# COMMISSION IMPLEMENTING REGULATION (EU) 2025/834

## of 5 May 2025

## granting a Union authorisation for the single biocidal product 'Chlorine' in accordance with Regulation (EU) No 528/2012 of the European Parliament and of the Council

**(Text with EEA relevance)**

THE EUROPEAN COMMISSION

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products ([1]), and in particular Article 44(5), first subparagraph, thereof,

Whereas:

(1) On 20 December 2018, CGV Chlorgas Vertriebs GmbH submitted an application to the European Chemicals Agency ('the Agency') in accordance with Article 43(1) of Regulation (EU) No 528/2012 for Union authorisation of a single biocidal product named 'Chlorine' of product-types 2 and 5, as described in Annex V to that Regulation, providing written confirmation that the competent authority of Slovenia had agreed to evaluate the application. The application was recorded under case number BC-EQ047299-18 in the Register for Biocidal Products.

(2) 'Chlorine' contains active chlorine released from chlorine as the active substance, included in the Union list of approved active substances referred to in Article 9(2) of Regulation (EU) No 528/2012 for product-types 2 and 5.

(3) On 8 November 2021, the evaluating competent authority submitted, in accordance with Article 44(1) of Regulation (EU) No 528/2012, an assessment report and the conclusions of its evaluation to the Agency.

(4) On 1 July 2022, the Agency submitted to the Commission its opinion ([2]), the draft summary of the biocidal product characteristics ('SPC') of 'Chlorine' and the final assessment report on the single biocidal product, in accordance with Article 44(3) of Regulation (EU) No 528/2012.

(5) The opinion concludes that 'Chlorine' is a single biocidal product within the meaning of Article 3(1), point (r), of Regulation (EU) No 528/2012, that it is eligible for Union authorisation in accordance with Article 42(1) of that Regulation and that, subject to compliance with the draft SPC, it meets the conditions laid down in Article 19(1) of that Regulation.

(6) On 3 August 2022, the Agency transmitted to the Commission the draft SPC in all the official languages of the Union in accordance with Article 44(4) of Regulation (EU) No 528/2012.

(7) On 4 April 2023, Germany sent a request to the Commission to adjust the terms and conditions of the Union authorisation of the single biocidal product 'Chlorine' for its territory in accordance with Article 44(5), second subparagraph, of Regulation (EU) No 528/2012 for use 1 (disinfection of public swimming pools) and use 3 (disinfection of drinking water at the water suppliers and their water distribution systems) on the grounds of protection of the environment, public policy and the protection of health and life of humans as referred to in Article 37(1), points (a) to (c), of that Regulation. The request concerning the adjustments to use 1 (disinfection of swimming pools) was withdrawn by Germany on 8 May 2024.

([1]) OJ L 167, 27.6.2012, p. 1, ELI: http://data.europa.eu/eli/reg/2012/528/oj.
([2]) ECHA opinion of 9 June 2022 on the Union authorisation of 'Chlorine' (ECHA/BPC/340/2022), https://echa.europa.eu/opinions-on-union-authorisation.

(8) In its request for the adjustments to use 3 (disinfection of drinking water at the water suppliers and their water distribution systems), Germany refers to the German Ordinance on the Quality of Water Intended for Human Consumption, Trinkwasserverordnung- TrinkwV ('TrinkwV') ([3]) establishing a systematic set of rules to ensure healthy and clean drinking water by regulating the quality of water and the substances, methods and procedures to be used for the treatment of drinking water, imposing obligations on water treatment plants and setting rules on the enforcement of those obligations. Based on the TrinkwV, certain well-established norms and common practices have developed in the drinking water treatment sector in Germany. Germany explained in more detail that the description of use 3 of the SPC does not fully correspond to the rules of the TrinkwV. In particular, the application method and application rate and frequency of use would need to be adapted to meet the requirements of the 'List of Permissible Treatment Agents and Disinfection Methods' according to Section 20 of the TrinkwV.

(9) The Commission, having regard to Article 2(7) of Regulation (EU) No 528/2012, providing that nothing in that Regulation is to prevent Member States from restricting or banning the use of biocidal products in the public supply of drinking water, considers that the request made by Germany to adjust the conditions of the Union authorisation of the single biocidal product 'Chlorine' for its territory in accordance with Article 44(5), second subparagraph, of Regulation (EU) No 528/2012 is justified on the grounds of public policy in the supply of drinking water and the protection of health and life of humans pursuant to Article 37(1), points (b) and (c), respectively, of that Regulation. The TrinkwV transposes Directive (EU) 2020/2184 of the European Parliament and of the Council ([4]) into German law. That Directive sets a legal framework to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean. That Directive also sets essential quality standards at Union level and allows Member States to implement additional requirements and higher standards where the protection of human health within its national territory or part of it so requires. The TrinkwV is in force in Germany since 2001 and its requirements have been relied upon by the drinking water treatment sector in Germany since then. Products for the disinfection of drinking water made available on the German market should comply with the rules established by the TrinkwV.

(10) The Commission concurs with the opinion of the Agency and considers it therefore appropriate to grant a Union authorisation for the single biocidal product 'Chlorine' with the adjustments of the SPC as requested by Germany for its territory for use 3 of the SPC in accordance with Article 44(5), second subparagraph, of Regulation (EU) No 528/2012.

(11) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Biocidal Products,

HAS ADOPTED THIS REGULATION:

*Article 1*

A Union authorisation with authorisation number EU-0028952-0000 is hereby granted to CGV Chlorgas Vertriebs GmbH for the making available on the market and use of the single biocidal product 'Chlorine' in accordance with the summary of the biocidal product characteristics set out in the Annex.

For the territory of Germany, adjustments to the terms and conditions apply for use 3 of 'Chlorine' as laid down in the summary of product characteristics in the Annex.

The Union authorisation is valid from 26 May 2025 until 30 April 2035.

([3]) German Ordinance on the Quality of Water Intended for Human Consumption – Verordnung über die Qualität von Wasser für den menschlichen Gebrauch (Trinkwasserverordnung – TrinkwV) in the version of the Second Ordinance for the Revision of the Drinking water Ordinance (Zweite Verordnung zur Novellierung der Trinkwasserverordnung vom 20. Juni 2023 (Bundesgesetzblatt I Nr. 159), https://www.gesetze-im-internet.de/englisch_trinkwv/englisch_trinkwv.pdf.

([4]) Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast) (OJ L 435, 23.12.2020, p. 1, ELI: http://data.europa.eu/eli/dir/2020/2184/oj).

*Article 2*

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 5 May 2025.

*For the Commission*
*The President*
Ursula VON DER LEYEN

*ANNEX*

**Summary of product characteristics for a biocidal product**

Chlorine

**Product type(s)**

PT02: Disinfectants and algaecides not intended for direct application to humans or animals

PT05: Drinking water

**Authorisation number:** EU-0028952-0000

**R4BP asset number:** EU-0028952-0000

## 1. ADMINISTRATIVE INFORMATION

### 1.1. Trade name(s) of the product

| | |
|---|---|
| Trade name(s) | Chlorine |

### 1.2. Authorisation holder

| | | |
|---|---|---|
| Name and address of the authorisation holder | Name | CGV Chlorgas Vertriebs GmbH |
| | Address | Reit 4 94550 Künzing Germany |
| Authorisation number | EU-0028952-0000 | |
| *R4BP asset number* | EU-0028952-0000 | |
| Date of the authorisation | 26 May 2025 | |
| Expiry date of the authorisation | 30 April 2035 | |

### 1.3. Manufacturer(s) of the product

| | |
|---|---|
| Name of manufacturer | CGV Chlorgas Vertriebs GmbH |
| Address of manufacturer | Reit 4 94550 Künzing Germany |
| Location of manufacturing sites | CABB GmbH Produktionsstätte 1<br>Ludwig-Hermann-Str. 100, 86368 Gersthofen, Germany.<br>Vestolit GmbH Produktionsstätte 1<br>Paul-Baumannstraße 1, 45772 Marl, Germany |

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

| | |
|---|---|
| Active substance | Active chlorine released from chlorine |
| Name of manufacturer | CABB GmbH |
| Address of manufacturer | Ludwig-Hermann-Str. 100, 86368 Gersthofen Germany |

| | |
|---|---|
| Location of manufacturing sites | CABB GmbH site 1<br>Ludwig-Hermann-Str. 100, 86368 Gersthofen Germany |

| | |
|---|---|
| Active substance | Active chlorine released from chlorine |
| Name of manufacturer | Vestolit GmbH |
| Address of manufacturer | Paul-Baumann-Straße 1, 45772 Marl, Germany |
| Location of manufacturing sites | Vestolit GmbH site 1<br>Paul-Baumann-Straße 1, 45772 Marl, Germany |

## 2. PRODUCT COMPOSITION AND FORMULATION

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

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

### 2.2. Type(s) of formulation

GA Gas

## 3. HAZARD AND PRECAUTIONARY STATEMENTS

| | |
|---|---|
| Hazard statements | H270: May cause or intensify fire; oxidiser.<br>H280: Contains gas under pressure; may explode if heated.<br>H331: Toxic if inhaled.<br>H315: Causes skin irritation.<br>H319: Causes serious eye irritation.<br>H335: May cause respiratory irritation.<br>H400: Very toxic to aquatic life. |
| Precautionary statements | P220: Keep away from clothing or other combustible materials.<br>P244: Keep valves and fittings free from oil and grease.<br>P261: Avoid breathing gas.<br>P264: Wash hands thoroughly after handling.<br>P271: Use only outdoors or in a well-ventilated area.<br>P273: Avoid release to the environment.<br>P280: Wear protective gloves and eye protection/face protection.<br>P302+P352: IF ON SKIN: Wash with plenty of water. |

| | |
|---|---|
| | P332+P313: If skin irritation occurs: Get medical advice.<br>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>P311: Call a POISON CENTER or a doctor.<br>P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P337+P313: If eye irritation persists: Get medical advice.<br>P370+P376: In case of fire: Stop leak if safe to do so.<br>P403+P233: Store in a well-ventilated place. Keep container tightly closed.<br>P405: Store locked up.<br>P501: Dispose of contents in accordance with local regulation.<br>P501: Dispose of container in accordance with local regulation. |

4. **AUTHORISED USE(S)**

4.1. **Use description**

*Table 1*

**Disinfection of public swimming pools**

| | |
|---|---|
| Product type | PT02: Disinfectants and algaecides not intended for direct application to humans or animals |
| Where relevant, an exact description of the authorised use | - |
| Target organism(s) (including development stage) | Common name: bacteria<br>Common name: viruses |
| Field(s) of use | indoor use<br>outdoor use<br>Public swimming pools |
| Application method(s) | Method: closed system<br>Detailed description:<br>Automated dosing system, closed system<br>The chlorine is injected into the water by using an injector (a vacuum injector). The injector is connected to measurement and control techniques that constantly check the chlorine concentration in the water and sound the alarm when necessary.<br>The following technical measures shall be provided to prevent gas leakage accidents:<br>1. A daily control of the automated active chlorine measurement with manual devices.<br>2. Leakage detectors shall be present in the plant room and a sprinkler system installed. |

| | |
|---|---|
| | 3. The chlorine tanks shall be fixed and placed in a catch basin.<br>4. In the event of a leak in the piping system (pressure drop), the connecting valves of the cylinders shall close automatically.<br>5. The valves of cylinders or drums that are not in use shall be protected by a metal cap. |
| Application rate(s) and frequency | Application rate:<br>Continuous application (maintenance treatment): the product shall be applied to maintain a concentration between 1,4 and 3 mg of available chlorine / L of water;<br>Shock application (curative treatment): the product shall be applied to reach the concentration between 10 and 50 mg of available chlorine / L of water. Contact time: 10 minutes.<br>Number and timing of application:<br>Maintenance treatment: Continuous application<br>Curative treatment: Shock application, occasionally |
| Category(ies) of users | professional |
| Pack sizes and packaging material | **Pack sizes**: 0.5 kg – 1 000 kg<br>**Packaging material:**<br>Bottle material: Steel<br>Valve material: Brass or AISI 316 Stainless steel<br>For sealing: Polytetrafluoroethylene (PTFE), Polychlorotrifluoroethylene (PCTFE), Polyvinylidene fluoride or Fluoropolymer rubbers (FKM/FPM)<br>Secondary packaging to secure the load (for transport): pallets, belts and tarpaulin shall be used.<br>For small cylinder (< 5 kg) transport may be in plastic boxes as well. |

4.1.1. *Use-specific instructions*

Check regularly chlorine content in the swimming pools as UV could partially degrade chlorine.

Ensure complete mixing of the product with the water.

4.1.2. *Use-specific risk mitigation measures*

Treatment shall be made in absence of bathers for shock application.

Do not allow entrance to the pool until the concentration decreases back to 3 mg/L of available chlorine for swimming pools or to 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.

4.1.3. *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*

Containers shall be stored locked up.

4.2. **Use description**

*Table 2*

**Algaecide for public swimming pools**

| | |
|---|---|
| Product type | PT02: Disinfectants and algaecides not intended for direct application to humans or animals |
| Where relevant, an exact description of the authorised use | - |
| Target organism(s) (including development stage) | Common name: green algae |
| Field(s) of use | outdoor use<br>Public swimming pools |
| Application method(s) | Method: closed system<br>Detailed description:<br>Automated dosing system, closed system<br>The chlorine is injected into the water by using an injector (a vacuum injector). The injector is connected to measurement and control techniques that constantly check the chlorine concentration in the water and sound the alarm when necessary.<br>The following technical measures shall be provided to prevent gas leakage accidents:<br>1. A daily control of the automated active chlorine measurement with manual devices.<br>2. Leakage detectors shall be present in the plant room and a sprinkler system installed.<br>3. The chlorine tanks shall be fixed and placed in a catch basin.<br>4. In the event of a leak in the piping system (pressure drop), the connecting valves of the cylinders shall close automatically.<br>5. The valves of cylinders or drums that are not in use shall be protected by a metal cap. |
| Application rate(s) and frequency | Application rate:<br>Continuous application (maintenance treatment): the product shall be applied to maintain a concentration between 1.4 and 3 mg of available chlorine / L of water;<br>Shock application (curative treatment): the product shall be applied to reach the concentration between 10 and 15 mg of available chlorine / L of water. Contact time: 48 hours.<br>Number and timing of application:<br>Maintenance treatment: Continuous application<br>Curative treatment: Shock application, occasionally |
| Category(ies) of users | professional |

| | |
|---|---|
| Pack sizes and packaging material | **Pack sizes**: 0.5 kg - 1 000 kg<br>**Packaging material:**<br>Bottle material: Steel<br>Valve material: Brass or AISI 316 Stainless steel<br>For sealing: Polytetrafluoroethylene (PTFE), Polychlorotrifluoroethylene (PCTFE), Polyvinylidene fluoride or Fluoropolymer rubbers (FKM/FPM)<br>Secondary packaging to secure the load (for transport): pallets, belts and tarpaulin shall be used.<br>For small cylinder (< 5 kg) transport may be in plastic boxes as well. |

4.2.1. *Use-specific instructions*

Check regularly chlorine content in the swimming pools as UV could partially degrade chlorine.

Ensure complete mixing of the product with the water.

4.2.2. *Use-specific risk mitigation measures*

Treatment shall be made in absence of bathers for shock application.

Do not allow entrance to the pool until the concentration decreases back to 3 mg/L of available chlorine for swimming pools or to 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*

Containers shall be stored locked up.

4.3. ***Use description***

*Table 3*

**Disinfection of drinking water at the water suppliers and their water distribution systems**

| | |
|---|---|
| Product type | PT05: Drinking water |
| Where relevant, an exact description of the authorised use | - |
| Target organism(s) (including development stage) | Common name: bacteria<br>Common name: viruses |
| Field(s) of use | indoor use<br>Disinfection of drinking water at the drinking water suppliers and their water distribution systems. |

| | |
|---|---|
| Application method(s) | Method: closed system<br><br>Detailed description:<br>Automated dosing system, closed system<br>The chlorine is injected into the water by using an injector (a vacuum injector). The injector is connected to measurement and control techniques that constantly check the chlorine concentration in the water and sound the alarm when necessary.<br><br>The following technical measures shall be provided to prevent gas leakage accidents:<br>1. A daily control of the automated active chlorine measurement with manual devices.<br>2. Leakage detectors shall be present in the plant room and a sprinkler system installed.<br>3. The chlorine tanks shall be fixed and placed in a catch basin.<br>4. In the event of a leak in the piping system (pressure drop), the connecting valves of the cylinders shall close automatically.<br>5. The valves of cylinders or drums that are not in use shall be protected by a metal cap.<br><br>Adjustment applicable in the territory of Germany in accordance with Article 44(5) of Regulation (EU) No 528/2012:<br><br>In accordance with the 'List of Permissible Treatment Agents and Disinfection Methods' of Section 20 of the German Ordinance on the Quality of Water Intended for Human Consumption ('TrinkwV'), the technical rules for dosing set out in the Deutscher Verein des Gas Wasserfaches e.V. -working sheets W 229, W 296, W 623 and the minimum contact time of W 229 shall apply (See section 6 for references). |
| Application rate(s) and frequency | Application rate:<br><br>Primary disinfection: the product shall be applied to maintain an initial concentration of 0,5 mg of available chlorine / L of drinking water. The chlorine shall be continuously added to the drinking water.<br><br>Number and timing of application: continuous application<br><br>Adjustment applicable in the territory of Germany according to Article 44 (5) of Regulation (EU) No 528/2012 (see full reference in section 6):<br>In accordance with the 'List of Permissible Treatment Agents and Disinfection Methods' of Section 20 of the German TrinkwV (see section 6 for references)<br><br>Application rate:<br><br>Maximum addition 1,2 mg/L available chlorine in water;<br>Concentration range after completion of treatment: maximum 0,3 mg/L available chlorine in water, minimum 0,1 mg/L available chlorine in water (including the amounts before treatment and from other treatments).<br><br>In exceptional cases an addition of up to 6 mg/L available chlorine in water and concentration of up to 0,6 mg/L available chlorine in water after treatment is acceptable if disinfection cannot be ensured by other means or if disinfection is temporarily impaired by the presence of ammonium. |

| | |
|---|---|
| Category(ies) of users | professional |
| Pack sizes and packaging material | **Pack sizes**: 0,5 kg – 1 000 kg<br>**Packaging material:**<br>Bottle material: Steel<br>Valve material: Brass or AISI 316 Stainless steel<br>For sealing: Polytetrafluoroethylene (PTFE), Polychlorotrifluoroethylene (PCTFE), Polyvinylidene fluoride or Fluoropolymer rubbers (FKM/FPM)<br>Secondary packaging to secure the load (for transport): pallets, belts and tarpaulin shall be used.<br>For small cylinder (< 5 kg) transport may be in plastic boxes as well. |

4.3.1. *Use-specific instructions*

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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 maximum residue level values set in Commission Regulation 2020/749 (see reference in section 6)

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**[1]

5.1. **Instructions for use**

Connect the chlorine tank to the automated dosing system via the injector. Follow any additional instructions of the automated dosing system. Open the valve. Set up the parameters of the system to obtain an active chlorine concentration in the water according to the application rates indicated for specific use. The injector is connected to measurement and control techniques that constantly check the chlorine concentration in the water and sound the alarm when necessary. Close the valve before disconnecting the pressure container.

Inform the CGV Chlorgas Vertriebs GmbH registration holder if the treatment is ineffective.

* Instructions for use, risk mitigation measures and other directions for use under this section are valid for any authorised uses.

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) shall be taken:

— an alarm system (trigger value corresponding to the AEC: 0,5 mg avCl/$m^3$ or lower according to the national legislation) is in place which initiates safety procedures like wearing respiratory protective equipment (RPE) according to the European Standard EN 14387 or equivalent (Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking),

— rRPE according to European Standard EN 14387 or equivalent (Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking) shall be at hand,

— application of local exhaust ventilation (LEV) (according to the national regulation) and low-pressure/vacuum are in place to avoid chlorine emission,

— the electrochemical sensors used for measurements shall detect various chlorinated species additional to chlorine itself,

— sensors shall measure exposure also when the operators are using RPE according to the European Standard EN 14387 or equivalent (Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking).

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

***First aid measures***

**Description of first aid measures:**

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.

***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 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**

Return pressure containers to supplier.

The filled or empty pressure containers shall only be disposed by specialised companies.

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

Airtight pressure tanks: Due to its chemical and physical properties, chlorine gas shall always be stored in dedicated carbon-steel recipients with special, dedicated valves. Chlorine packages for use within the Union should be constructed and labelled according to Directive 2010/35/EU of the European Parliament and of the Council and the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) (see section 6 for reference). Maximum filling 1,25 kg/L (80 % of volume approx.).

Keep containers with chlorine tightly closed and store in a cool, dry and well-ventilated place. Tightly screw on the valve outlet protection seal and the valve protection cap when storing. Prevent cylinders from falling over. Protect from heat and direct sunlight. The temperature of the container shall never be below 15 °C and greater than 50 °C.

Chlorine shall be kept away from reactive products (materials to avoid: reducing agents, combustible materials, metals in powder, acetylene, hydrogen, ammonia, hydrocarbons and organic materials).

6. **OTHER INFORMATION**

With respect to the 'Category(ies) of users' note:

Professionals (including industrial users) means trained professionals if this is required by national legislation.

Please note that some Member States 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: 0,2-0,5 mg/L available chlorine (residual)' has been considered as covered by the primary disinfection.

References to national provisions for the adjustment applicable in the territory of Germany according to Article 44 (5) of Regulation (EU) No 528/2012:

German Ordinance on the Quality of Water Intended for Human Consumption - Verordnung über die Qualität von Wasser für den menschlichen Gebrauch (Trinkwasserverordnung – TrinkwV) in the version of the Second Ordinance for the Revision of the Drinking water Ordinance (Zweite Verordnung zur Novellierung der Trinkwasserverordnung vom 20. Juni 2023 (Bundesgesetzblatt I Nr. 159), https://www.gesetze-im-internet.de/englisch_trinkwv/englisch_trinkwv.pdf.

List of Permissible Treatment Agents and Disinfection Methods of Section 20 of the TrinkwV: Bekanntmachung des Umweltbundesamtes der Liste zulässiger Aufbereitungsstoffe und Desinfektionsverfahren nach § 20 der Trinkwasserverordnung (Stand: Januar 2023) vom 13. Januar 2023, BAnz AT 27.01.2023 B12.

Deutscher Verein des Gas- und Wasserfaches e.V. (German Technical and Scientific Association for Gas and Water).

Part II, Lfd. Nr.5 of the List of Permissible Treatment Agents and Disinfection Methods of Section 20 of the TrinkwV.

Part I c, Lfd. Nr.2 of the List of Permissible Treatment Agents and Disinfection Methods of Section 20 of the TrinkwV.

Further references:

Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1, ELI: http://data.europa.eu/eli/reg/2012/528/oj)

Commission Regulation (EU) 2020/749 of 4 June 2020 amending Annex III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for chlorate in or on certain products (OJ L 178, 8.6.2020, p. 7, ELI: http://data.europa.eu/eli/reg/2020/749/oj)

Directive 2010/35/EU of the European Parliament and of the Council of 16 June 2010 on transportable pressure equipment and repealing Council Directives 76/767/EEC, 84/525/EEC, 84/526/EEC, 84/527/EEC and 1999/36/EC (OJ L 165, 30.6.2010, p. 1, ELI: http://data.europa.eu/eli/dir/2010/35/oj).

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) done at Geneva on 30 September 1957 in the version applicable as from 1 January 2023 (ADR 2023), ECE/TRANS/326, https://unece.org/transport/standards/transport/dangerous-goods/adr-2023-agreement-concerning-international-carriage

(1) Instructions for use, risk mitigation measures and other directions for use under this section are valid for any authorised uses.