



## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006  
(amended by Regulation (EU) 2020/878)

---

### Chloriflash

---

---

#### **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

##### 1.1. Product identifier

|                                 |                     |
|---------------------------------|---------------------|
| Product name                    | Chloriflash         |
| Index-No                        | 017-012-00-7        |
| CAS-No.                         | 7778-54-3           |
| EC-No.                          | 231-908-7           |
| Product code                    | None.               |
| Unique formula identifier (UFI) | 24A0-H05F-800P-XP9V |

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

|                              |                           |
|------------------------------|---------------------------|
| Use of the Substance/Mixture | Water treatment chemicals |
|------------------------------|---------------------------|

##### 1.3. Details of the supplier of the safety data sheet

|                                    |  |
|------------------------------------|--|
| Company/Undertaking Identification | CHEMIA BRUGG AG<br>Aarauerstrasse 51<br>CH-5200 Brugg<br>Telefon: +41 (0) 56 460 62 60 (08-17 Uhr)<br>E-Mail: info@chemia.ch |
|                                    | Ansprechpartner:<br>Tobias Schild<br>Telefon: +41 (0) 56 460 62 06<br>E-Mail: tobias.schild@chemia.ch<br>www.chemia.ch       |

|                                 |                       |
|---------------------------------|-----------------------|
| 1.4. Emergency telephone number | 145 (Tox Info Suisse) |
|---------------------------------|-----------------------|

|               |            |
|---------------|------------|
| Revision date | 22.11.2023 |
|---------------|------------|

|         |                                |
|---------|--------------------------------|
| Version | 23.11 (Previous versions: 1.0) |
|---------|--------------------------------|

---

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008

Acute toxicity, oral, Cat. 4, H302  
Skin corrosion/irritation, Cat. 1B, H314  
Oxidising solids, Cat. 2, H272  
Hazardous to the aquatic environment, acute, Cat. 1, H400

#### Additional information

For the full text of the phrases mentioned in this Section, see Section 16.

### 2.2. Label elements



#### Signal Word

Danger

#### Hazard Statements

H272: May intensify fire; oxidiser.  
H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H400: Very toxic to aquatic life.

#### Precautionary statements

P101: If medical advice is needed, have product container or label at hand.  
P102: Keep out of reach of children.  
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P221: Take any precaution to avoid mixing with combustibles.  
P280: Wear protective gloves, protective clothing, eye protection and face protection.  
P501: Return contents / partially emptied and empty containers to the point of sale or take them to a collection point for hazardous waste.  
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER or doctor/physician.

#### Supplemental information

EUH031: Contact with acids liberates toxic gas.

#### Product identifier

calcium hypochlorite, CAS-No. 7778-54-3, EC-No. 231-908-7

#### Packaging

Child resistant fastenings (EN 862).  
Tactile warning of danger (EN/ISO 11683).

### 2.3. Other hazards

Contact with combustible material may cause fire.

---

## **SECTION 3: Composition/information on ingredients**

### **3.2. Mixtures**

| <b>Components</b>    | <b>Weight %</b> | <b>CLP Classification</b>   | <b>Product identifier</b>   |
|----------------------|-----------------|---|---|
| calcium hypochlorite | > 99%           | Acute Tox. 4 H302, Skin Corr. 1B H314, Aquatic Acute 1 H400, Ox. Sol. 2 H272, EUH031<br>[Skin Corr. 1B H314: C ≥ 5 %   Skin Irrit. 2 H315: 1 % ≤ C < 5 %   Eye Dam. 1 H318: 3 % ≤ C < 5 %   Eye Irrit. 2 H319: 0,5 % ≤ C < 3 %] , M-Factor Acute=10 | CAS-No.: 7778-54-3<br>EC-No.: 231-908-7<br>Index-No: 017-012-00-7 |

For the full text of the phrases mentioned in this Section, see Section 16.

**Hazardous impurities** None known.

---

## **SECTION 4: First aid measures**

### **4.1. Description of first aid measures**

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. Consult a physician for severe cases.   |
| <b>Skin contact</b> | Remove contaminated clothes Wash off immediately with plenty of water for at least 15 minutes. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. |
| <b>Eye contact</b>  | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If easy to do, remove contact lens, if worn. Protect unharmed eye. Consult an ophthalmologist.                                 |
| <b>Ingestion</b>    | Clean mouth with water and drink afterwards plenty of water. Prevent vomiting if possible. Consult a physician for severe cases.  |

**4.2. Most important symptoms and effects, both acute and delayed** Causes severe burns. Causes serious eye damage.

**4.3. Indication of any immediate medical attention and special treatment needed** Show this safety data sheet to the attending physician.

---

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

**Suitable extinguishing media** Use water spray, alcohol-resistant foam, dry extinguishing agent or carbon dioxide.

**Unsuitable extinguishing media** High volume water jet.

**5.2. Special hazards arising from the substance or mixture** During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Oxidizing agents. In the event of fire Hydrogen chloride (HCl) may be formed.

### **5.3. Advice for firefighters**

**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit. Standard procedure for chemical fires. In the event of fire and/or explosion do not breathe fumes.

**Specific methods** Pipe operators and support are to be equipped with respiratory protection. Use extinguishing agents individually or in combination. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water mist may be used to cool closed containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours/dust. Remove all sources of ignition. Spills on clothing or combustible materials will cause fire. Evacuate personnel to safe areas.

**For emergency responders** Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours/dust. Remove all sources of ignition. Immediately evacuate personnel to safe areas. Prevent unauthorised persons entering the zone.

**6.2. Environmental precautions** Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Advise water authority if spillage has entered water course or drainage system.

**6.3. Methods and material for containment and cleaning up** Use mechanical handling equipment. Clean up promptly by sweeping or vacuum. Avoid formation of dust. Keep in suitable and closed containers for disposal (Plastic container of HDPE). After cleaning, flush away traces with water.

**6.4. Reference to other sections** See sections 8 and 13.

---

## **SECTION 7: Handling and storage**

|  |   |
|--|---|
| <b>7.1. Precautions for safe handling</b>                                | Handle in accordance with good industrial hygiene and safety practice. General industrial hygiene practice. Wear personal protective equipment. Use only with adequate ventilation. Heat only in areas with appropriate exhaust ventilation. Do not inhale gas/smoke/steam/aerosol. Ingestion, exposure to skin and eyes and inhalation of any generated vapours should be avoided. Keep away from combustible material. Keep product and empty container away from heat and sources of ignition. Take precautionary measures against static discharges. Plan first aid action before beginning work with this product. When using, do not eat, drink or smoke. |
| <b>7.2. Conditions for safe storage, including any incompatibilities</b> | Keep containers tightly closed in a cool, well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Storage class 5.  |
| <b>7.3. Specific end use(s)</b>  | Use only in accordance with our recommendations.  |

---

## **SECTION 8: Exposure controls/personal protection**

### **8.1. Control parameters**

**Exposure limit(s)** No data is available on the product itself.

### **8.2. Exposure controls**

**Appropriate engineering controls** Handle in accordance with good industrial hygiene and safety practice. General industrial hygiene practice. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing. Regular cleaning of equipment, work area and clothing. When using, do not eat, drink or smoke.

### **Personal protection equipment**

*Respiratory protection* In case of insufficient ventilation wear suitable respiratory equipment. Respirator with combination filter for vapour/particulate (EN 14387).

*Hand protection* The selected protective gloves have to satisfy the specifications of Regulation (EU) No. 2016/425 and the standard EN 374 derived from it. Gloves made of Nitril. Minimum layer thickness.  $\geq 0.38$  mm Break through time:  $\geq 480$  min. Gloves made of Butyl. Minimum layer thickness.  $\geq 0.50$  mm Break through time:  $\geq 480$  min.

*Eye protection* Safety glasses with side-shields conforming to EN166.

*Skin and body protection* Wear suitable protective clothing Flame retardant protective clothing.

Thermal hazards

Oxidizing agents. Keep product and empty container away from heat and sources of ignition.

**Environmental exposure controls** Prevent product from entering surface water or sewage.

---

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

|   |  |
|---|--|
| <b>Physical state</b>                                     | Solid. Granular.                             |
| <b>Colour</b>   | White.                                       |
| <b>Odour</b>  | Slight chlorine.                             |
| <b>Melting point/ freezing point:</b>                     | 100°C (spontane Zersetzung)                  |
| <b>Boiling point or initial boiling point / range:</b>    | Not determined.                              |
| <b>Flammability:</b>                                      | non-flammable                                |
| <b>Lower and upper explosion limit:</b>                   | not determined                               |
| <b>Flash point:</b>                                       | Not determined.                              |
| <b>Auto-ignition temperature:</b>                         | not determined                               |
| <b>Decomposition temperature:</b>                         | >100°C                                       |
| <b>pH:</b>  | 11.5 (50 g/l)                                |
| <b>Kinematic viscosity:</b>                               | not relevant                                 |
| <b>Solubility:</b>  | 21.5 g/100 ml H <sub>2</sub> O (0°C) (Water) |
| <b>Partition coefficient n-octanol/water (log value):</b> | not applicable                               |
| <b>Vapour pressure:</b>                                   | Not determined.                              |
| <b>Density and/or relative density:</b>                   | 2.35 g/ml                                    |
| <b>Relative vapour density:</b>                           | Not determined.                              |
| <b>Particle characteristics:</b>                          | Not applicable.                              |

### **9.2. Other information**

|   |                           |
|---|---------------------------|
| <b>9.2.1 Information with regard to physical hazard classes</b> | No information available. |
| <b>9.2.2 Other safety characteristics</b>                       | No information available. |

---

## **SECTION 10: Stability and reactivity**

|   |   |
|---|---|
| <b>10.1. Reactivity</b>                         | May intensify fire; oxidiser. Risk of ignition.   |
| <b>10.2. Chemical stability</b>                 | No decomposition if used as directed. Decomposes on heating.  |
| <b>10.3. Possibility of hazardous reactions</b> | Contact with acids liberates toxic gas. Violent reaction with: Acetylene Alkaline metals. Alcohols. Amines. Ammonia. Acids. |
| <b>10.4. Conditions to avoid</b>                | Heat, flames and sparks. Burning produces obnoxious and toxic fumes. Take precautionary measures against static discharges. |
| <b>10.5. Incompatible materials</b>             | Incompatible with acids. Corrodes base metals. Flammable materials. Reducing agents.  |
| <b>10.6. Hazardous decomposition products</b>   | None under normal use. Under conditions giving incomplete combustion, hazardous gases produced may consist of chlorine,     |

---

## **SECTION 11: Toxicological information**

### **11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

|   |  |
|---|--|
| <b>Acute toxicity</b>                                     | Harmful if swallowed.<br><b>calcium hypochlorite (CAS 7778-54-3)</b><br>Dermal LD50 Rabbit > 2000 mg/kg (JAPAN_GHS)<br>Oral LD50 Rat = 850 mg/kg (JAPAN_GHS) |
| <b>Skin corrosion/irritation</b>                          | Causes severe skin burns and eye damage. Causes severe burns.  |
| <b>Serious eye damage/eye irritation</b>                  | Causes serious eye damage.   |
| <b>Respiratory / Skin Sensitisation</b>                   | Not classified based on the information available.   |
| <b>Carcinogenicity</b>                                    | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.                      |
| <b>Germ cell mutagenicity</b>                             | Not classified as a germ cell mutagen (mutagenic).   |
| <b>Reproductive toxicity</b>                              | Not classified as toxic to reproduction.   |
| <b>Specific target organ toxicity (single exposure)</b>   | Not classified based on the information available.   |
| <b>Specific target organ toxicity (repeated exposure)</b> | Not classified based on the information available.   |
| <b>Aspiration hazard</b>                                  | Not classified based on the information available.   |
| <b>Human experience</b>                                   | No data available.   |

### **11.2. Information on other hazards**

|   |   |
|---|---|
| <b>Symptoms related to the physical, chemical and toxicological characteristics</b> | Causes severe burns. Risk of serious damage to eyes.  |
| <b>Endocrine disrupting properties</b>  | The substance / mixture does not contain any components which, according to REACH Article 57 (f) or the delegated regulation (EU) 2017/2100 of the commission or the delegated regulation (EU) 2018/605 of the commission in amounts of 0, Have 1% or more endocrine disrupting properties. |
| <b>Other information</b>  | No data available.  |

---

## **SECTION 12: Ecological information**

**12.1. Toxicity** Very toxic to aquatic life. No data is available on the product itself.

May change pH of waters.

#### **calcium hypochlorite (CAS 7778-54-3)**

Ecotoxicity - Freshwater Fish - Acute Toxicity Data  
LC50 96 h *Lepomis macrochirus* 0.049 - 0.16 mg/L [static] (IUCLID)  
LC50 96 h *Lepomis macrochirus* 0.4 mg/L [flow-through] (EPA)  
LC50 96 h *Lepomis macrochirus* 0.054 - 0.06 mg/L [semi-static] (EPA)  
LC50 96 h *Cyprinus carpio* 0.185 - 0.26 mg/L [semi-static] (EPA)  
LC50 96 h *Oncorhynchus mykiss* 0.055 - 0.1 mg/L [semi-static] (EPA)  
LC50 96 h *Oncorhynchus mykiss* 0.13 - 0.2 mg/L [static] (EPA)  
LC50 96 h *Pimephales promelas* 0.561 - 1.41 mg/L [static] (EPA)

#### **12.2. Persistence and degradability**

No data is available on the product itself.

#### **12.3. Bioaccumulative potential**

No data is available on the product itself.

#### **12.4. Mobility in soil**

No data is available on the product itself.

#### **12.5. Results of PBT and vPvB assessment**

This substance / mixture does not contain any components in concentrations of 0.1% or higher that are either classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

#### **12.6. Endocrine disrupting properties**

The substance / mixture does not contain any components which, according to REACH Article 57 (f) or the delegated regulation (EU) 2017/2100 of the commission or the delegated regulation (EU) 2018/605 of the commission in amounts of 0, Have 1% or more endocrine disrupting properties.

#### **12.7. Other adverse effects**

No information available.

---

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

#### **Waste from residues / unused products**

Product residues are in compliance with the regulation on the avoidance and the Disposal of waste (waste ordinance, VVEA, SR 814.600), the ordinance on the movement of waste (VeVA, SR 814.610) and the UEVK ordinance on lists for disposal with waste (LVA, SR 814.610.1). chemicals in keep the original containers. Do not mix with other waste.

#### **Contaminated packaging**

Dispose of as unused product.

---

## **SECTION 14: Transport information**

**14.1. UN number or ID number** UN 3487

**14.2. UN proper shipping name** CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE



|  |  |
|--|--|
| <b>14.3. Transport hazard class(es)</b>                              | 5.1  |
| <b>14.4. Packing group</b>   | II   |
| <b>14.5. Environmental hazards</b>                                   | Marine pollutant: Yes.<br>Environmentally hazardous: Yes |
| <b>14.6. Special precautions for user</b>                            | Not applicable.  |
| <b>14.7. Maritime transport in bulk according to IMO instruments</b> | Not applicable.  |

#### UN Model Regulations

**ADR/RID**

UN 3487.  
 Proper shipping name: CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE.  
 Class 5.1.  
 Packing group II.  
 ADR/RID-Labels 5.1+8+ENV.  
 Environmentally hazardous: Yes  
 Classification code OC2.  
 Hazard identification no. 58.  
 Limited quantity 1 kg.  
 Excepted quantity E2.  
 Transport category 2.  
 Tunnel restriction code (E).

**IMDG**

UN 3487.  
 Proper shipping name: CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE.  
 Class 5.1.  
 Packing group II.  
 IMDG-Labels 5.1+8+ENV.  
 Limited quantity 1 kg.  
 Excepted quantity E2.  
 EmS F-H, S-Q.  
 Marine pollutant: Yes.

**IATA**

UN 3487.  
 Proper shipping name: Calcium hypochlorite, hydrated, corrosive, with  $\geq 5.5\%$  but  $\leq 16\%$  water.  
 Class 5.1.  
 Packing group II.  
 IATA label 5.1+8+ENV.  
 Packing instruction (passenger aircraft): 558 (5 kg).  
 Packing instruction (LQ): Y544 (2.5 kg).  
 Packing instruction (cargo aircraft): 562 (25 kg).

**Inland navigation ADN**

UN 3487.  
 Proper shipping name: CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE.  
 Class 5.1.  
 Packing group II.  
 ADN labels 5.1+8+ENV.  
 Classification code OC2.  
 Limited quantity 1 kg.  
 Excepted quantity E2.

---

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Regulatory Information

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.  
 CPID (CH): 605524-45  
 Water contaminating class (WGK Germany) = 2.  
 Storage class 5.  
 VOC (CH) = 0%

#### calcium hypochlorite (CAS 7778-54-3)

Switzerland - Biocides - Annex II - Active Substances - Minimum Purity

>=655 g/kg Sunset Date: 12/31/2028 (active Chlorine released from Calcium hypochlorite)  
 >=65.5 w/w% Sunset Date: 12/31/2028 (based on a Chlorine content of 65%  
 active Chlorine released from Calcium hypochlorite)

Switzerland - Biocides - Annex II - Active Substances - Product Type

Product Type: 2 (active Chlorine released from Calcium hypochlorite)  
 Product Type: 3 (active Chlorine released from Calcium hypochlorite)  
 Product Type: 4 (active Chlorine released from Calcium hypochlorite)  
 Product Type: 5 (active Chlorine released from Calcium hypochlorite)  
 455 Product type 11 (231-908-7)

EU - Biocides (1062/2014) - Annex II Part 1 - Supported Substances  
 EU - Biocides (2007/565/EC) - Substances and Product-Types Not to Be Included in Annexes I, IA and IB to Directive 98/8/EC

Product type: 1

EU - Biocides (528/2012/EU) - Active Substances

2 - Disinfectants and algacides not intended for direct application to humans or animals (Commission Implementing Regulation 2017/1274/EU)  
 5 - Drinking water disinfectants (Commission Implementing Regulation 2017/1274/EU)  
 4 - Food and feed area disinfectant (Commission Implementing Regulation 2017/1274/EU)  
 3 - Veterinary hygiene (Commission Implementing Regulation 2017/1274/EU)

EU - REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances  
 EU - REACH (1907/2006) - List of Registered Substances

Use restricted. See item 75. (T)

Present

**Biocidal product**

CHZN 5238

Active ingredient: Aus Calciumhypochlorit freigesetztes Aktivchlor,  
CAS: 7778-54-3, 100g/100g.**15.2. Chemical safety  
assessment**No chemical safety assessment has been carried out for this  
substance/product.

---

**SECTION 16: Other information****Revision Note**This data sheet contains changes from the previous version in  
section(s): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.**Key or legend to abbreviations  
and acronyms**

ACGIH: American Conference of Industrial Hygienists  
CLP: Classification according to Regulation (EC) No. 1272/2008  
(GHS)  
DNEL: Derived No Effect Level .  
EWC: European Waste catalogue code  
LOAEC: Lowest Observed Adverse Effect Concentration  
MAK: Occupational exposure limit.  
NOAEC No Observed Adverse Effect Concentration  
NOAEL: No observed adverse effect level .  
OECD: Organisation for Economic Co-operation and Development  
OEL: Occupational Exposure Limits for Hazardous Agents in the  
Workplace  
OSHA: Occupational Safety and Health Administration (USA)  
PEC: Predicted exposure concentration .  
PEL: Permissible Exposure Limit  
PNEC: Predicted No Effect Concentration .  
STEL: Short Term Exposure Limit  
TLV: Threshold limit value  
TWA: time weighted average  
VeVA: Ordinance on the Treatment of Waste (SR 814.610)  
VOC: Volatile organic compounds (VOC) content  
WEL: workplace exposure limit

**Classification procedure**

Classification according to Regulation (EC) No. 1272/2008.

**Full text of phrases referred to  
under sections 2 and 3**

EUH031: Contact with acids liberates toxic gas.  
H272: May intensify fire; oxidiser.  
H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H400: Very toxic to aquatic life.

**Further information**

Take notice of the directions of use on the label.

**Instructions for use**

Use only in accordance with our recommendations.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.