

Safety Data Sheet

The REACH etc. (Amendment etc.) (EU Exit) Regulations
2019, SI 2019/758 (as amended)

Solar Flux® Type I

Version number: 3.0
Replaces version of: 2019-04-02 (1. 1)

Revision: 2022-12-16
First version: 2018-10-09

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

1.1 Product identifier

Trade name	Solar Flux® Type I
Registration number (REACH)	Not relevant (mixture)
CAS number	Not relevant (mixture)

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

Relevant identified uses	Welding powder
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1.3 Details of the supplier of the safety data sheet

Golden Empire Corporation / Solar Flux CA 91372 Calabasas United States	Telephone: +1 424 645 8845 e-mail: eaw.solarflux@gmail.com
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e-mail (competent person) sdb@csb-online.de

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact Golden Empire Corporation / Solar Flux.

1.4 Emergency telephone number

As above or nearest toxicological information centre.

As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.7	reproductive toxicity	1B	Repr. 1B	H360FD

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Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word danger

Pictograms

GHS07, GHS08



Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H360FD May damage fertility. May damage the unborn child (if exposed).

H373 May cause damage to organs (lung) through prolonged or repeated exposure (if inhaled).

Precautionary statements

P201 Obtain special instructions before use.

P260 Do not breathe dust.

P264 Wash thoroughly after handling.

P280 Wear protective gloves/eye protection/hearing protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

Supplemental hazard information

EUH032 Contact with acids liberates very toxic gas.

Hazardous ingredients for labelling

boric acid, disodium salt
sodium fluoride
quartz
boric acid

Additional labelling requirements

for professional users only

see section 15 of the safety data sheet

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2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Endocrine disrupting properties

The mixture contains substance(s) with an endocrine disrupting potential.



SECTION 3: Composition/information on ingredients

3.1 Substances





Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Hazardous ingredients				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
calcium fluoride	CAS No 7789-75-5 EC No 232-188-7	50 - < 75	-	-
sodium fluoride	CAS No 7681-49-4 EC No 231-667-8 Index No 009-004-00-7	10 - < 25	Acute Tox. 3 / H301 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 EUH032	
boric acid	CAS No 10043-35-3 EC No 233-139-2 Index No 005-007-00-2 REACH Reg. No 01-2119486683-25- xxxx	1 - < 5	Repr. 1B / H360FD	

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Hazardous ingredients				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
boric acid, disodium salt	CAS No 1330-43-4 EC No 215-540-4 Index No 005-011-00-4 REACH Reg. No 01-2119490790-32- xxxx	1 - < 5	Eye Irrit. 2 / H319 Repr. 1B / H360FD	
calcium carbonate	CAS No 1317-65-3 EC No 215-279-6	1 - < 5	Skin Irrit. 2 / H315 Eye Dam. 1 / H318	
quartz	CAS No 14808-60-7 EC No 238-878-4	1 - < 5	STOT RE 1 / H372	
lithium fluoride	CAS No 7789-24-4 EC No 232-152-0	1 - < 5	Acute Tox. 4 / H302 Eye Irrit. 2 / H319 EUH032	

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
sodium fluoride	-	-	148.5 mg/kg	oral
lithium fluoride	-	-	706 mg/kg	oral

The product contains crystalline silicic acids in the form of cristobalite and quartz which, if inhaled, are harmful to health. However, the evaluation of scientific findings is controversial. Recent diagnostic possibilities have provided the certainty that silicosis (pneumoconiosis) is a consequence of heavy exposure to quartz dust. There is also evidence that silicotic people have an increased lung cancer risk.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

- Self-protection of the first aider.
- Remove victim out of the danger area.
- Take off immediately all contaminated clothing.
- In all cases of doubt, or when symptoms persist, seek medical advice.

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Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

If skin irritation occurs: Get medical advice/attention.

Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth. Do not induce vomiting.

Call a physician in any case.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed.

Irritating to eyes and skin.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water, foam, alcohol resistant foam, fire extinguishing powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Hazardous combustion products

metal oxide smoke, toxic

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, self-contained breathing apparatus (EN 133)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Follow emergency procedures such as the need to evacuate the danger area or to consult an expert.

Remove persons to safety.

Ventilate affected area.

Avoid contact with skin and eyes.

Do not breathe dust.

Control of dust.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

Warning and evacuating people in the neighbourhood.

6.2 Environmental precautions

Knock down dust with water spray.

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Collect spillage.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe dust.

Obtain special instructions before use.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

Handling of incompatible substances or mixtures

Do not mix with acids.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

Avoid contact with skin and eyes.

Do not breathe dust.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Store locked up.

Keep container tightly closed and in a well-ventilated place.

Packaging compatibilities

Keep only in original container.

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7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)						
Country	Name of agent	CAS No	Identifier	TWA [mg/m ³]	Notation	Source
EU	silica, crystalline	14808-60-7	IOELV	0.1	r	2017/2398/EU
EU	fluorine, inorganic compounds	16984-48-8	IOELV	2.5	-	2000/39/EC
GB	fluorides, inorganic	-	WEL	2.5	F	EH40/2005
GB	calcium carbonate	1317-65-3	WEL	10	i	EH40/2005
GB	calcium carbonate	1317-65-3	WEL	4	r	EH40/2005
GB	disodium tetraborate, anhydrous	1330-43-4	WEL	1	-	EH40/2005
GB	silica, crystalline	14808-60-7	WEL	0.1	r	EH40/2005

Notation

F calculated as F (fluorine)

i inhalable fraction

r respirable fraction

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
calcium fluoride	7789-75-5	DNEL	5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
sodium fluoride	7681-49-4	DNEL	2.5 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
sodium fluoride	7681-49-4	DNEL	0.36 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
boric acid, disodium salt	1330-43-4	DNEL	6.7 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
boric acid, disodium salt	1330-43-4	DNEL	17.04 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
boric acid, disodium salt	1330-43-4	DNEL	316.4 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
boric acid	10043-35-3	DNEL	8.3 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
boric acid	10043-35-3	DNEL	392 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
lithium fluoride	7789-24-4	DNEL	10 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
lithium fluoride	7789-24-4	DNEL	44.8 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
calcium fluoride	7789-75-5	PNEC	0.9 mg/l	freshwater
calcium fluoride	7789-75-5	PNEC	51 mg/l	sewage treatment plant (STP)
calcium fluoride	7789-75-5	PNEC	11 mg/kg	soil
sodium fluoride	7681-49-4	PNEC	0.9 mg/l	freshwater
sodium fluoride	7681-49-4	PNEC	51 mg/l	sewage treatment plant (STP)
sodium fluoride	7681-49-4	PNEC	11 mg/kg	soil
boric acid, disodium salt	1330-43-4	PNEC	2.9 mg/l	freshwater
boric acid, disodium salt	1330-43-4	PNEC	2.9 mg/l	marine water
boric acid, disodium salt	1330-43-4	PNEC	10 mg/l	sewage treatment plant (STP)
boric acid, disodium salt	1330-43-4	PNEC	5.7 mg/kg	soil
boric acid	10043-35-3	PNEC	2.9 mg/l	freshwater
boric acid	10043-35-3	PNEC	2.9 mg/l	marine water
boric acid	10043-35-3	PNEC	10 mg/l	sewage treatment plant (STP)
boric acid	10043-35-3	PNEC	5.7 mg/kg	soil
lithium fluoride	7789-24-4	PNEC	5.05 mg/l	freshwater

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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
lithium fluoride	7789-24-4	PNEC	0.505 mg/l	marine water
lithium fluoride	7789-24-4	PNEC	85.78 mg/l	sewage treatment plant (STP)
lithium fluoride	7789-24-4	PNEC	25.05 mg/kg	freshwater sediment
lithium fluoride	7789-24-4	PNEC	2.505 mg/kg	marine sediment
lithium fluoride	7789-24-4	PNEC	2.06 mg/kg	soil

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. (EN 166).

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
no information available	no information available	no information available

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particle filter device (DIN EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid (powder)
Colour	dark grey
Odour	characteristic
Melting point/freezing point	1,682 °C
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not applicable (solid)
Flash point	not applicable
Auto-ignition temperature	not applicable (solid)
Decomposition temperature	not relevant
pH (value)	not applicable
Viscosity	not relevant (solid)
Solubility(ies)	
Water solubility	42 mg/l not miscible in any proportion
Partition coefficient n-octanol/water (log value)	not relevant (inorganic)
Vapour pressure	not determined
Density and/or relative density	
Density	2.2 g/cm ³ at 20 °C
Relative vapour density	not applicable
Particle characteristics	no data available

9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
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Other safety characteristics

there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Contact with acids liberates very toxic gas.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

acids

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

Hydrogen fluoride (HF).

Metallic oxides containing heavy metals.

SECTION 11: Toxicological information

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

Classification procedure

If not otherwise specified the classification is based on:

Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Test data are not available for the complete mixture.

Harmful if swallowed.

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
sodium fluoride	7681-49-4	oral	148.5 mg/kg
lithium fluoride	7789-24-4	oral	706 mg/kg

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Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
calcium fluoride	7789-75-5	inhalation: dust/ mist	LC50	>5,070 mg/m ³ /4h	rat	OECD Guideline 403	ECHA
calcium fluoride	7789-75-5	oral	LD0	>2,000 mg/kg	rat, female	OECD Guideline 423	ECHA
sodium fluoride	7681-49-4	oral	LD50	148.5 mg/kg	rat, female	EPA OPPTS 870.1100	ECHA
sodium fluoride	7681-49-4	oral	LD50	223 mg/kg	rat, male	EPA OPPTS 870.1100	ECHA
sodium fluoride	7681-49-4	dermal	LD50	>2,000 mg/kg	rat	EPA OPPTS 870.1200	ECHA
boric acid, disodium salt	1330-43-4	oral	LD0	>2,500 mg/kg	rat	OECD Guideline 401	ECHA
boric acid, disodium salt	1330-43-4	dermal	LD0	>2,000 mg/kg	rabbit	-	ECHA
boric acid	10043-35-3	oral	LD50	3,450 mg/kg	rat, male	-	ECHA
boric acid	10043-35-3	oral	LD50	4,080 mg/kg	rat, female	-	ECHA
boric acid	10043-35-3	dermal	LD0	>2,000 mg/kg	rabbit	FIFRA (40 CFR 163)	ECHA
lithium fluoride	7789-24-4	oral	LD50	706 mg/kg	rat	OECD Guideline 401	ECHA
lithium fluoride	7789-24-4	inhalation: dust/ mist	LC50	>15.57 mg/l/4h	rat	OECD Guideline 403	ECHA
lithium fluoride	7789-24-4	dermal	LD50	>2,000 mg/kg	rat	OECD Guideline 402	ECHA

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

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Respiratory or skin sensitisation

Skin sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

May damage the unborn child (if exposed).

May damage fertility (if exposed).

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

May cause damage to organs (lung) through prolonged or repeated exposure (if inhaled).

Hazard category	Target organ	Exposure route
2	lung	if inhaled

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

The mixture contains substance(s) with an endocrine disrupting potential.

Endocrine disrupting chemicals (EDC)		
Name of substance	CAS No	Reference decision
boric acid	10043-35-3	DHI 2006

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
calcium fluoride	7789-75-5	EC50	26 – 48 mg/l	aquatic invertebrates	EPA 440/5-86-001	ECHA	96 h
calcium fluoride	7789-75-5	EbC50	43 mg/l	algae (Scenedesmus subspicatus)	-	ECHA	96 h
calcium fluoride	7789-75-5	EbC50	122 mg/l	Grünalge (Selenastrum capricornutum)	-	ECHA	96 h
calcium fluoride	7789-75-5	EbC50	81 mg/l	algae (Skeletonema costatum)	-	ECHA	96 h
sodium fluoride	7681-49-4	EC50	26 – 48 mg/l	trichoptera aquatic larvae	US Environmental Protection Agency, 440/5-86-001	ECHA	96 h
sodium fluoride	7681-49-4	EbC50	43 mg/l	algae	-	ECHA	48 h
boric acid	10043-35-3	LC50	487 mg/l	fish	-	GESTIS	48 h
boric acid	10043-35-3	LC50	180 mg/l	Crustaceae (Crangon sp.)	-	GESTIS	48 h
boric acid	10043-35-3	EC50	226 mg/l	Crustaceae (Crangon sp.)	-	GESTIS	48 h
lithium fluoride	7789-24-4	EC50	132.4 mg/l	aquatic invertebrates	-	ECHA	48 h
lithium fluoride	7789-24-4	EC50	112 mg/l	algae (Desmod-esmus subspicatus)	OECD Guideline 201	ECHA	72 h
lithium fluoride	7789-24-4	ErC50	>400 mg/l	algae (Desmod-esmus subspicatus)	OECD Guideline 201	ECHA	72 h

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

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Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
calcium fluoride	7789-75-5	NOEC	4 mg/l	rainbow trout (Oncorhynchus mykiss)	-	ECHA	21 d
calcium fluoride	7789-75-5	NOEC	3.7 mg/l	daphnia magna	-	ECHA	21 d
calcium fluoride	7789-75-5	NOEC	50 mg/l	algae	-	ECHA	7 d
calcium fluoride	7789-75-5	NOEC	249 mg/l	Grünalge (Scenedesmus quadricauda)	-	ECHA	8 d
calcium fluoride	7789-75-5	NOEC	50 – 200 mg/l	algae	-	ECHA	14 d
calcium fluoride	7789-75-5	NOEC	50 – 200 mg/l	algae	-	ECHA	21 d
sodium fluoride	7681-49-4	NOEC	3.7 mg/l	daphnia magna	-	ECHA	21 d
sodium fluoride	7681-49-4	NOEC	4 mg/l	rainbow trout (Oncorhynchus mykiss)	-	ECHA	21 d
sodium fluoride	7681-49-4	NOEC	50 mg/l	algae	-	ECHA	7 d
lithium fluoride	7789-24-4	NOEC	14.1 mg/l	daphnia magna	-	ECHA	21 d
lithium fluoride	7789-24-4	NOEC	4 mg/l	rainbow trout (Oncorhynchus mykiss)	-	ECHA	21 d
lithium fluoride	7789-24-4	NOEC	25 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA	72 h
lithium fluoride	7789-24-4	LOEC	50 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA	72 h
lithium fluoride	7789-24-4	growth rate (ErCx) 10%	80 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA	72 h

12.2 Persistence and degradability

Biodegradation

No data available.

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Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

n-octanol/water (log KOW) not relevant
(inorganic)

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW
sodium fluoride	7681-49-4	53 – 58	-
boric acid, disodium salt	1330-43-4	-	-1.53 (pH value: 7.5, 22 °C)
boric acid	10043-35-3	3.76	-1.09 (pH value: 7.5, 22 °C)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

The mixture contains substance(s) with an endocrine disrupting potential.

Endocrine disrupting chemicals (EDC)		
Name of substance	CAS No	Source
boric acid	10043-35-3	DHI 2006

12.7 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 1

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

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Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	UN number or ID number	not assigned
14.2	UN proper shipping name	-
14.3	Transport hazard class(es)	-
14.4	Packing group	-
14.5	Environmental hazards	-
14.6	Special precautions for user	-
14.7	Maritime transport in bulk according to IMO instruments	-

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Not listed.

Seveso Directive

Not assigned.

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the ingredients are listed.

Regulation on the marketing and use of explosives precursors

None of the ingredients are listed.

Regulation on drug precursors

None of the ingredients are listed.

Regulation on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

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National regulations (GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

Substance of Very High Concern (SVHC) acc. to GB REACH and HSE			
Name of substance	CAS No	Listed in	Remarks
boric acid	10043-35-3	Candidate list	Repr. A57c
boric acid, disodium salt	1330-43-4	Candidate list	Repr. A57c

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candidate Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV list

Repr. A57c Toxic for reproduction (Article 57c)

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	Conditions of restriction
boric acid	toxic for reproduction	-	R28-30
boric acid, disodium salt	toxic for reproduction	-	R28-30

Legend

R28-30 Without prejudice to the other parts of this Annex the following shall apply to entries 28 to 30:

1. Shall not be placed on the market, or used,
 - as substances,
 - as constituents of other substances, or,
 - in mixtures,

For supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:

- either the relevant specific concentration limit specified in the GB mandatory classification and labelling list, or, the relevant generic concentration limit specified in the GB mandatory classification and labelling list.

Without prejudice to the implementation of other legislation relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:

'Restricted to professional users'.

2. By way of derogation, paragraph 1 shall not apply to:

(a) medicinal or veterinary products as defined by the Veterinary Regulations 2013 and the Human Medicines Regulations 2012;

(b) cosmetic products as defined by Regulation 1223/2009;

(c) the following fuels and oil products:

- motor fuels which are covered by the Motor Fuel (Composition and Content) Regulations 1999,
- mineral oil products intended for use as fuel in mobile or fixed combustion plants,
- fuels sold in closed systems (e.g. liquid gas bottles);

(d) artists' paints covered by Regulation (EC) No 1272/2008;

(e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column

2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
1.3	e-mail (competent person): sdb@csb-online.de Please do not use this e-mail adress to ask for the latest safety data sheet. For this purpose contact Golden Empire Corporation / Solar Flux.	e-mail (competent person): sdb@csb-online.de Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact Golden Empire Corporation / Solar Flux.
2.1	-	Classification: change in the listing (table)
2.1	-	The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure.
2.2	-	Hazard statements: change in the listing (table)
2.2	-	Precautionary statements: change in the listing (table)
2.2	-	Supplemental hazard information: change in the listing (table)
2.2	Hazardous ingredients for labelling: boric acid, disodium salt boric acid silicon dioxide, crystalline sodium fluoride	Hazardous ingredients for labelling: boric acid, disodium salt sodium fluoride quartz boric acid
3.2	-	Hazardous ingredients: change in the listing (table)
8.1	-	Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)
8.1	-	Relevant DNELs of components of the mixture: change in the listing (table)
8.1	-	Relevant PNECs of components of the mixture: change in the listing (table)
8.2	Eye/face protection: Wear eye/face protection.	Eye/face protection: Wear eye/face protection. (EN 166).
15.1	Restrictions according to REACH, Annex XVII	Restrictions according to REACH, Annex XVII: Not listed.
15.1	-	Dangerous substances with restrictions (REACH, Annex XVII): change in the listing (table)
15.1	List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list	-

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Section	Former entry (text/value)	Actual entry (text/value)
15.1	-	Substance of Very High Concern (SVHC): change in the listing (table)

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
2017/2398/EU	Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HSE	Health and Safety Executive

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Abbr.	Descriptions of used abbreviations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STOT RE	Specific target organ toxicity - repeated exposure
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
 Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).
 International Maritime Dangerous Goods Code (IMDG).
 Dangerous Goods Regulations (DGR) for the air transport (IATA).

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Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child (if exposed).
H372	Causes damage to organs (lung) through prolonged or repeated exposure (if inhaled).
H373	May cause damage to organs (lung) through prolonged or repeated exposure (if inhaled).

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.