Novo Nordisk Pharmatech A/S

# Safety Data Sheet

According to GB/T 16483-2008 and GB/T 17519-2013

FeF Benzalkonium Chloride

**Version 1.0**
**Issue date: 22/09/2026**
**Revision date: 22/09/2026** **SDS Record Number: CSSS-TCO-010-170845**

## Section 1 Chemical Product and Company Identification

| | |
|---|---|
| **Chemical name:** | FeF Benzalkonium Chloride |
| **Other names:** | FeF Benzalkonium Chloride Ph.Eur., USP/NF |
| | FeF Benzalkonium Chloride Ph.Eur., USP/NF, JP |
| **Additional identification:** | Not available |
| **Product code:** | Not available |
| **Identification of the product:** | See section 3 |

**Relevant identified uses of the substance and uses advised against**

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|---|---|
| **Identified uses:** | Preservatives and active ingredients in the cosmetics and pharmaceutical industries. |
| **Uses advised against:** | Not available |

**Details of the supplier of the safety data sheet**

| | |
|---|---|
| **Name:** | Novo Nordisk Pharmatech A/S |
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## Section 2 Hazards Identification

**Emergency Overview: Transparent or white to yellowish-white solid or thick gel. Almond flavor. Formation of toxic gases is possible during heating or in case of fire. In case of fire, the following can be released: Hydrogen chloride (HCl). Nitrogen oxides (NOx). Hydrogen cyanide (HCN). Harmful if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life with long lasting effects.**

**GHS Classification:**

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|---|---|---|
| **Physical hazards** | Not classified | |
| **Health hazards** | Acute toxicity, oral | Category 4 |
| | Skin corrosion/irritation | Category 1B |
| | Serious eye damage/eye irritation | Category 1 |
| **Environmental hazards** | Hazardous to the aquatic environment, acute hazard | Category 1 |
| | Hazardous to the aquatic environment, long-term hazard | Category 1 |

**Label elements**

**Pictogram:**

**Signal Word(s):** Danger

**Hazard Statement:**
Harmful if swallowed.
Causes severe skin burns and eye damage.
Very toxic to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention:**
Do not breathe dust/fume/gas/mist/ vapours/spray.
Wash hands thoroughly after handling.

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| | Do not eat, drink or smoke when using this product.<br>Avoid release to the environment.<br>Wear protective gloves/protective clothing/eye protection/face protection. |
| **Response:** | IF SWALLOWED: Immediately call a POISON CENTER/doctor.<br>IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.<br>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.<br>IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>Immediately call a POISON CENTER/doctor.<br>Rinse mouth.<br>Wash contaminated clothing before reuse.<br>Collect spillage. |
| **Storage:** | Store locked up. |
| **Disposal:** | Dispose of contents/container in accordance with local regulation. |
| **Physical and chemical hazards:** | Formation of toxic gases is possible during heating or in case of fire. In case of fire, the following can be released: Hydrogen chloride (HCl). Nitrogen oxides (NOx). Hydrogen cyanide (HCN). |
| **Health Hazards:** | Harmful if swallowed. Causes severe skin burns and eye damage. |
| **Environmental hazards:** | Very toxic to aquatic life with long lasting effects. |
| **Other hazards:** | This product has not been found to have other hazards which are outside the scope of GB 30000.2-GB 30000.29-2013. |

## Section 3 Composition Information on Ingredients

**Substance/Mixture/Article:** Substance

**Ingredient(s):**

| Chemical Name | CAS No. | Concentration (%) |
|---|---|---|
| Quaternary ammonium compounds, benzyl C12-C16 (even numbered)-alkyldimethyl chlorides | 68424-85-1 | 100% |

Undisclosed ingredients include: 1) non-hazard ingredients, and 2) ingredients which are below the cut-off value required by Table 1 of Chapter 6 of GB 30000.1-2024.

## Section 4 First Aid Measures

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| **In case of inhalation:** | Supply fresh air and to be sure call for a doctor. |
| **In case of skin contact:** | Immediately rinse with water. If skin irritation continues, consult a doctor. |
| **In case of eyes contact:** | Rinse opened eye for several minutes under running water. Call a doctor immediately. |
| **In case of ingestion:** | Call for a doctor immediately. |
| **Most important symptoms and effects, both acute and delayed:** | Harmful if swallowed. Causes severe skin burns and eye damage. |
| **To protect playing rescuer advice and the special hints to the doctor:** | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

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| **Indication of any immediate medical attention and special treatment needed:** | Provide general supportive measures and treat symptomatically. In the event of shortness of breath, give oxygen. Keep the victim warm. Observe the patient. Symptoms may delay. |

## Section 5 Fire-fighting Measures

**Extinguishing agent**

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| **Suitable extinguishing media:** | Use fire extinguishing methods suitable to surrounding conditions. |
| **Unsuitable extinguishing media:** | Avoid using DC water to extinguish fire, so as to avoid material splashes and fire spread. |
| **Special hazards:** | Formation of toxic gases is possible during heating or in case of fire. In case of fire, the following can be released: Hydrogen chloride (HCl). Nitrogen oxides (NOx). Hydrogen cyanide (HCN). |
| **Special fire fighting methods and special protective actions for fire-fighters:** | Firefighters should wear self-contained breathing apparatus, and wear full body fire service and extinguish fire in the windward direction. Remove the container from the fire to empty place as far as possible. Cool the container exposed to the fire with water and vent the vapors. Isolate the accident area, prohibit access to unrelated persons. Contain and handle fire water to prevent environmental pollution. |

## Section 6 Accidental Release Measures

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| **Personal precautions, protective equipment and emergency procedures:** | Wear protective equipment. Keep unprotected persons away. Use respiratory protective device against the effects of fumes/dust/ aerosol. Avoid contact with the eyes and skin. |
| **Environmental precautions:** | Do not allow product to reach sewage system or any water course. Inform respective authorities in case of seepage into water course or sewage system. Prevent from spreading (e.g. by damming-in or oil barriers). Keep contaminated washing water and dispose of appropriately. |
| **Methods and materials for containment and cleaning up:** | Collect the spill with a shovel, broom or something similar. Rinse the contaminated area with a large amount of water. |
| **Precautions to prevent the occurrence of secondary hazards:** | Clean up spills immediately to prevent leaks again. |

## Section 7 Handling and Storage

**Safe handling**

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| **Local and general ventilation:** | Provide adequate ventilation. |
| **Safety instructions:** | Operators should follow the procedure and use the personal protective equipment recommended by the SDS section 8. |
| **Precautions:** | Prevent formation of aerosols. Avoid contact with the eyes and skin. |

**Storage**

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| **Suitable storage conditions:** | Prevent any seepage into the ground. Use only receptacles specifically permitted for this substance/ product. Store away from foodstuffs. Keep container tightly sealed. |
| **Incompatible materials:** | Acids, alkalis and oxidizing agents. |
| **Safe packaging materials:** | Keep it in the original container. |

## Section 8 Exposure Controls / Personal Protection

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| **Occupational exposure limits:** | According to GBZ2.1, the OELs of components are not established. |
| **Biological limits:** | No standard has been established. |
| **Engineering controls:** | Ensure adequate ventilation. Make sure the workplace is equipped with a safe place to shower, clean eyes and body, and place for safe care. |
| **Personal protection equipment** | |
| **Respiratory protection:** | Use suitable respiratory protective device in case of insufficient ventilation. |
| **Hand protection:** | PVC gloves. |
| **Eye protection:** | Tightly sealed goggles face protection. |
| **Skin and body protection:** | Impervious protective clothing Boots. |
| **Hygiene measures:** | Avoid contact with eyes. Wash hands after handling. Do not eat and drink in the workplace. |

## Section 9 Physical and Chemical Properties

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|---|---|
| **Appearance:** | Transparent or white to yellowish-white solid or thick gel |
| **Odor:** | Almond flavor |
| **Odor threshold:** | No data available |
| **Molecular formula:** | C23H42ClN |
| **Molecular weight:** | 368.03900 |
| **Melting point/freezing point (°C):** | > 28.9 - < 30.2 °C |
| **Boiling point, initial boiling point (°C):** | 102 °C |
| **Density:** | 0.929 g/cm³ (20°C) |
| **Relative density($H_2O$=1):** | No data available |
| **Vapor pressure (20°C) (kPa):** | < 0.002 Pa (ca. 20 °C) |
| **Partition coefficient (n-octanol/water):** | log Pow: 0.004 (20°C) |
| **Solubility in water:** | 500-1000 mg/L (20.0 ± 0.5°C) |
| **Solubility in organic solvents:** | Isopropanol: 568 g/L (20°C)<br>Hexane: <0.00003 g/L (10, 20, 30°C)<br>n-octanol: 459 g/L (20°C) |
| **Flash point (°C):** | > 105 °C |
| **Auto-ignition temperature (°C):** | > 403 °C |
| **Flammability limit - lower (%):** | No data available |
| **Flammability limit - upper (%):** | No data available |
| **Decomposition temperature (°C):** | > 160 °C |
| **Flammability (solid, gas):** | No data available |
| **Explosive properties** | No data available |
| **Explosive limit - lower (%):** | No data available |
| **Explosive limit - upper (%):** | No data available |
| **pH value:** | No data available |
| **Viscosity (mPa • S):** | No data available |
| **Relative vapor density (air=1):** | No data available |
| **Relative evaporation rate (n-butyl acetate=1):** | No data available |

## Section 10 Stability and Reactivity

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|---|---|
| **Stability:** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions:** | No dangerous reaction known under conditions of normal use. Corrosive action on metals. |
| **Conditions to avoid:** | Avoid contact with incompatible materials. To avoid thermal decomposition do not overheat. |
| **Incompatible materials:** | Acids, alkalis and oxidizing agents. |
| **Hazardous decomposition products:** | Combustion may produce Hydrogen chloride (HCl). Nitrogen oxides (NOx). Hydrogen cyanide (HCN). |

## Section 11 Toxicological Information

**Acute toxicity**

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| **LD50(Oral, Rat):** | ca. 398 mg/kg bw |
| **LD50(Dermal, Rabbit):** | No data available |
| **LC50(Inhalation, Rat, 4h):** | No data available |
| **Skin corrosion/Irritation:** | Causes severe skin burns and eye damage. |
| **Serious eye damage/irritation:** | Causes serious eye damage. |
| **Respiratory or skin sensitization:** | Not classified |
| **Germ cell mutagenicity:** | Not classified |
| **Carcinogenicity:** | Not classified |
| **Reproductive toxicity:** | Not classified |
| **STOT- single exposure:** | Not classified |
| **STOT-repeated exposure:** | Not classified |
| **Aspiration hazard:** | Not classified |

## Section 12 Ecological Information

**Ecotoxicity**

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|---|---|
| **LC50 (Fish, 96h)** | ca. 1.7 mg/L |
| **EC50 (Daphnia, 48h)** | 0.016 mg/L |
| **EC50 (Algae, 72h):** | 49 µg/L |
| **Persistence and degradability:** | Readily biodegradable |
| **Bioaccumulative potential:** | BCF: 79 dimensionless |
| **Mobility in soil:** | No data available |

## Section 13 Disposal Considerations

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| **Residual waste** | Recycling as much as possible. If recycling is not possible, use incineration methods for disposal. Do not dispose of this product by means of discharge to the sewer. |
| **Contaminated packaging** | Empty containers or pads may retain some product residue, so beware of label warnings even when empty containers. These materials and their containers must be disposed of in a safe manner. Empty containers should be returned to the manufacturer or sent to a national / local approved waste disposal site. |
| **Local disposal regulations** | Waste disposal should refer to the relevant national and local laws and regulations, the waste chemicals for recycling, or packed in sealed containers, to |

a special waste disposal sites.

## Section 14 Transport Information

**UN Number:** UN3261

**UN Proper shipping name:** CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Quaternary ammonium compounds, benzyl C12-C16 (even numbered)-alkyldimethyl chlorides)

**Transport hazard Class:** 8

**Packaging group:** II

**Marine pollutant (yes/no):** Yes

**Transport special precautions:**

— Grounding chains should be equipped with tank or car during transportation, hole plate can be set in the tank to prevent static electricity generated by shaking;

— Exhaust pipe of the vehicle which transports this product shall be equipped with fireproofing equipment, Do not handle with the machinery or tools which may produce spark easily;

— Do not package or transport with oxidant, food chemicals or others;

— Prevent from sunlight exposure, rain and heat during transportation, in summer, best to transport in the morning or evening;

— Keep away from fire, heat source and high temperature when stops on the way;

— Follow the route as prescribed during highway transportation, do not stay in residential areas and densely populated area;

— Prohibit humping in railway transportation;

— Transport vehicles should be equipped with corresponding fire equipment and spill contingency processing equipment.

## 15.Regulatory Information

**The following laws, regulations, rules and standards, provide corresponding provisions of the management of chemicals:**

| Name | Relevant Inventories | Listed Or Not |
|---|---|---|
| Measures On Safety Management Of Hazardous Chemicals | Inventory Of Hazardous Chemicals | Not listed |
| | The Key Regulatory List Of Hazardous Chemicals | Not listed |
| Measures On New Substance Environmental Management | The Inventory Of Existing Chemical Substance In China | Listed |
| Provisions On Environmental Management Of First Import And Export Of Toxic Chemicals | China Strictly Restricted List Of Toxic Chemicals | Not listed |

## Section 16 Other Information

**Indication of changes:**

Version 1.0 Amended by GB/T16483 and GB/T 17519.

**Abbreviations:**

CAS: Chemical Abstracts Service

LC50: Lethal Concentration 50

EC50: Concentration for 50% of maximal effect

LD50: Lethal dose 50%

PC-TWA: time-weighted average allowable concentration, average allowable concentration in 8h working day, 40h work week.

PC-STEL: Short-Term Exposure Tolerance, the concentration allowed to be exposed in short-term (15 minutes).

IARC: International Agency for Research on Cancer
ACGIH: US Government Conference of Industrial Hygienists
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Dangerous Goods
EINECS: European Inventory of Existing commercial Chemical Substances
IATA: International Air Transport Association
ICAO-TI: International Civil Aviation Organization The International Civil Aviation Covenant

**Disclaimer:**

The information in this Safety Data Sheet (SDS) applies only to the products specified and does not apply to mixtures containing this product with other substances, unless otherwise specified. This Safety Data Sheet (SDS) is based on information currently available in all its aspects and will not be held responsible for its long-term timeliness. This Safety Data Sheet (SDS) provides information about the safety of the product for the intended purpose only to appropriately trained personnel operating the product. Users of this SDS must make independent judgments on the suitability of this SDS for special conditions of use. Under special conditions of use, the SDS author will not be responsible for the damage caused by the use of this Safety Data Sheet (SDS). Each user of the product should read carefully the contents of this Safety Data Sheet (SDS) before proceeding. For more information to ensure correct evaluation, please contact the product supplier.

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