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Tel: +420-412-709 222**Fax: +420-412-547 200****E-mail: chemotex@chemotex.cz****www.chemotex.cz****ALTHOSAN MB****TECHNICAL DATA SHEET****TL 067/2001**

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Product Characteristics

An aqueous solution of alkyl dimethyl benzyl ammonium chloride

INCI name: BENZALKONIUM CHLORIDE

Name in accordance with the European Pharmacopoeia: benzalkonii chloridum

Applications

ALTHOSAN MB is an agent inhibiting growth of bacteria, moulds, algae and yeasts. It finds good use in a very wide range of applications:

- Manufacturing disinfectants used in households, medical facilities, veterinary facilities and the food-processing industry
- Inhibition of microbial corrosion in the petroleum industry
- It is used in the pharmaceutical industry for manufacturing cutaneous antiseptic agents and hygiene and moist wipes
- In cosmetics, the product is used as a preserving agent
- It is used for formations of special washing and cleaning agents
- Fungicidal agent for killing mosses and algae

Product Features

ALTHOSAN MB is clear, colourless to slightly flavescent coloured liquid of cationic character. It can be diluted with cold or warm water in any ration, and prepared solutions are clear. The solutions are stable.

Biologic activity (Source: Wikipedia.org)

ALTHOSAN MB exhibits high antimicrobial efficiency against a wide range of Gram-positive bacteria, moulds, algae and yeasts. **ALTHOSAN MB** is a quick-acting biocide. It is efficient against bacteria, some viruses, fungi, protozoa etc. Bacterial spores are considered to be resistant to its treatment. **Depending on its** concentration, **ALTHOSAN MB** can act either bacteriostatically, or bactericidally. Gram-positive bacteria are generally more susceptible than Gram-negative ones. Efficiency of **ALTHOSAN MB** is not significantly influenced by pH, but it increases with higher temperature and longer exposure times. Newer agents use **ALTHOSAN MB** in combination with other ammonia quaternary derivatives to extend their biocidal spectrum and increase efficiency of their disinfection effects. These combinations can be used, for example, to improve virucidal activity of disinfectants used in medical facilities. **ALTHOSAN MB** solutions are neutral to slightly basic. They do not corrode metallic surfaces, do not leave stains and do not release harmful fumes. They can be used on any washable surface.

Use of appropriate supporting auxiliary substances can significantly improve efficiency of product's cleaning ability. On the other hand, presence of organic and inorganic impurities can greatly decrease this efficiency. **ALTHOSAN MB** is incompatible with soap and anionic surfactants. Hard water as well as presence of salts can also decrease the product's biocidal activity.

ALTHOSAN MB must comply with the following quality characteristics:

Quality characteristic	Value	Methodology of assessment
Active substance content (%)	minimally 48.0	ČSN EN ISO 2871-2
Molecular mass (g.mol ⁻¹)	355	
Free amine and amine hydrochloride (%)	maximally 2	PN-ZM 067/2001
pH of a 1% aqueous solution	6 to 8	PN-ZM 067/2001
Appearance of a 1% aqueous solution	Clear	PN-ZM 067/2001

Directions for Use

ALTHOSAN MB exhibits high antimicrobial efficiency against a wide range of bacteria, moulds, algae and yeasts. Due to this, it is used for manufacturing disinfectants and sanitary cleaning agents intended for various purposes, as a component of anti-mucilaginous agents for water circulation units and as a component of agents used for antimicrobial treatment of textile fibres and feathers.

Anionic substances as well as substances with multivalent ions cause coagulation of ALTHOSAN MB active component; thus, they biologically deactivate the agent. Consequently, using them together with ALTHOSAN MB is contradictory.

ALTHOSAN MB is used as an essential component for manufacturing biocides. Composition and recommended dosage must be formulated in such a way that concentration of the active substance (BENZALKONIUM CHLORIDE) corresponds to values listed below. Placing biocides on the market must comply with the corresponding laws.

1. Disinfectants containing ALTHOSAN MB

In concentration ranging between 1 to 5 grams per a litre, the product is used as a multi-purpose disinfectant for floors, walls, sanitary facilities, spas, dressing rooms, changing rooms and surgical and cosmetic equipment and clothes.

2. Sanitary cleaning agent

In concentration of 0.5 gram per a litre, the product is used as a sanitary and cleaning agent for equipment and tanks used in dairies and food-processing industry. After cleaning, the equipment must be rinsed with water.

3. Algae removing agent

ALTHOSAN MB is suitable for removing algae from swimming pools, cooling towers, water tanks etc. To completely eliminate mixtures of cultures of green algae (Chlorophyceae) and red algae (Rhodophyceae), it is sufficient to apply the agent in a very low concentration ranging from 0.2 to 0.5 litres per 10 m³ of water. Addition of less than 0.05 litre of the agent per 10 m³ of water on a weekly basis is sufficient to sustain the water tanks clear.

4. Agriculture

Disinfectant and deodorant intended for use in stables, wholesalers, vehicles, feed storages etc. Recommended concentration is between 4 to 8 grams per a litre.

5. Energy industry

ALTHOSAN MB prevents circulation and cooling units of thermal power stations, heat stations and similar facilities from pipeline fouling by slime and algae. This leads to improvement of heat transfer and energy conservation.

Dosage: During first four weeks, use 5 grams of **ALTHOSAN MB** per 1 m³ of water. Afterwards, use 3 grams of the agent per a m³ of replenished water.

6. Pulp and paper industry

The product is used as an anti-rotting and anti-mucilaginous agent for closed water systems and for preservation of damp paper pulp. It is characterised by high adsorption abilities for fibrous as well as non-fibrous components of paper suspensions.

Dosage: 500 g per a m³ of water or from 1 to 3 kg per a tonne of a dry paper substance.

7. Textile industry

The product is used for antimicrobial treatment of carpets, floorings, linings, decorative and interior textiles, upholsteries, feather fillings, bedtickings, mattresses, hats, socks, stockings etc. The agent is strongly bound to keratin filaments. In case of other kinds of filaments, the treatment is gradually removed by washing.

ALTHOSAN MB is applied by spraying, soaking or impregnation at concentration ranging from 4 to 6 % of mass of a treated product.

8. Fabric conditioners after washing

ALTHOSAN MB can be combined with softening agents to formulate fabric conditioners after washing. It disinfects clothes (especially those made of synthetic fibres, which cannot be boiled) and removes personal odours originating from sweat decomposition.

Packaging & Storage

ALTHOSAN MB is delivered in 50 l polyethylene barrels. Alternatively, it can be delivered in different containers that were discussed and agreed on in advance.

Store it in a sealed container in places protected from direct climatic influences. Recommended storage temperature is between +5 to +25 °C.

Transport

ALTHOSAN MB is transported by covered vehicles in compliance with ADR/RID Regulations.

Warranty

Provided the product is transported and stored in accordance with the above written conditions, its warranty is 6 months from the date it was delivered from a warehouse.

Note

Data about the product characteristics and its processing were obtained by laboratory measurements and application tests. This technical data sheet can provide solely legal advice without any engagements. Use of the product should be always adjusted to specific conditions.