

K-CARE[®] BKC80 PRESERVATIVE

General Description

K-BIO[®] BKC80 Preservative is one of quaternary ammonium based biocides which is made from benzalkonium chloride solution (BKC 80% purity). As a cationic surfactant, the biocidal efficacy of *K-BIO[®] BKC80 Preservative* depends on its capability of binding to intracellular membranes and disrupting cell biochemical processes. Disruption of these processes ensures *K-BIO[®] BKC80 Preservative* with a high activity against algae, bacteria, fungi and enveloped viruses at low ppm concentrations. BKC, has pass the stringent European standard of BS EN 1276 microbicidal testing.

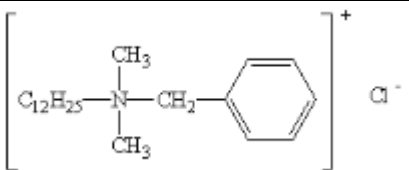
Global Regulatory

USA Listed in 2013 FDA Topical Antimicrobial Monograph (TFM) as category III active. Canada Permitted under the Antiseptic Skin Cleansers Monograph at 0.05 – 0.5% Mexico Permitted at 3% in rinse-off hair products and 0.1% in other products.

Product Highlight:

- Benzalkonium Chloride (BKC) offers strong detergency & rapid, safe, powerful antimicrobial activity at low ppm
- Benzalkonium Chloride (BKC) based disinfectants are non-toxic, non-tainting, non-corrosive, non-staining & odour-free at use dilutions
- 50% w/w Benzalkonium Chloride (BKC) passes stringent BS EN 1276 microbicidal testing at 1:2000 dilution
- Benzalkonium Chloride (BKC) displays a high level of biodegradability when tested in accordance with OECD test protocol 301c
- Compatible with non-ionic, ampholytic and cationic surface-active agents
- Alternative CAS no for Benzalkonium Chloride (BKC): 8001-54-5 un no:1760.
- Non-foaming and suitable for CIP disinfection
- Non-corrosive to system metallurgy
- Highly concentrated for low dosage
- Eco-friendly, biodegradable and skin-friendly
- High efficacy against SPC, Coliforms, gram positive, gram negative bacterial and yeast.

Typical Properties

Active Ingredient:	Dodecyl Dimethyl Benzyl Ammonium Chloride	78 - 82
Chemical Structure		
Appearance	Colorless liquid	
Amine salt %	2% Max	
pH(1% water solution)	6.0~8.0(origin)	

Antimicrobial Spectrum

Minimum Inhibitory Concentrations (MIC values) for *K-BIO® BKC80 Preservative* – Values are reported as ppm of Benzalkonium Chloride (Active on a 100% basis).

Test Organism	MIC (%)
Bacteria (Gram –ve)	
<i>Acinetobacter baumannii</i>	8
<i>Burkholderia cepacia</i>	32
<i>Campylobacter jejuni</i>	<0.3
<i>Enterobacter gergoviae</i>	16
<i>Enterococcus faecalis</i>	2
<i>Escherichia coli</i>	16
<i>Klebsiella pneumonia</i>	1
<i>Listeria monocytogenes</i>	2
<i>Pseudomonas aeruginosa</i>	63
Bacteria (Gram +ve)	
<i>Salmonella enterica</i>	16
<i>Serratia marcescens</i>	32
<i>Shigella flexneri</i>	4
<i>Shigella sonnei</i>	4
<i>Staphylococcus aureus</i>	0.5
<i>Staphylococcus aureus (MRSA)</i>	4
<i>Staphylococcus epidermidis</i>	0.5
<i>Streptococcus pyogenes</i>	<0.3
Yeast	
<i>Candida albicans</i>	8
Molds	
<i>Aspergillus brasiliensis</i>	16

Use Recommendation

K-BIO® BKC80 Preservative suggested use rates as a preservative are 0.025% to 0.1% (active on a 100% basis) depending upon the specific formulation and use. Since the product in different areas of application, the product dosage is quite different, it is recommended to use under the guidance of our professional and technical persons.

Oil & Gas:

Benzalkonium chloride products (BKC 50 & BKC 80):

- Control sulphate-reducing bacteria (SRB) activities in oil well, avoid pitting of steel equipment and pipelines.
- Pipeline corrosion inhibitor. Prevent formation of sulphurous gases.
- Control SRB and avoid oil well souring and the liberation of toxic H₂S gas.
- Used in water flooding for enhanced oil recovery through de-emulsification and sludge breaking and further enhance oil extraction.

Water treatment:

Benzalkonium chloride solution (BKC 50% & BKC 80%) based products are used in water & effluent treatment and as algacides for swimming pools.

Disinfectant, detergent, sanitizer

Due to its properties of non-toxic, non-tainting, non-corrosive, non-staining, benzalkonium chloride is the main active ingredient in the formulation of disinfectants and bactericidal sanitizers for personal hygiene, healthcare, agriculture and food supply. BKC 50 & BKC 80 can be safely incorporated into hygiene products so as to enhance both penetration and removal of soil and surfaces disinfection.

Pharmaceutical & cosmetic:

Due to its safety, benzalkonium chloride 50 & 80 are widely used in a range of leave-on skin sanitisers and sanitary baby wipes. BKC is widely used as a preservative in hand soaps, health care hand washes, surgical scrubs, non-alcohol hand sanitizers, wipes and etc.

Horticulture & household:

Benzalkonium chloride disinfectant (BKC 50% & BKC 80%) is highly effective against mould, mildew, moss, fungi & algae and is used for cleaning and preparation of all types of surfaces like greenhouses, roofing, paths, wooden decking, sheds, masonry.

Aquaculture:

Benzalkonium chloride solution can reduce antibiotic requirement in aquaculture through improved hygiene. BKC 50 & BKC 80 are used for water treatment, fish parasite removal, general site disinfection and infectious disease prevention in fish & shellfish.

Timber protection:

Benzalkonium chloride biocide (BKC 50% & BKC 80%) displays excellent fungicidal and algacidal properties, and is highly effective against other organisms in combination formulations.

Pulp & paper industry:

Benzalkonium chloride 50 & 80 can be used as a general microbicide for slime control & odour management in pulp mills. It improves paper handling and imparts strength & antistatic properties to paper products.

Textile industry:

Benzalkonium chloride disinfectant (BKC 50% & 80%) can be used to protect natural fibres from mould and fungi and as a moth repellent. It also acts as a permanent retarder in the dyeing of acrylic fibres with cationic dyestuffs.

Leather industry:

Benzalkonium chloride inhibits growth of mould & mildew on hides and facilitates softening, wetting & dyeing of leather.

Chemical industry:

Quaternary ammonium compounds have different applications in the chemical industry as precipitant, phase transfer catalyst due to its ability to localise at oil, water and air, water interfaces, emulsifier, de-emulsifier, etc.

Polymer & coatings:

Quaternary ammonium compounds are widely used as anti-static, emulsifier & preservative in the coatings industry (paints, wood treatment, electronics)

Recommended Dosage

As nonoxidizing biocide, dosage of 50-100mg/L is preferred;

As sludge remover, 200-300mg/L is preferred, adequate organosilyl antifoaming agent should be added for this purpose.

This product can be used together with other fungicidal such as isothiazolinones, glutaraldehyde, dithionitrile methane for synergism, but cannot be used together with chlorophenols. If sewage is appeared after thrown of this product in circulating cool water, the sewage should be filtered or blown off in time to prevent their deposit in bottom of collecting tank after froth disappearance. No blending with anion surfactant.

Package and Storage

Package: 200L plastic drum, IBC (1000L) or customers' requirement. Store in dry cool and ventilation environment.

BKC can be stored at room temperature (max.25°C) in the unopened original containers for at least 3 years. The storage temperature should be kept below 25°C.

Shelf time: two years

HS Code: 34021200

Regional Offices:

CDI Co.,Ltd, 129 Chungwonsandan-8-gil Mado-myon, Hwasung-si Gyonggi-do Korea 18543

Phone: +82-31-366-3588 Fax: +82-31-366-3598

CDI Co. Ltd, 46-17 Eunhangnamu-ro Yanggam-myon, Hwasung-si Gyonggi-do Korea 18633

Phone: +86-31-366-1748 Fax: +82-31-366-1749

ASIA CDI Pte Ltd, 531A Upper Cross Street #04-95 Hong Lim Complex Singapore 051531

Phone: +65-97737948 Fax: +65-68687277

CDI China, No.9 Huanghai Rd, Bohai Chemical Park, Yangkou Town, Shouguang, Shandong, China

Phone: +86-536 5455 627 Fax: +86-536 5455 626

The information contained in this document and the various products described are intended for use only by persons having technical skill and at their own discretion and risk after they have performed necessary technical investigations, tests and evaluations of the products and their uses. While the information herein is believed to be reliable, we do not guarantee its accuracy and a purchaser must make its own determination of a product's suitability for purchaser's use, for the protection of the environment, and for the health and safety of its employees and the purchasers of its products. Neither CDI nor its affiliates shall be responsible for the use of this information, or of any product, method, or apparatus described in this document. Nothing herein waives any of CDI's or its affiliates' conditions of sale, and WE MAKE NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS OF ANY PRODUCT FOR A PARTICULAR USE OR PURPOSE. We also make no warranty against infringement of any patents by reason of purchaser's use of any product described in this document.