

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006**SMALL CHLORINE TABLETS (BORIC FREE)**

Version 3.0

Print Date 2024/05/10

Revision date / valid from 2024/05/10

MSDS code: MAAE210**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name : SMALL CHLORINE TABLETS (BORIC FREE)

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

Use of the Substance/Mixture : disinfectant, Algae control, Flocculant, Swimming pool water treatment

Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK Limited
Alpha House, Lawnswood Business Park
GB LS16 6QY Leeds

Telephone : +44 (0) 113 3879 200
Telefax : +44 (0) 113 3879 280
E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone numberEmergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation S.I. 2019/720 (GB CLP)****Regulation S.I. 2019/720 (GB CLP)**

Hazard class	Hazard category	Target Organs	Hazard statements
Oxidizing solids	Category 2	---	H272
Acute toxicity (Oral)	Category 4	---	H302
Serious eye damage	Category 1	---	H318
Specific target organ toxicity - single exposure	Category 3	Respiratory system	H335

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Short-term (acute) aquatic hazard	Category 1	---	H400
Long-term (chronic) aquatic hazard	Category 1	---	H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

Human Health : See section 11 for toxicological information.

Physical and chemical hazards : See section 9/10 for physicochemical information.

Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation S.I. 2019/720 (GB CLP)

Hazard symbols : 

Signal word : Danger

Hazard statements : H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep away from clothing and other combustible materials.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response : P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

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P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P391

Collect spillage.

Additional Labelling:

EUH031 Contact with acids liberates toxic gas.

EUH206 Warning! Do not use together with other products. May release dangerous gases (chlorine).

Hazardous components which must be listed on the label:

- symclosene
- Aluminium sulphate
- copper sulphate pentahydrate

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

It may react with other products by releasing chlorine (toxic gas). It promotes inflammation of combustible materials. To break down by high temperature, liberates toxic gas.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components		Classification (Regulation S.I. 2019/720 (GB CLP))	
		Hazard class / Hazard category	Hazard statements
symclosene			
Index-No.	: 613-031-00-5	> 87 - < 95	Ox. Sol.2 H272
CAS-No.	: 87-90-1		Acute Tox.4 Oral H302
EC-No.	: 201-782-8		Eye Irrit.2 H319
			STOT SE3 H335
			Aquatic Acute1 H400
			Aquatic Chronic1 H410
		Acute toxicity estimate	EUH031

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Acute oral toxicity: 787 mg/kg Acute dermal toxicity: 2000.01 mg/kg			
Aluminium sulphate			
CAS-No.	: 10043-01-3	> 3 - < 5	Met. Corr.1
EC-No.	: 233-135-0		Eye Dam.1
EU REACH-	: 01-2119531538-36-XXXX		
Reg. No.			
copper sulphate pentahydrate			
Index-No.	: 029-023-00-4	> 2 - < 4	Acute Tox.4 Oral
CAS-No.	: 7758-99-8		Eye Dam.1
EC-No.	: 231-847-6		Aquatic Acute1
			Aquatic Chronic1
M-Factor (Acute aquatic toxicity): 10			
M-Factor (Chronic aquatic toxicity): 1			
Acute toxicity estimate			
Acute oral toxicity: 481 mg/kg			
Acute dermal toxicity: 2000.01 mg/kg			

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	: Take off all contaminated clothing immediately. Immediate medical attention is required.
If inhaled	: In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
In case of skin contact	: Wash off immediately with plenty of water for at least 15 minutes. Call a physician immediately.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Rinse mouth with water. If possible drink milk afterwards. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately.
Protection of First Aid Responders	: First Aid responders should pay attention to self-protection and use the recommended protective clothing.

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

Symptoms	: See Section 11 for more detailed information on health effects and symptoms.
Effects	: Harmful if swallowed. Causes serious eye damage. May cause respiratory irritation. Extremely corrosive and destructive to tissue. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. See Section 11 for more detailed information on health effects and symptoms.

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

Treatment	: Treat symptomatically. For specialist advice physicians should contact the Poisons Information Service.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Large quantity of water. CO2 can be used for small fires.
Unsuitable extinguishing media	: Ammonium salts based powders and halogenated extinguishing agents

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	: The substance itself does not burn, but in contact with combustible substances it increases the risk of fire and can fuel any existing fire substantially. In the event of fire and/or explosion do not breathe fumes. The product is not flammable. Self-inflammation possible by water spray or water in small quantities.
Hazardous combustion products	: Carbon monoxide, Carbon dioxide (CO2), The formation of caustic fumes is possible. Toxic and corrosive gases or vapours.

5.3. Advice for firefighters

Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)
Specific extinguishing methods	: Control smoke with water spray.
Further advice	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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Personal precautions : Keep away unprotected persons. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If material reaches soil inform authorities responsible for such cases.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Use mechanical handling equipment. Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe vapours/dust. Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.

Advice on protection against fire and explosion : Oxidizing; Contact with combustible material may cause fire. Keep away from sources of ignition - No smoking.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep away from heat. Temperatures above 50°C.

Advice on common storage : Keep away from combustible material. Keep away from food, drink and animal feedingstuffs. Oxidizing agents Acids

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Suitable packaging materials : Plastics

Unsuitable packaging materials : , Wood, Rubber, metals

7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values

(Additional) Information : Contains no substances with occupational exposure limit values.

Component:	Aluminium sulphate	CAS-No. 10043-01-3
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Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL	Workers, Long-term - systemic effects, Inhalation	: 13.4 mg/m ³
DNEL	Workers, Long-term - systemic effects, Skin contact	: 3.8 mg/kg bw/day
DNEL	Consumers, Long-term - systemic effects, Inhalation	: 3.3 mg/m ³
DNEL	Consumers, Long-term - systemic effects, Skin contact	: 1.9 mg/kg bw/day
DNEL	Consumers, Long-term - systemic effects, Ingestion	: 1.9 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

No PNEC value was derived. :

8.2. Exposure controls

Appropriate engineering controls

Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

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Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : In case of brief exposure or low pollution use breathing filter apparatus.
In case of intensive or longer exposure use self-contained breathing apparatus.
Equipment should conform to EN 14387
Recommended Filter type: B2
Particle filter:P2
Particle filter:P3

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Eye protection

Advice : Safety goggles
Face-shield
Equipment should conform to EN 166

Skin and body protection

Advice : Impervious clothing
Chemical resistant apron

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form : solid, tablet
Physical state : solid
Colour : No data available
Odour : slight chlorine

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Odour Threshold	:	No data available
Melting point/freezing point	:	225 °C Method: EU Method A.1
Boiling point	:	No data available
Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	225 °C
Self-Accelerating decomposition temperature (SADT)	:	No data available
pH	:	2.7 - 3.3 Concentration: 1 %
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Dissolution Rate	:	No data available
Partition coefficient: n-octanol/water	:	log Pow: 0.94 Method: Program KOWWIN
Dispersion Stability	:	No data available
Vapour pressure	:	< 0.0002 hPa (20 °C)
Relative density	:	No data available
Density	:	No data available
Bulk density	:	No data available

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Relative vapour density : No data available

Particle characteristics
No data available

9.2 Other information

Explosives : Not explosive

Oxidizing properties : May intensify fire; oxidizer.

Method: Regulation (EC) No. 440/2008, Annex, A.17

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if stored and applied as directed.
The substance itself does not burn, but in contact with combustible substances it increases the risk of fire and can fuel any existing fire substantially.

Advice : Attacks metals

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Contact with combustible material may cause fire.

10.4. Conditions to avoid

Conditions to avoid : Protect from humidity
Temperatures above 50°C.
Thermal decomposition : 225 °C

10.5. Incompatible materials

Materials to avoid : Keep away from combustible material.
: Metals, Water, Oxidizing agents, Reducing agents, Acids, alkalis, Nitrogen, Ammonium salts, Urea, Amines, Quaternary ammonium byproducts, Oil, fatty substances, Peroxides, Cationic surfactants

10.6. Hazardous decomposition products

Hazardous decomposition products : Chlorine, Nitrogen trichloride, chlorine oxides

SECTION 11: Toxicological information

11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

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Data for the product

Acute toxicity

Oral

Acute toxicity estimate : 505.05 mg/kg) (Calculation method)

Inhalation

No data available

Dermal

No data available

Irritation

Skin

No data available

Eyes

Result : Causes serious eye damage.

Sensitisation

No data available

CMR effects

CMR Properties

Carcinogenicity : No data available

Mutagenicity : No data available

Reproductive toxicity : No data available

Specific Target Organ Toxicity

Single exposure

Remarks : May cause respiratory irritation.

Repeated exposure

No data available

Other toxic properties

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Repeated dose toxicity

No data available

Aspiration hazard

No data available

Component:	symclosene	CAS-No. 87-90-1
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Acute toxicity

Oral

LD50 : 787 - 868 mg/kg (Rat, male and female) (EPA OPP 81-1)

Inhalation

LC50 : > 50 mg/l (Rat; 1 h)

Dermal

LD50 : > 2000 mg/kg (Rabbit, male and female) (EPA OPP 81-2)

Irritation

Skin

Result : Mild skin irritation (Rabbit)

Eyes

Result : Causes serious eye irritation. (Rabbit)

Sensitisation

Result : not sensitizing (Maximisation Test; Guinea pig) (OECD Test Guideline 406)

CMR effects

Carcinogenicity

LD50 (negative, Rat, male and female)(104 weeks)(Directive 67/548/EEC, Annex V, B.33.)Read-across (Analogy)

CMR Properties

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Carcinogenicity	: Animal testing did not show any carcinogenic effects. Read-across (Analogy)
Mutagenicity	: In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects Read-across (Analogy)
Teratogenicity	: Did not show teratogenic effects in animal experiments. Read-across (Analogy)
Reproductive toxicity	: Animal testing did not show any effects on fertility. Read-across (Analogy)

Genotoxicity in vitro

Result	: negative (In vitro gene mutation study in bacteria) (EPA Section 163.84-1, 43 FR 37388)Read-across (Analogy) negative (In vitro gene mutation study in mammalian cells) (Directive 67/548/EEC, Annex, B.17)Read-across (Analogy)
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Genotoxicity in vivo

Result	: negative (Chromosome aberration test in vivo; Rat, male) (OECD Test Guideline 475)Read-across (Analogy)
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Specific Target Organ Toxicity

Single exposure

Inhalation	: Target Organs: Respiratory systemMay cause respiratory irritation.
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Repeated exposure

Remarks	: Based on available data, the classification criteria are not met. Read-across (Analogy)
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Other toxic properties

Aspiration hazard

	Not applicable,
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Component:	Aluminium sulphate	CAS-No. 10043-01-3
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Acute toxicity

Oral

LD50	: > 2000 mg/kg (Rat, male and female) (OECD Test Guideline 401)
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Inhalation

LC50	: > 5 mg/l (Rat, male and female; 4 h; dust/mist) (OECD Test Guideline 403)
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Dermal

|| LD50 : > 5000 mg/kg (Rabbit, male and female) (OECD Test Guideline 402)

Irritation

Skin

|| Result : No skin irritation (Rabbit) (OECD Test Guideline 404)

Eyes

|| Result : Irreversible damage. (Rabbit) (OECD Test Guideline 405)

Sensitisation

|| Result : not sensitizing (Local lymph node assay (LLNA); Dermal; Mouse) (OECD Test Guideline 429)

CMR effects

CMR Properties

|| Carcinogenicity : Animal testing did not show any carcinogenic effects.
 || Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 || Teratogenicity : Did not show mutagenic or teratogenic effects in animal experiments.
 || Reproductive toxicity : It is not considered toxic for reproduction.

Genotoxicity in vitro

|| Result : negative (Bacterial Reverse Mutation Test; Salmonella typhimurium; with and without metabolic activation) (OECD Test Guideline 471)
 negative (Micronucleus test; Human lymphocytes; with and without metabolic activation) (OECD Test Guideline 487)
 negative (In vitro gene mutation study in mammalian cells; Mouse Lymphoma Cells; with and without metabolic activation) (OECD Test Guideline 476)

Teratogenicity

|| NOEL : 3,225 mg/kg bw/day
 || Maternal NOEL : 30 mg/kg bw/day
 || Develop.

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||

(Rat, Sprague-Dawley)(Oral)(OECD Test Guideline 426)No adverse effectsRead-across (Analogy)

Reproductive toxicity

||

NOAEL : 1,000 mg/kg bw/day

Parent

NOAEL : 1,000 mg/kg bw/day

F1

(Reproduction/Developmental Toxicity Screening Test; Rat, wistar, male and female)(Oral)(OECD Test Guideline 422)Animal testing did not show any effects on fertility.Read-across (Analogy)

Specific Target Organ Toxicity

Single exposure

||

Remarks : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

||

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

||

NOAEL : 90 mg/kg bw/day

||

(Rat, wistar, male and female; Test substance: Aluminium)(Oral)(OECD Test Guideline 422); Systemic toxicity

NOAEL : 18 mg/kg bw/day

||

(Rat, wistar, male; Test substance: Aluminium)(Oral) (OECD Test Guideline 422); Local effects

Aspiration hazard

||

Not applicable,

Component:

copper sulphate pentahydrate

CAS-No. 7758-99-8

Acute toxicity

Oral

||

LD50 : 450 - 1000 mg/kg (Rat)

Acute toxicity estimate : 481 mg/kg)

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Inhalation

|| No data available

Dermal

|| LD50 : > 2000 mg/kg (Rabbit)

Irritation

Skin

|| Result : Irritating to skin.

Eyes

|| Result : Irritating to eyes.

Sensitisation

|| Result : No data available

CMR effects

CMR Properties

|| Carcinogenicity : No data available
 || Mutagenicity : No data available
 || Reproductive toxicity : No data available

Specific Target Organ Toxicity

Single exposure

|| Remarks : No data available

Repeated exposure

|| Remarks : No data available

Other toxic properties

Aspiration hazard

|| Not applicable,

SMALL CHLORINE TABLETS (BORIC FREE)

11.2. Information on other hazards

Data for the product

Endocrine disrupting properties

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Component:	symclosene	CAS-No. 87-90-1
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Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties for human health.

Component:	Aluminium sulphate	CAS-No. 10043-01-3
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Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties for human health.

Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
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Endocrine disrupting properties

Assessment : No information available about endocrine disruption properties for human health.

SECTION 12: Ecological information

12.1. Toxicity

Data for the product

Acute toxicity

Short-term (acute) aquatic hazard

Result : Very toxic to aquatic life.

Chronic toxicity

Long-term (chronic) aquatic hazard

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Result : Very toxic to aquatic life with long lasting effects.

Component:	symclosene	CAS-No. 87-90-1
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Acute toxicity

Fish

LC50	:	0.24 mg/l (Salmo gairdneri; 96 h) (static test; EPA 40 CFR 797.1400)
LC50	:	0.23 mg/l (Lepomis macrochirus (Bluegill sunfish); 96 h) (static test)

Toxicity to daphnia and other aquatic invertebrates

EC50	:	0.17 mg/l (Daphnia magna; 48 h) (static test; ASTM)
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algae

EC90	:	0.5 mg/l (algae) (End point: Biomass; Modified ASTM method E645-85)
NOEC	:	< 0.5 mg/l (algae) (End point: Biomass; Modified ASTM method E645-85)

Component:	Aluminium sulphate	CAS-No. 10043-01-3
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Acute toxicity

Fish

NOEC	:	> 1,000 mg/l (Danio rerio (zebra fish), mortality; 96 h) (semi-static test; OECD Test Guideline 203)
LC50	:	> 87.5 mg/l (Danio rerio (zebra fish), mortality; 96 h; Test substance: Aluminium) (semi-static test; OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

NOEC	:	>= 160 mg/l (Daphnia magna (Water flea); 48 h) (semi-static test; OECD Test Guideline 202)
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algae

EC50	:	14 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (static test; OECD Test Guideline 201) Read-across (Analogy)
EC50	:	0.24 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h; Test substance: Aluminium) (static test; End point: Growth rate; OECD Test Guideline 201)

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NOEC	1 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (static test; OECD Test Guideline 201)Read-across (Analogy)
NOEC	0.02 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h; Test substance: Aluminium) (static test; End point: Growth rate; OECD Test Guideline 201)

Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
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Acute toxicity

Fish

LC50	: 0.75 - 0.84 mg/l (Oncorhynchus mykiss; 96 h; Test substance: copper sulphate)
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Toxicity to daphnia and other aquatic invertebrates

EC50	: 0.024 mg/l (Daphnia magna (Water flea); 48 h; Test substance: copper sulphate)
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algae

EC50	: 0.1 mg/l (scenedesmus quadricauda; 4 h; Test substance: copper sulphate)
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M-Factor

Regulatory List	: EU GHS
Regulatory Basis	: REGULATION (EC) No 1272/2008
M-Factor (Acute Aquat. Tox.)	: 10
M-Factor (Chron. Aquat. Tox.)	: 1

12.2. Persistence and degradability

Component:	symclosene	CAS-No. 87-90-1
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Persistence and degradability

Persistence

Result	: decomposition by hydrolysis.
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Biodegradability

Result	: 2 % (Exposure Time: 28 d)(OECD Test Guideline 301D)Not readily
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|| biodegradable.

Component:	Aluminium sulphate	CAS-No. 10043-01-3
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Persistence and degradability

Persistence

|| Result : No data available

Biodegradability

|| Result : The methods for determining the biological degradability are not applicable to inorganic substances.

Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
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Persistence and degradability

Persistence

|| Result : No data available

Biodegradability

|| Result : The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Component:	symclosene	CAS-No. 87-90-1
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Bioaccumulation

|| Result : log Kow 0.94 (Program KOWWIN)
: BCF: 3.12; ((calculated))

Component:	Aluminium sulphate	CAS-No. 10043-01-3
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Bioaccumulation

|| Result : Bioaccumulation is not expected.

Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
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Bioaccumulation

|| Result : No data available

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12.4. Mobility in soil

Component:	symclosene	CAS-No. 87-90-1
Mobility		

Water	:	The product is water soluble.
Air	:	not volatile

Component:	Aluminium sulphate	CAS-No. 10043-01-3
Mobility		

Water	:	The product is water soluble.
Air	:	not volatile

Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
Mobility		

	:	No data available
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12.5. Results of PBT and vPvB assessment

Data for the product
Results of PBT and vPvB assessment

Result	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
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Component:	symclosene	CAS-No. 87-90-1
Results of PBT and vPvB assessment		

Result	:	No data available
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Component:	Aluminium sulphate	CAS-No. 10043-01-3
Results of PBT and vPvB assessment		

Result	:	The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.
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Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
Results of PBT and vPvB assessment		

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	Result	:	The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.
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12.6. Endocrine disrupting properties

Data for the product

	Endocrine disrupting potential	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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Component:	symclosene	CAS-No. 87-90-1
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	Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.
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Component:	Aluminium sulphate	CAS-No. 10043-01-3
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	Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.
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Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
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	Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.
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12.7. Other adverse effects

Data for the product

Additional ecological information

Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Harmful effects to aquatic organisms due to pH-shift.
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Result	:	
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Component:	symclosene	CAS-No. 87-90-1
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Additional ecological information

	Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
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Component:	Aluminium sulphate	CAS-No. 10043-01-3
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Additional ecological information

	Result	:	Harmful effects to aquatic organisms due to pH-shift. Salts of alumina may be harmful for salmonids at pH-value < 5.5.
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Component:	copper sulphate pentahydrate	CAS-No. 7758-99-8
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Additional ecological information

Result : Do not flush into surface water or sanitary sewer system.
Do not allow material to contaminate ground water system.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services. This product shall be disposed of or recovered in compliance with Directive 2008/98/EC on waste as lastly amended.

Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. If recycling is not practicable, dispose of in compliance with local regulations.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

14.1. UN number or ID number

2468

14.2. UN proper shipping name

ADR : TRICHLOROISOCYANURIC ACID, DRY
RID : TRICHLOROISOCYANURIC ACID, DRY
IMDG : TRICHLOROISOCYANURIC ACID, DRY

14.3. Transport hazard class(es)

ADR-Class : 5.1
(Labels; Classification Code; Hazard Identification Number; Tunnel restriction code) 5.1; O2; 50; (E)

RID-Class : 5.1
(Labels; Classification Code; Hazard Identification Number) 5.1; O2; 50

IMDG-Class : 5.1
(Labels; EmS) 5.1; F-A, S-Q

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14.4. Packaging group

ADR : II
RID : II
IMDG : II

14.5. Environmental hazards

Environmentally hazardous according to ADR : yes
Environmentally hazardous according to RID : yes
Marine Pollutant according to IMDG-Code : yes

14.6. Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

Further information for transport:

SECTION 15: Regulatory information

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

Data for the product

Other regulations : SDS updated according to Regulation (EU) 2020/878

Component:	symclosene	CAS-No. 87-90-1
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EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended : ; The substance/mixture does not fall under this legislation.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC) : Point Nos.: , 75; Listed

EU. Directive 2012/18/EU (SEVESO III) on major accident : Qualifying quantity for the application of Lower-tier requirements: 50 tonnes; Part 1: Categories of dangerous substances; Oxidising Liquids, Category 1, 2 or 3, or; Oxidising

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hazards involving dangerous substances, Annex I

Solids, Category 1, 2 or 3

Qualifying quantity for the application of Upper-tier requirements: 200 tonnes; Part 1: Categories of dangerous substances; Oxidising Liquids, Category 1, 2 or 3, or; Oxidising Solids, Category 1, 2 or 3

Qualifying quantity for the application of Lower-tier requirements: 100 tonnes; Part 1: Categories of dangerous substances; Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Qualifying quantity for the application of Upper-tier requirements: 200 tonnes; Part 1: Categories of dangerous substances; Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Germany. List of Substances That Are Not Water-Endangering, AwSV of 21 April 2017, UBA, Banz AT, as amended

: WGK 2: obviously hazardous to water: 7,322

Component:

Aluminium sulphate

CAS-No. 10043-01-3

EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended

: ; The substance/mixture does not fall under this legislation.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)

: ; The substance/mixture does not fall under this legislation.

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I

: ; The substance/mixture does not fall under this legislation.

Germany. List of Substances That Are Not

: WGK 1: slightly hazardous to water: 486; This classification does not limit the use of the substance, when used skillfully

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Water-Endangering, AwSV of 21 April 2017, UBA, Banz AT, as amended and in compliance with relevant regulations, for drinking water preparation, surface water cleanup, or waste water treatment.

Component: copper sulphate pentahydrate **CAS-No.** 7758-99-8

EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended : The substance/mixture does not fall under this legislation.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC) : Point Nos.: 0.1, %, 75; Listed

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I : Qualifying quantity for the application of Lower-tier requirements: 100 tonnes; Part 1: Categories of dangerous substances; Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1
Qualifying quantity for the application of Upper-tier requirements: 200 tonnes; Part 1: Categories of dangerous substances; Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Germany. List of Substances That Are Not Water-Endangering, AwSV of 21 April 2017, UBA, Banz AT, as amended : WGK 3: highly hazardous to water: 141

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

II

Full text of H-Statements referred to under sections 2 and 3.

H272 May intensify fire; oxidizer.

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H290	May be corrosive to metals.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of the Notes referred to under section 3.

Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals
OECD	Organisation for Economic Cooperation and Development

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OEL	occupational exposure limit
ONT INV	Canada. Ontario Inventory List
PBT	persistent, bioaccumulative and toxic
PHARM (JP)	Japan. Pharmacopoeia Listing
PICCS (PH)	Philippines. Inventory of Chemicals and Chemical Substances
PNEC	predicted no-effect concentration
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
UK REACH Auth. No.:	UK REACH Authorisation Number
UK REACH AuthAppC. No.	UK REACH Authorisation Application Consultation Number
UK REACH-Reg.No	UK REACH Registration Number
STOT	specific target organ toxicity
SVHC	substance of very high concern
TCSI	Taiwan. Existing Chemicals Inventory
TH INV	Thailand. Existing Chemicals Inventory from FDA
TSCA	US. Toxic Substances Control Act
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
VN INV	Vietnam. National Chemical Inventory
vPvB	very persistent and very bioaccumulative

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	:	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	:	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	:	The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

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|| Indicates updated section.