effect:**
 - **Skin corrosion/irritation** Causes severe skin burns and eye damage.
 - **Serious eye damage/irritation** Causes serious eye damage.
 - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
 - **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
 - **Carcinogenicity** Based on available data, the classification criteria are not met.
 - **Reproductive toxicity** Based on available data, the classification criteria are not met.
 - **STOT-single exposure** Based on available data, the classification criteria are not met.
 - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
 - **Aspiration hazard** Based on available data, the classification criteria are not met.
-

(Contd. on page 7)



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 6)

· Information on other hazards**· Endocrine disrupting properties**

On the basis of the available data, the substance does not meet the criteria for the identification of substances having properties of interference with the endocrine system, in accordance with Article 59, paragraph 1 of the REACH Regulation and the criteria established in the Delegated Regulation (EU) 2017 / 2100 of the Commission or in Commission Regulation (EU) 2018/605.

12 Ecological information

· Toxicity

· Aquatic toxicity: No further relevant information available.

· Persistence and degradability No further relevant information available.

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· Endocrine disrupting properties

Based on the available data, the substance does not meet the criteria for the identification of substances with properties affecting the endocrine system according to Article 59(1) of the REACH Regulation and the criteria of the Commission Delegated Regulation (EU) 2017/2100 or in the Commission Regulation (EU) 2018/605.

The product does not contain substances with endocrine disrupting properties.

· Other adverse effects

· Remark: Very toxic for fish

· Additional ecological information:**· General notes:**

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

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

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

Very toxic for aquatic organisms

13 Disposal considerations

· Waste treatment methods**· Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:

· Recommendation: Disposal must be made according to local regulations.

14 Transport information

· UN number or ID number**· ADR, IMDG, IATA**

UN1759

(Contd. on page 8)

IE



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 7)

· UN proper shipping name	
· ADR	1759 CORROSIVE SOLID, N.O.S. (benzododecinium chloride), ENVIRONMENTALLY HAZARDOUS
· IMDG	CORROSIVE SOLID, N.O.S. (benzododecinium chloride, miristalkonium chloride), MARINE POLLUTANT
· IATA	Corrosive solid, n.o.s. (benzododecinium chloride)
· Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class	8 Corrosive substances.
· Label	8
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: benzododecinium chloride
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Corrosive substances.
· Hazard identification number (Kemler code):	60
· EMS Number:	F-A,S-A
· Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1KG
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1KG
· UN "Model Regulation":	UN 1759 CORROSIVE SOLID, N.O.S. (BENZODODECINIUM CHLORIDE), 8, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)** Not listed
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
None of the ingredients is listed.
- **National regulations:**
- **Storage of hazardous substances in in nonstationary vessels (TRGS 510) (Germany)**
TRHS 510: 8A Combustible corrosive substances
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

(Contd. on page 9)



Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 10.09.2025

Version number 1.00

Revision: 10.09.2025

Trade name: Benzalkonium chloride

(Contd. of page 8)

16 Other information

The information provided is based on our current level of knowledge. This MSDS has been compiled and is exclusively for this product intended.

· **Reasons for alterations** This version replaces all old versions.

· **Relevant phrases**

H301 Toxic if swallowed.

H400 Very toxic to aquatic life.

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

MAL-Code: Måleteknisk Arbejdshygienisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
