

# LIME CHLORIDE

(contains min. 26.2% calcium hypochlorite)

## Instructions for use

Romanian Approval as biocide: 1500 BIO/05/12.25; 4605BIO/02/12.25 ; 4604BIO/03/12.25

**Aspect and color:** dust with slight agglomerations, it has white to light grey or white-yellowish color, with light clusters.

Multi-constituent product which contains in composition: minimum 26.2% calcium hypochlorite.

### Indications for use and dosage

#### PT5: Drinking water

The lime chloride product is dosed as a solution in the potable water supply pipes before the storage tanks.

The dosage of lime chloride required for treatment, called "chlorine necessity", is basically determined depending on the source of water.

#### PT2: Disinfectants and algicides not intended for direct application to humans or animals

The lime chloride product is applied as a solution on surfaces, materials, equipment, walls, floors public, industrial sites for professional activities; is used as a disinfectant for treating / cleaning the basins, ponds.

#### PT3: Veterinary hygiene

The lime chloride product is applied as a solution on surfaces, materials, equipment, walls, floors, public, industrial sites for professional activities; is used as a disinfectant for treating / cleaning the basins, ponds.

#### PT 5: Recommended doses for water treatment

- 8 ÷ 12 grams of lime chloride / liter of water (applicable to surface water sources);

- 3 ÷ 4 grams of lime chloride / liter of water (applicable to groundwater sources); prior to supplying water to final distribution, the user will check the active chlorine content of the treated water, which must be max. 0.5 mg / l;

- 4 ÷ 8 grams of lime chloride / mc of water (applicable for water fountains); After 2-3 hours the fountain will empty and waiting to restore the level of water. The operation is repeated until the odor of chlorine disappears.

#### Test results of biocidal efficacy

<b>Use areas</b>	Products is used for the disinfection of drinking water for both humans and animals.	
<b>Application zone</b>	Water treatment station	
<b>Activity</b>	<b>Concentrations</b>	<b>Time for action</b>
Bactericidal (EN 1276)	10%-20%	5 minutes ±10 seconds 30 minutes ±10 seconds
bactericidal	10%-20%	5 minutes ±10 seconds
Fungicidal (EN 1650)	10%-20%	15 minutes ±10 seconds
<b>Application method</b>	<b>Application rate</b>	<b>Time for action</b>
Dissolving	10-20%	15 minutes

#### PT2: Recommended doses for disinfectants and algicides not intended for direct application to humans or animals

- Solid product lime chloride as such, containing 26.2% active chlorine active substance, respectively 26.2% calcium hypochlorite;

- 10% lime chloride solution, respectively 100 grams of lime chloride / liter of water (26.2 g of calcium hypochlorite and 26 g of active chlorine per liter of water);

- 20% solution of lime chloride 200 g of lime / l water (52.4 g of calcium hypochlorite and 52 g of active chlorine per liter of water).

#### Test results of biocidal efficacy

<b>Use areas</b>	Disinfectants, algicides that are not intended for direct use in humans and animals
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<b>Application zone</b>	Surfaces, materials, equipment, walls, floors; disinfectant for treatment / cleaning of basins, ponds, aquariums, walls, public and industrial sites	
<b>Activity</b>	<b>Concentrations</b>	<b>Time for action</b>
Bactericidal (EN 1276)	Solid as such Solution 10% Solution 20%	5 minutes ±10 seconds 5 minutes ±10 seconds 5 minutes ±10 seconds
Fungicidal (EN 1650)	Solid as such Solution 10% Solution 20%	15 minutes ±10 seconds 15 minutes ±10 seconds 15 minutes ±10 seconds
Bactericidal legionella (EN 13623)	Solid as such Solution 10%	60 minutes ±10 seconds 60 minutes ±10 seconds
Bactericidal non-porous system (EN 13697)	Solid as such Solution 10%	15 minutes ±10 seconds 15 minutes ±10 seconds
Fungicidal non-porous system (EN 13697)	Solid as such Solution 10%	15 minutes ±10 seconds 15 minutes ±10 seconds
Sporicidal (EN 13704)	Solid as such Solution 10%	60 minute±10 sec 60 minute±10 sec
Algicidal (CSN EN ISO 8692, TNV 75 7741)	Solid as such Solution 10%	5 days 5 days

#### Application mode:

The prepared product used is prepared as a 10% solution and 20% solution is applied over the entire surface on the pavements. Allow to act according to the contact times mentioned in the table above, the minimum time being 5 minutes to 60 minutes. The surfaces to which the product was applied are then washed with water, allowed to drain, dry, air.

#### For disinfection of pond bases, the product is applied according to the user's own instructions and strictly below.

surveillance of a fishery specialist. For effective disinfection after full drainage of the pond, the product is distributed on the wet surface of the basins of about 500-600 kg / ha. The recommended amount is about 60 g / m<sup>2</sup>.

#### PT3: Recommended doses for veterinary hygiene

- 10% lime chloride solution, respectively 100 grams of lime chloride / liter of water (26.2 g of calcium hypochlorite and 26 g of active chlorine per liter of water);

- 20% solution of lime chloride 200 g of lime / l water (52.4 g of calcium hypochlorite and 52 g of active chlorine per liter of water).

The prepared solutions are applied for the hygienisation and disinfection of areas of interest in the field of veterinary hygiene.

<b>Use areas</b>	Product is used for veterinary hygiene.	
<b>Application zone</b>	The product is used to disinfect materials and surfaces associated with the transport and accommodation or transport of animals.	
<b>Activity</b>	<b>Concentrations</b>	<b>Time for action</b>
Fungicidal (EN 1650)	Solution 10% Solution 20%	15 minutes ±10 seconds 15 minutes ±10 seconds 15 minutes ±10 seconds
Bactericidal non-porous system (EN 13697)	Solution 10%	15 minutes ±10 seconds 15 minutes ±10 seconds
Sporicidal (EN 13704)	Solution 10%	15 minute±10 sec
Fungicidal or levuricidal (EN 1657)	Solution 10%	30 minute±10 sec
Virucidal in veterinary hygiene (EN 14675)	Solution 10%	30 minute ±10 sec
Algicidal (CSN EN ISO 8692, TNV 75 7741)	Solution 10%	5 days

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Fungicidal and leviricidal for non-porous surfaces in veterinary hygiene (EN 16438)	Solution 10% Solution 20%	60 minute ±10 sec
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### Application mode:

The product prepared as a solution is applied on all surfaces, on pavements, objects, machinery, cages to be cleaned. Allow to act according to the contact times mentioned in the above table, the baby time being 5 minutes to 60 minutes. The surfaces where the product was applied were then washed with water, drained, dried, checked for chlorine odor, then reintroduced into shelters. For example, for an area of 20 m<sup>2</sup>, use approximately 10 liters of 10% concentration solution, ie approx. 0.5 liter solution / m<sup>2</sup>.

### Adverse effects

**Inhalation:** it irritates the mucous membranes;

**Skin contact:** causes severe skin burns. May appear redness, swelling of tissue, rash and oedema.

**Eyes contact:** causes severe eye damage; signs of irritation were observed in the cornea, iris or conjunctiva.

**Ingestion:** the substance causes severe burns of the mouth, throat, esophagus, stomach, inducing nausea, abdominal pain.

**Long term effects:** the solid product (e.g. granules) does not present a major risk of danger, but inhalation of dust causes irritation of respiratory sistem, cough state, difficulty breathing.

### First aid measures

It is mandatory to request medical assistance. Remove contaminated clothing.

**Inhalation:** Evacuate the victim from the contaminated area to ventilated place.

**Skin contact:** Remove quickly contaminated clothing and shoes. Wash skin with plenty of water.

**Eyes contact:** Immediately flush eyes with plenty of water for at least 15 minutes, while moving eye pupils in all directions. Call a physician or poison control centre.

**Ingestion:** Call a physician or poison control centre. Rinse mouth with plenty of water. Administer oxygen or artificial respiration if necessary. Do not induce vomiting.

Provide local and general ventilation systems in the working area and storage spaces. Provide water sources and eyewash station in the proximity of the working area.

### Disposal consideration:

The waste of product waste be disposed in accordance with local regulations in force. Accidental spills must be collect in the adequate containers. Waste water results can be neutralized with sodium sulfite. All contaminated waste water must be processed in a wastewater treatment plant and then must be discharged in accordance with local regulations in force. The contaminated packages are not recycled. Packaging that cannot ensure anymore the qualitative and quantitative integrity of the product are destroyed through specific measures in accordance with local regulations in force. The recommendation is to use dedicated containers in order to avoid treatments. Contaminated packaging waste will not be used to store other products.

### Exposure control

Provide local and general ventilation systems in the working area and storage spaces. Provide water sources and eyewash station in the proximity of the working area.

**Respiratory protection:** chlorine filter cartridge respirator, dust mask.

**Hand protection:** protective gloves – chemical resistant.

**Suitable materials:** rubber, polyvinyl chloride.

**Eye protection:** protective goggles for all industrial operations.

**Skin and body protection:** waterproof suit, boots.

After working with this product, change protection equipment and wash face and hands with plenty of water and soap. Ensure water sources and eyewash station in the proximity of the working area. It is forbidden to smoke, eat, drinking in the working areas.

### Environmental exposure control

Waters contaminated with this product will not be discarded in watercourses, on the ground or in sewages without previous neutralization.

### Storage

The product is obtained and commercialized as a dust, slightly agglomerated. The product must be stored and kept in the original packing, closed, in clean, dry, well ventilated, covered rooms, away from heat, humidity and incompatible substances.

Recommended storing temperature is of maximum 25<sup>0</sup>C. The product must not be stowed and stored in large pallets for long period of time, as it might decompose, this resulting in decrease of active chlorine content. Also, transport of large pallets for long time might cause release of toxic gases and self-ignition of packages. Providing the integrity of packaging during transport and storage gives the product stability.

**Product transportation** is done by covered means of transport separate from other chemical products and foods.

### Fire fighting measures

- recommended: water spray in large quantities to extinguish combustible packages, foam aeromechanical.

- not recommended: extinguishing powder, steam, inert gases, halons.

It is not a flammable product, but it is combustible. It is a strong oxidizing substance. In contact with sulfur powder, coal or organic products it may cause fire and explosion.

### Equipment for fire-fighting

Use breathing apparatus- gas mask for protection with chlorine filter cartridge and individual protective clothing for interventions: water protective suit, helmet with visor, rubber boots. The equipment used is in accordance with specific legislation on emergency situations.

### Ecological Information

Do not flush into surface water or sewer system. Waters contaminated with this product will not be discarded in watercourses, on the ground or in sewages without previous neutralization. This product is strong oxidant and has corrosive properties.

Under the action of heat and humidity from air, it decomposes releasing toxic vapors (chlorine, oxygen). During storage and transport the product can modify its active chlorine content. Product can decompose in time. The product is toxic to aquatic life.