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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: Benzalkonium Chloride (BKC) 50%	**Revision date:** 2026-10-29	**Version:** 1.0	**Brand:** Richest

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

Product name	Benzalkonium Chloride (BKC) 50%
Synonyms	Alkylbenzyldimethylammonium chloride; Dodecyldimethylbenzylammonium chloride; DDBAC; BAC
CAS No.	8001-54-5 (also listed: 63449-41-2, 139-07-1)
EC No.	264-151-6
Molecular formula	C21H38ClN (representative)
Molecular weight	339.99 g/mol (representative)
Relevant identified uses	Biocide, disinfectant and algaecide for industrial water treatment; cationic surfactant; preservative.
Uses advised against	None
Company	Richest Group Ltd.
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SECTION 2: Hazards identification

GHS Classification	Acute Tox. 4 (Oral); Acute Tox. 5 (Dermal); Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1
Pictogram(s)	GHS05 (Corrosion); GHS07 (Exclamation mark); GHS09 (Environment)
Signal word	Danger
Hazard statement(s)	H302 Harmful if swallowed. H313 May be harmful in contact with skin. H314 Causes severe skin burns and eye damage.

Precautionary statement(s)	P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301+P312+P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340+P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. P312 Call a POISON CENTER/doctor if you feel unwell. P363 Wash contaminated clothing before reuse. P391 Collect spillage. P405 Store locked up. P501 Dispose of contents/container to an approved waste disposal plant.
Other hazards	None known.

SECTION 3: Composition/information on ingredients

Component	Alkyldimethylbenzylammonium chloride (aqueous solution)
CAS No.	8001-54-5 (also listed: 63449-41-2, 139-07-1)
EC No.	264-151-6
Classification	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; H302, H312, H314, H318, H400
Concentration (%)	50 %

SECTION 4: First aid measures

If inhaled	After inhalation: fresh air. Call in physician.
In case of skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.
In case of eye contact	Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	Make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Most important symptoms and effects	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. If ingested, severe burns of the mouth
Indication of any immediate medical attention	First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance. Treat symptomatically.

SECTION 5: Firefighting measures	
Suitable extinguishing media	Water, foam, carbon dioxide (CO2), dry powder.
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Special hazards arising from the chemical	Mixture with combustible ingredients. Development of hazardous combustion gases or vapours possible in the event of fire.
Advice for firefighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures	
Personal precautions, protective equipment and emergency procedures	Do not breathe vapors/aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
Environmental precautions	Do not let product enter drains.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

SECTION 7: Handling and storage	
Precautions for safe handling	Avoid contact with skin and eyes. Do not breathe vapours/aerosols. For precautions see section 2.2.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store locked up. Storage class (TRGS 510): 8A - combustible, corrosive hazardous materials.

SECTION 8: Exposure controls/personal protection	
Occupational exposure limit values	Contains no substances with occupational exposure limit values.
Biological limit values	No biological exposure index (BEI) established.
Appropriate engineering controls	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
Eye/face protection	Tightly fitting safety goggles (tested and approved under NIOSH (US) or EN
Skin protection	Handle with gloves (nitrile rubber, minimum layer thickness 0.11 mm, breakthrough time 480 min, EN 374).
Body protection	Protective clothing.
Respiratory protection	Required when vapours/aerosols are generated.

Thermal hazards	No specific thermal hazards under normal conditions of use.

SECTION 9: Physical and chemical properties

Physical state	Liquid
Colour	Colourless to light yellow
Odour	Mild, characteristic odour
Melting point / freezing point	29-34 °C
Boiling point or initial boiling point and boiling range	ca. 100 °C (aqueous solution)
Flammability	Non-flammable (aqueous solution)
Lower and upper explosion limit / flammability limit	Not applicable
Flash point	Not applicable (aqueous solution)
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
pH	6.0 - 8.0
Kinematic viscosity	No data available
Solubility	Miscible with water; soluble in methanol and acetone
Partition coefficient n-octanol/water	No data available
Vapour pressure	Similar to water (aqueous solution)
Density and/or relative density	0.989 g/cm3
Relative vapour density	Not applicable
Particle characteristics	Not applicable (liquid)

SECTION 10: Stability and reactivity

Reactivity	Incompatible with strong oxidizing agents
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature).
Possibility of hazardous reactions	Decomposes on heating, producing toxic and corrosive fumes including ammonia, hydrogen chloride and nitrogen oxides (ICSC 1584)
Conditions to avoid	Heat and incompatible materials

Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	In the event of fire: development of hazardous combustion gases or vapours possible.

SECTION 11: Toxicological information

Acute toxicity - Oral / Inhalation / Dermal	Acute toxicity estimate (ATE) Oral - 1,001 mg/kg (calculation method) Acute toxicity estimate (ATE) Dermal - 2,840 mg/kg (calculation method) Component (alkyldimethylbenzylammonium chloride): LD50 Oral - Rat - 240 mg/kg; LD50 Dermal - Rat - 1,420 mg/kg
Skin corrosion/irritation	Causes skin burns.
Serious eye damage/irritation	Causes serious eye damage; risk of blindness.
Respiratory or skin sensitization	Skin Sens. 1; H317 (May cause an allergic skin reaction) (ECHA C&L notification)
Germ cell mutagenicity	Component: Ames test - Salmonella typhimurium - negative (Lit.)
Carcinogenicity	Not classified (based on available data)
Reproductive toxicity	Not classified (based on available data)
STOT - single exposure	Not classified (based on available data)
STOT - repeated exposure	Not classified (based on available data)
Aspiration hazard	Not classified (based on available data)

SECTION 12: Ecological information

Toxicity to fish / daphnia / algae	Component (alkyldimethylbenzylammonium chloride): LC50 - Lepomis macrochirus - 0.31 mg/l - 96 h EC50 - Daphnia magna (Water flea) - 0.016 mg/l - 48 h EC50 - Pseudokirchneriella subcapitata (green algae) - 0.049 mg/l - 96 h
Persistence and degradability	Readily biodegradable (component).
Bioaccumulative potential	Low bioaccumulation potential (cationic surfactant; adsorbs to biomass).
Mobility in soil	Strongly adsorbs to soil and sediment (cationic surfactant).
Other adverse effects	Very toxic to aquatic life.

SECTION 13: Disposal considerations

Product disposal methods	Offer surplus and non-recyclable solutions to a licensed disposal company. Dispose of in accordance with local, regional and national regulations.

Contaminated packaging	Dispose of as unused product or in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	3265
UN Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (alkyldimethylbenzyl ammonium chloride)
Transport hazard class(es)	8
Packing group	II
Environmental hazards (Marine pollutant)	Yes
Special precautions for user	Keep containers upright, closed and secured during transport.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	EINECS: Listed; TSCA (USA): Listed; IECSC (China): Listed; DSL (Canada): Listed; AICS (Australia): Listed.

SECTION 16: Other information

Full text of H-Statements	H302 Harmful if swallowed. H312 Harmful in contact with skin. H313 May be harmful in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H400 Very toxic to aquatic life.
Revision date	2026-10-29
Version	1.0

Abbreviations and acronyms: CAS: Chemical Abstracts Service; EC: European Commission; EINECS: European Inventory of Existing Commercial Chemical Substances; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; RID: Regulation concerning the International Carriage of Dangerous Goods by Rail; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; TWA: Time Weighted Average; STEL: Short Term Exposure Limit; LD50: Lethal Dose 50%; LC50: Lethal Concentration 50%; EC50: Effective Concentration 50%; PBT: Persistent, Bioaccumulative and Toxic; vPvB: very Persistent and very Bioaccumulative; SDS: Safety Data Sheet.

References: ECHA - European Chemicals Agency, https://echa.europa.eu/; IPCS - International Chemical Safety Cards (ICSC), http://www.ilo.org/; HSDB - Hazardous Substances Data Bank; eChemPortal - OECD Global Portal to Information on Chemical Substances; ERG - Emergency Response Guidebook by U.S. DOT.

Disclaimer: The information in this SDS is only applicable to the specified product and is provided in good faith. It is based on the knowledge available to Richest Group Ltd. at the date of issue and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not constitute any guarantee of the properties of the product. Richest Group Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.