SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Revision date 25/07/2023 **Revision Number** 16

1.1. Product identifier

Product Code(s) 31529189.A

Safety data sheet number 10311

Product Name CITRATE IR TABLETS

Synonyms X-294

Pure substance/mixture Mixture

Contains Boric acid (H3BO3), Lithium hydroxide monohydrate

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

Recommended use Restricted to professional users Testing water

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier
CIFEC 12 bis rue du Commandant Pilot 92200 Neuilly sur Seine France Tél.: (33) 1 46404949 Fax: (33) 1 46400087

For further information, please contact

Contact Point Website: www.cifec.fr

E-mail address info@cifec.fr

1.4. Emergency telephone number

Centre Anti - Poison, France e-mail : cap.paris@lrb.aphpa.fr
Permanence Médicale téléphonique Tél. (33) 01 4005 4848 Fax. (33) 01 4005 4193

2.1. Classification of the substance or mixture

Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Reproductive toxicity	Category 1B - (H360FD)

2.2. Label elements

Contains Boric acid (H3BO3), Lithium hydroxide monohydrate

Signal word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H360FD - May damage fertility. May damage the unborn child

Precautionary statements
P201 - Obtain special instructions before use
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
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

2.3. Other hazards

No information available.

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Boric acid (H3BO3) 10043-35-3	21.93	233-139-2	-	Repr. 1B (H360FD)	Repr. 1B :: C>=5.5%	-	-
Lithium hydroxide monohydrate 1310-66-3	12.28	215-183-4	-	Acute Tox. 4 (H302) Skin Corr. 1B (H314) Eye Dam. 1 (H318)	-	-	-

Full text of H- and EUH-phrases: see section 16

Chemical name	CAS No	SVHC candidates
Boric acid (H3BO3)	10043-35-3	X

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing dust/fume/gas/mist/vapours/spray. Use personal protective equipment as required. See section 8 for more information.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause redness and tearing of the eyes. May cause blindness. Coughing and/ or wheezing. See Section 11 for additional Toxicological Information.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitisation in susceptible persons. Treat symptomatically.

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal

protective equipment as required. Avoid generation of dust. Do not breathe dust.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid generation of dust.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapours/spray.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

8.1. Control parameters

Exposure Limits

Chemical name	United Kingdom
Lithium hydroxide monohydrate 1310-66-3	STEL: 1 mg/m³

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Boric acid (H3BO3) 10043-35-3		392 mg/kg bw/day [4] [6]	8.3 mg/m³ [4] [6]

[4] Systemic health effects.
[6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Boric acid (H3BO3) 10043-35-3	0.98 mg/kg bw/day [4] [6] 0.98 mg/kg bw/day [4] [7]		4.15 mg/m³ [4] [6]

[4] Systemic health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Boric acid (H3BO3) 10043-35-3	2.9 mg/L	13.7 mg/L	2.9 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Boric acid (H3BO3) 10043-35-3			10 mg/L	5.7 mg/kg soil dw	

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapours/spray.

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	solid
Colour	white
Odour	No information available.
Odour threshold	No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Excessive heat.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhaled corrosive substances can lead to a toxic edema of the lungs.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause additional affects as listed under "Inhalation".

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause redness and tearing of the eyes. May cause blindness. Coughing and/ or wheezing.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	2,071.70 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-dust/mist)	99,999.00 mg/l
ATEmix (inhalation-vapour)	99,999.00 mg/l

Unknown acute toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Boric acid (H3BO3)	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 2.12 mg/L (Rat) 4 h
Lithium hydroxide monohydrate	= 120 mg/kg (Rat)	-	= 0.96 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	United Kingdom
Boric acid (H3BO3)	Repr. 1B

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

Other adverse effects No information available.

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Boric acid (H3BO3)	-	-	-	EC50: 115 - 153mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient

Boric acid (H3BO3)	-1.09

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
Boric acid (H3BO3)	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

No information available.

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

IATA

14.1 UN number or ID number UN2680
14.2 UN proper shipping name Lithium hydroxide
14.3 Transport hazard class(es) 8
14.4 Packing group II
Description UN2680, Lithium hydroxide, 8, II
14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None
ERG Code 8L

IMDG

14.1 UN number or ID number UN2680
14.2 UN proper shipping name Lithium hydroxide
14.3 Transport hazard class(es) 8
14.4 Packing group II
Description UN2680, Lithium hydroxide, 8, II
14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None
EmS-No F-A, S-B
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number UN2680
14.2 UN proper shipping name Lithium hydroxide
14.3 Transport hazard class(es) 8
14.4 Packing group II
Description UN2680, Lithium hydroxide, 8, II
14.5 Environmental hazards Not applicable
14.6 Special precautions for user

Special Provisions None
Classification code C6

ADR

14.1 UN number or ID number UN2680
14.2 UN proper shipping name Lithium hydroxide
14.3 Transport hazard class(es) 8
14.4 Packing group II
Description UN2680, Lithium hydroxide, 8, II, (E)
14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None
Classification code C6
Tunnel restriction code (E)

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

National regulations

Authorisations and/or restrictions on use:
This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Boric acid (H3BO3) - 10043-35-3	Use restricted. See item 30. Restricted Reproductive Toxin 1B	-

Persistent Organic Pollutants
Not applicable

Export Notification requirements
Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)
Not applicable

The Ozone-Depleting Substances Regulations 2015
Not applicable

The Biocidal Products Regulations 2001 (as amended)
Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)
Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)
Not applicable

International Inventories

TSCA Contact supplier for inventory compliance status
DSL/NDSL Contact supplier for inventory compliance status
EINECS/ELINCS Contact supplier for inventory compliance status
ENCS Contact supplier for inventory compliance status
IECSC Contact supplier for inventory compliance status
KECL Contact supplier for inventory compliance status
PICCS Contact supplier for inventory compliance status
AIIC Contact supplier for inventory compliance status
NZIoC Contact supplier for inventory compliance status

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

UK SDS version information - XGHS
UL release:
GHS Revision 7
2022 Q1

United Kingdom Full process, including GHS and Transportation Wizards

Full text of H-Statements referred to under section 3: H302 - Harmful if swallowed H314 - Causes severe skin burns and eye damage H318 - Causes serious eye damage H360FD - May damage fertility. May damage the unborn child

Chemical name	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)
Boric acid (H3BO3)	Repr. 1B (H360FD)	Repr. 1B :: C>=5.5%
Lithium hydroxide monohydrate	Acute Tox. 4 (H302) Skin Corr. 1B (H314) Eye Dam. 1 (H318)	