

Summary of product characteristics for a biocidal product

Product name: Tekoči klor

Product type(s): PT02 - Disinfectants and algaecides not intended for direct application to humans or animals (Disinfectants)

PT02 - Disinfectants and algaecides not intended for direct application to humans or animals (Disinfectants)

PT05 - Drinking water (Disinfectants)

Authorisation number: SI-0029199-0000

R4BP 3 asset reference number: SI-0029199-0000

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Administrative information

1.1. Trade names of the product

Tekoči klor
Liquid Chlorine
Tekoči klor
Liquid Chlorine
Liquid Chlorine
Liquid Chlorine

1.2. Authorisation holder

Name and address of the authorisation holder	Name	TKI Hrastnik d.d.
	Address	Za Savo 6 1430 Hrastnik Slovenia
Authorisation number	SI-0029199-0000	
R4BP 3 asset reference number	SI-0029199-0000	
Date of the authorisation	18/08/2022	
Expiry date of the authorisation	18/08/2032	

1.3. Manufacturer(s) of the biocidal products

Name of the manufacturer	TKI Hrastnik, d.d.
Address of the manufacturer	Za Savo 6, 1430 Hrastnik, Slovenia
Location of manufacturing sites	Cesta 1. maja 33, 1430 Hrastnik, Slovenia

1.4. Manufacturer(s) of the active substance(s)

Active substance	1265 - Active chlorine released from chlorine
Name of the manufacturer	TKI Hrastnik, d.d.
Address of the manufacturer	Za Savo 6, 1430 Hrastnik, Slovenia
Location of manufacturing sites	Cesta 1. maja 33, 1430 Hrastnik, Slovenia

2. Product composition and formulation

2.1. Qualitative and quantitative information on the composition of the biocidal product

Common name	IUPAC name	Function	CAS number	EC number	Content (%)
Active chlorine released from chlorine		Active Substance			100
Chlorine		Non-active substance	7782-50-5	231-959-5	100

2.2. Type of formulation

GA - Gas

3. Hazard and precautionary statements

Hazard statements	May cause or intensify fire; oxidiser Contains gas under pressure; may explode if heated Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. May cause respiratory irritation. Very toxic to aquatic life.
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Precautionary statements

Keep away from clothing and other combustible materials.
Keep valves and fittings free from oil and grease.
Avoid breathing gas.
Wash ... thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves.
Wear protective clothing.
Wear eye protection.
Wear face protection.
IF ON SKIN:Wash with plenty of water/....
If skin irritation occurs:Get medical advice.
If skin irritation occurs:Get medical attention.
IF INHALED:Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/....
IF IN EYES:Rinse cautiously with water for several minutes.Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists:Get medical advice.
If eye irritation persists:Get medical attention.
In case of fire:Stop leak if safe to do so.
Store in a well-ventilated place.Keep container tightly closed.
Store locked up.
Dispose of contents to in accordance with local regulation.
Dispose of container to in accordance with local regulation..

4. Authorised use(s)

4.1 Use description

Use 1 - Swimming pool, whirlpool and spa water disinfection, maintenance treatment

Product type

PT02 - Disinfectants and algacides not intended for direct application to humans or animals (Disinfectants)

Where relevant, an exact description of the authorised use

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Target organism(s) (including development stage)

Scientific name: Bacteria
Common name: Bacteria
Development stage: /

Scientific name: Legionella pneumophila
Common name: /
Development stage: /

Scientific name: Viruses
Common name: Viruses
Development stage: /

Field(s) of use

Indoor

Outdoor

Swimming pool, whirlpool and spa water

Application method(s)

Method: Closed system

Detailed description:

Chlorination of water is fully automated process. Machine is equipped with dosing and measuring systems that regulate concentration of active chlorine in the water.

Application rate(s) and frequencies

Application Rate: 1 mg available chlorine/L of water

Dilution (%): -

Number and timing of application:

Maintenance treatment - continuous application

Category(ies) of users

Professional

Pack sizes and packaging material

Cylinder, metal, 10 kg, 20 kg, 25 kg, 50 kg, 60 kg, 65 kg, 80 kg, 150 kg

Pressure drums, metal, 500 kg, 1000 kg

4.1.1 Use-specific instructions for use

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4.1.2 Use-specific risk mitigation measures

Application of this product is exclusively allowed in swimming pools with connection to a sewage treatment plant. It is not allowed to directly discharge swimming pool water to the surface water.

4.1.3 Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment

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4.1.4 Where specific to the use, the instructions for safe disposal of the product and its packaging

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4.1.5 Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage

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4.2 Use description

Use 2 - Swimming pool water disinfection, curative treatment

Product type	PT02 - Disinfectants and algaecides not intended for direct application to humans or animals (Disinfectants)
Where relevant, an exact description of the authorised use	/
Target organism(s) (including development stage)	Scientific name: Bacteria Common name: Bacteria Development stage: / Scientific name: Viruses Common name: Viruses Development stage: /
Field(s) of use	Indoor Outdoor Swimming pool water
Application method(s)	Method: Closed system Detailed description: Chlorination of water is fully automated process. Machine is equipped with dosing and measuring systems that regulate concentration of active chlorine in the water.
Application rate(s) and frequencies	Application Rate: max. 30 mg of available chlorine / L of water Dilution (%): - Number and timing of application: Curative treatment - shock dosing application, occasionally Contact time: 30 minutes

Category(ies) of users	Professional
Pack sizes and packaging material	Cylinder, metal, 10 kg, 20 kg, 25 kg, 50 kg, 60 kg, 65 kg, 80 kg, 150 kg Pressure drums, metal, 500 kg, 1000 kg

4.2.1 Use-specific instructions for use

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4.2.2 Use-specific risk mitigation measures

After a shock dosing, swimmers can only enter the water once the concentration of chlorine is decreased to the national chlorine limit.
Application of this product is exclusively allowed in swimming pools with connection to a sewage treatment plant. It is not allowed to directly discharge swimming pool water to the surface water.

4.2.3 Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment

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4.2.4 Where specific to the use, the instructions for safe disposal of the product and its packaging

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4.2.5 Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage

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4.3 Use description

Use 3 - Drinking water disinfection

Product type

PT05 - Drinking water (Disinfectants)

Where relevant, an exact description of the authorised use

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Target organism(s) (including development stage)

Scientific name: Bacteria
Common name: Bacteria
Development stage: /

Scientific name: Viruses
Common name: Viruses
Development stage: /

Field(s) of use

Indoor

Disinfection at the drinking water suppliers and their water distribution systems

Application method(s)

Method: Closed system

Detailed description:

Chlorination of water is fully automated process. Machine is equipped with dosing and measuring systems that regulate concentration of active chlorine in the water.

Application rate(s) and frequencies

Application Rate: 0.5 mg available chlorine / L of water

Dilution (%): -

Number and timing of application:

Primary disinfection (maintenance treatment - continuous application)

Category(ies) of users

Professional

Pack sizes and packaging material

Cylinder, metal, 10 kg, 20 kg, 25 kg, 50 kg, 60 kg, 65 kg, 80 kg, 150 kg

Pressure drums, metal, 500 kg, 1000 kg

4.3.1 Use-specific instructions for use

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4.3.2 Use-specific risk mitigation measures

Ensure that the concentration of chlorine in the drinking water does not exceed national chlorine limits before consumption.
Ensure that the concentration of chlorate present in the drinking water does not exceed the parametric values set in Directive 2020/2184.
For food commodities, ensure that the concentration of chlorate present in food does not exceed the MRL values set in Regulation 2020/749.

4.3.3 Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment

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4.3.4 Where specific to the use, the instructions for safe disposal of the product and its packaging

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4.3.5 Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage

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5. General directions for use

5.1. Instructions for use

Connect the cylinder to the automated dosing system via the injector. Follow any additional instructions of the chlorinating machine manufacturer. Open the valve. Machine is equipped with dosing and measuring systems that regulate concentration of active chlorine in the water. Set up the parameters of the system to obtain an active chlorine concentration in the water according to the application rates indicated below:

Swimming pool, whirlpool and spa water disinfection - Maintenance treatment - continuous application - 1 mg available chlorine / L
Swimming pool water disinfection - Curative treatment - shock dosing application - max. 30 mg available chlorine / L, contact time 30 min
Drinking water disinfection - Primary disinfection (maintenance treatment - continuous application) - 0.5 mg available chlorine / L;
Secondary disinfection - max 0.5 mg residual chlorine / L

When cylinder is empty or machine system request for change of the cylinder make sure that valve on the cylinder is closed before disconnecting the pressure container.

5.2. Risk mitigation measures

For connecting or disconnecting the product containers as well as for maintenance or repair of the gas pipe system, the following risk mitigation measures (RMMs) are mandatory:

- an alarm system (trigger value corresponding to the AEC: 0.5 mg avCl/m³) is in place with initiates safety procedures like wearing RPE (EN141B),
- application of LEV (according to the national regulation) and low-pressure/vacuum are in place to avoid chlorine emission,
- the electrochemical sensors used for measurements detect various chlorinated species additional to chlorine itself,
- sensors are measuring exposure also when the operators are using RPE (EN141B).

5.3. Particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment

FIRST AID:

Avoid breathing this toxic gas as much as possible. IF INHALED: Move to fresh air and keep at rest in a position comfortable for breathing. Immediately call 112/ambulance for medical assistance.

Information to Healthcare personnel/doctor: Immediately initiate life support measures, thereafter call a POISON CENTRE.

IF SWALLOWED: Not applicable.

IF ON SKIN: Take off all contaminated clothing and wash it before reuse. Wash skin with water. If skin irritation occurs: Get medical advice.

IF IN EYES: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing for 5 minutes. Call a POISON CENTRE or a doctor.

Expected effects after exposure:

Respiratory irritation after inhalation of lower concentrations (cough, shortness of breath, chest pain, burning sensation in the throat, nasal irritation) and acute lung injury (severe pulmonary edema) possibly delayed for 24-72 h after high concentrations.

Contact with eyes: eye irritation (burning and stinging sensation, redness, and tears).

Contact with skin: skin irritation (skin rash, redness, itching).

Firefighting measures:

Extinguishing media:

Suitable extinguishing media: Water, Foam, Water spray.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special hazards arising from the substance or mixture:

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases: Vapours are heavier than air and may spread along floors. Fire may cause evolution of: Gaseous hydrogen chloride (HCl).

Advice for firefighters:

Special protective equipment for firefighting: Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus.

Additional information on firefighting: Keep containers and surroundings cool with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Accidental release measures:

Personal precautions: Keep people away from and upwind of spill/leak. Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus.

Environmental precautions: Suppress (knock down) gases/vapours/mists with a water spray jet.

5.4. Instructions for safe disposal of the product and its packaging

At the end of the treatment, dispose unused product and the packaging in accordance with local requirements.

5.5. Conditions of storage and shelf-life of the product under normal conditions of storage

Store the product in special designed cylinders or pressure drums that meets the standard ISO 9809-1:2019. Keep containers with chlorine tightly closed and store in a cool, dry and well-ventilated place. Prevent cylinders from falling over. Protect from heat and direct sunlight, the temperature of the container should never be 15°C and >50°C.

6. Other information

Please note that some member states including Slovenia, after primary disinfection, request to maintain a residual level of available chlorine in drinking water in the pipes as a precautionary measure. This additional amount, claimed by the applicant as "Secondary disinfection: max. 0.5 mg/L available chlorine (residual)" has been considered as covered by the primary disinfection.