

# Safety Data Sheet

29 CFR 1910.1200 App D

## Solar Flux® Type I

Version number: 1.0

### SECTION 1: Identification

#### 1.1 Product identifier

**Trade name** Solar Flux® Type I  
**CAS number** not relevant (mixture)

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

**Relevant identified uses** Welding powder

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

Golden Empire Corporation / Solar Flux Telephone: +1 424 645 8845  
Calabasas, CA 91372 e-mail: eaw.solarflux@gmail.com  
United States

**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 next toxicological information centre.

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
A.10	acute toxicity (oral)	4	Acute Tox. 4	H302
A.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
A.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
A.6	carcinogenicity	1A	Carc. 1A	H350
A.7	reproductive toxicity	1B	Repr. 1B	H360FD
A.9	specific target organ toxicity - repeated exposure	1	STOT RE 1	H372

For full text of abbreviations: see SECTION 16

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## 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 acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

**Signal word** Danger

### Pictograms

**GHS07, GHS08**



### Hazard statements

<b>H302</b>	Harmful if swallowed.
<b>H315</b>	Causes skin irritation.
<b>H319</b>	Causes serious eye irritation.
<b>H350</b>	May cause cancer.
<b>H360FD</b>	May damage fertility. May damage the unborn child (if exposed).
<b>H372</b>	Causes damage to organs through prolonged or repeated exposure.

### Precautionary statements

<b>P201</b>	Obtain special instructions before use.
<b>P202</b>	Do not handle until all safety precautions have been read and understood.
<b>P264</b>	Wash thoroughly after handling.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P281</b>	Wear personal protective equipment/face protection.
<b>P301+P312</b>	If swallowed: Call a poison center or doctor if you feel unwell.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of soap and water.
<b>P305+P351+P338</b>	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P308+P313</b>	If exposed or concerned: Get medical advice/attention.
<b>P330</b>	Rinse mouth.
<b>P332+P313</b>	If skin irritation occurs: Get medical advice/attention.
<b>P337+P313</b>	If eye irritation persists: Get medical advice/attention.
<b>P362</b>	Take off contaminated clothing and wash it before reuse.
<b>P405</b>	Store locked up.
<b>P501</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

### Hazardous ingredients for labelling

disodium tetraborate, anhydrous  
quartz  
sodium fluoride  
boric acid

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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.







## 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	Specific Conc. Limits
sodium fluoride	CAS No 7681-49-4  RTECS No WB0350000	10 – < 25	Acute Tox. 3 / H301 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Carc. 1B / H350		
quartz	CAS No 14808-60-7	0 – < 5	Carc. 1A / H350 STOT RE 1 / H372		
calcium carbonate	CAS No 1317-65-3	0 – < 5	Skin Irrit. 2 / H315 Eye Dam. 1 / H318		
lithium fluoride	CAS No 7789-24-4	0 – < 5	Acute Tox. 4 / H302 Eye Irrit. 2A / H319		
boric acid	CAS No 10043-35-3	0 – < 5	Repr. 1B / H360FD cD / OSHA003		
boric acid, disodium salt	CAS No 1330-43-4	0 – < 5	Eye Irrit. 2A / H319 Repr. 1B / H360FD		

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**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

## **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: Fire-fighting 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.

Coordinate 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.

Do not get in eyes, on skin, or on clothing.

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 vapors/dust/aerosols/gases.

Warning and evacuating people in the neighborhood.

### 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

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 feedingstuffs.

#### 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.

### 7.3 Specific end use(s)

No information available.

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## 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 <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Notation	Source
US	fluorides		PEL (CA)	2.5		F	Cal/OSHA PEL
US	fluorides		PEL	2.5		F	29 CFR 1910.1000
US	inorganic, solid fluorides		REL	2.5 (10 h)		F	NIOSH REL
US	limestone	1317-65-3	REL	10 (10 h)		i	NIOSH REL
US	limestone	1317-65-3	REL	5 (10 h)		r	NIOSH REL
US	limestone (calcium carbonate)	1317-65-3	PEL	15		i, dust	29 CFR 1910.1000
US	limestone (calcium carbonate)	1317-65-3	PEL	5		r, dust	29 CFR 1910.1000
US	calcium carbonate	1317-65-3	REL	10 (10 h)		i, natural	NIOSH REL
US	calcium carbonate	1317-65-3	REL	5 (10 h)		r, natural	NIOSH REL
US	disodium tetraborate, anhydrous	1330-43-4	PEL (CA)	5			Cal/OSHA PEL
US	disodium tetraborate, anhydrous	1330-43-4	REL	1 (10 h)			NIOSH REL
US	quartz	14808-60-7	PEL (CA)	0.05		r	Cal/OSHA PEL
US	silica, crystalline - quartz	14808-60-7	PEL	0.05		r	29 CFR 1910.1000
US	silica, crystalline - quartz	14808-60-7	REL	0.05 (10 h)		r, appx-A	NIOSH REL
US	sodium fluoride	7681-49-4	REL	2.5 (10 h)		F	NIOSH REL

#### Notation

appx-A	NIOSH Potential Occupational Carcinogen (Appendix A)
dust	as dust
F	calculated as F (fluorine)
i	inhalable fraction
natural	natural
r	respirable fraction

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## Notation

STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
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
sodium fluoride	7681-49-4	DNEL	2.5 mg/m <sup>3</sup>	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 <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
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 <sup>3</sup>	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 <sup>3</sup>	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
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



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Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
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
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

General ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### 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.

### Other protection measures

Protective clothing for use against solid particulates.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particulate filter device (EN 143).

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## Environmental exposure controls

Use appropriate container to avoid environmental contamination.  
Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	Solid (powder)
<b>Color</b>	Dark grey
<b>Odor</b>	Characteristic

#### Other safety parameters

<b>pH (value)</b>	Not applicable
<b>Melting point/freezing point</b>	1,682 °C
<b>Initial boiling point and boiling range</b>	Not determined
<b>Flash point</b>	Not applicable
<b>Evaporation rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Non-combustible
<b>Explosive limits</b>	
Explosion limits of dust clouds	Not determined
<b>Vapor pressure</b>	Not determined
<b>Density and/or relative density</b>	
Density	2.2 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	
Water solubility	42 mg/l Not miscible in any proportion
<b>Partition coefficient</b>	
<b>partition coefficient n-octanol/water (log value)</b>	Not relevant (inorganic)
<b>Decomposition temperature</b>	Not relevant
<b>Viscosity</b>	Not relevant (solid)
<b>Explosive properties</b>	None

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<b>Oxidizing properties</b>	None
<b>Information with regard to physical hazard classes</b>	Hazard classes acc. to GHS (Physical hazards): Not relevant
<b>9.2 Other information</b>	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.

### 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

There is no additional information.

### 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 toxicological effects

#### Classification procedure

If not otherwise specified the classification is based on:  
Ingredients of the mixture (additivity formula).

#### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

#### 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	Endpoint	Value	Species	Method
sodium fluoride	7681-49-4	oral	LD50	148.5 mg/ kg	rat, female	EPA OPPTS 870.1100

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Acute toxicity of components of the mixture						
Name of substance	CAS No	Exposure route	Endpoint	Value	Species	Method
sodium fluoride	7681-49-4	oral	LD50	223 mg/kg	rat, male	EPA OPPTS 870.1100
sodium fluoride	7681-49-4	dermal	LD50	>2,000 mg/kg	rat	EPA OPPTS 870.1200
boric acid, disodium salt	1330-43-4	oral	LD50	>2,500 mg/kg	rat	OECD Guideline 401
boric acid, disodium salt	1330-43-4	inhalation: dust/mist	LC50	>2.04 mg/l/4h	rat	OECD Guideline 403
boric acid, disodium salt	1330-43-4	dermal	LD50	>2,000 mg/kg	rabbit	
boric acid	10043-35-3	oral	LD50	3,450 mg/kg	rat, male	
boric acid	10043-35-3	oral	LD50	4,080 mg/kg	rat, female	
boric acid	10043-35-3	dermal	LD0	>2,000 mg/kg	rabbit	FIFRA (40 CFR 163)
boric acid	10043-35-3	inhalation: dust/mist	LC0	≥2.12 mg/l/4h	rat	OECD Guideline 403
lithium fluoride	7789-24-4	oral	LD50	706 mg/kg	rat	OECD Guideline 401
lithium fluoride	7789-24-4	inhalation: dust/mist	LC50	>15.57 mg/l/4h	rat	OECD Guideline 403
lithium fluoride	7789-24-4	dermal	LD50	>2,000 mg/kg	rat	OECD Guideline 402

### Skin corrosion/irritation

Causes skin irritation.

### Serious eye damage/eye irritation

Causes serious eye irritation.

### Respiratory or skin sensitization

#### Skin sensitization

Classification could not be established because:

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

#### Respiratory sensitization

Classification could not be established because:

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

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## Germ cell mutagenicity

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## Carcinogenicity

May cause cancer.

## IARC Monographs

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans				
Name of substance	Name acc. to inventory	CAS No	Classification	Number
Solar Flux® Type I	welding fumes		2A	
quartz	Silica dust, crystalline	14808-60-7	1	
sodium fluoride	Fluorides (inorganic, used in drinking-water)	16984-48-8	3	
sodium fluoride	welding fumes		2A	

### Legend

- 1 Carcinogenic to humans
- 2A Probably carcinogenic to humans
- 3 Not classifiable as to carcinogenicity in humans

## National Toxicology Program (United States)

None of the ingredients are listed.

## OSHA Carcinogens

None of the ingredients are listed.

## 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

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## 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.

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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	Exposure time
sodium fluoride	7681-49-4	EC50	26 – 48 mg/l	aquatic invertebrates	US Environmental Protection Agency, 440/5-86-001	96 h
sodium fluoride	7681-49-4	EC50	43 mg/l	algae		96 h
boric acid	10043-35-3	LC50	487 mg/l	fish		48 h
boric acid	10043-35-3	LC50	180 mg/l	Crustaceae (Cran-gon sp.)		48 h
boric acid	10043-35-3	EC50	226 mg/l	Crustaceae (Cran-gon sp.)		48 h
lithium fluoride	7789-24-4	EC50	132.4 mg/l	aquatic invertebrates		48 h
lithium fluoride	7789-24-4	EC50	112 mg/l	algae (Desmod-esmus sub-spicatus)	OECD Guideline 201	72 h
lithium fluoride	7789-24-4	ErC50	>400 mg/l	algae (Desmod-esmus sub-spicatus)	OECD Guideline 201	72 h

#### Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

#### Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Exposure time
sodium fluoride	7681-49-4	NOEC	4 mg/l	rainbow trout (On-corhynchus mykiss)		21 d
sodium fluoride	7681-49-4	NOEC	3.7 mg/l	daphnia magna		21 d
sodium fluoride	7681-49-4	NOEC	50 mg/l	algae		7 d
lithium fluoride	7789-24-4	NOEC	14.1 mg/l	daphnia magna		21 d

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Name of substance	CAS No	Endpoint	Value	Species	Method	Exposure time
lithium fluoride	7789-24-4	NOEC	4 mg/l	rainbow trout (Oncorhynchus mykiss)		21 d
lithium fluoride	7789-24-4	NOEC	25 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	72 h
lithium fluoride	7789-24-4	LOEC	50 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	72 h
lithium fluoride	7789-24-4	growth rate (ErCx) 10%	80 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	72 h

### 12.2 Persistence and degradability

#### Biodegradation

No data available.

#### Persistence

No data available.

### 12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

#### 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		-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.

### 12.7 Other adverse effects

Data are not available.

#### Remarks

Wassergefährdungsklasse, WGK (water hazard class): 1

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packages

Completely emptied packages can be recycled.  
Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1 UN 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 Transport in bulk according to Annex II of MARPOL and the IBC Code -

### 14.8 Information for each of the UN Model Regulations

**Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information**

Not subject to transport regulations.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

**Toxic Substance Control Act (TSCA)** All ingredients are listed

#### Superfund Amendment and Reauthorization Act (SARA TITLE III)

**The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)**

none of the ingredients are listed

#### Specific Toxic Chemical Listings (EPCRA Section 313)



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none of the ingredients are listed

## Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

### List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
sodium fluoride	7681-49-4		1	1000 (454)

#### Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

## Clean Air Act

none of the ingredients are listed

## Right to Know Hazardous Substance List

### Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
quartz	14808-60-7		CA.
calcium carbonate	1317-65-3		
sodium fluoride	7681-49-4		TE.

#### Legend

CA Carcinogenic

TE Teratogenic

## California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

## Industry or sector specific available guidance(s)

### NPCA-HMIS® III

Hazardous Materials Identification System.

American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	2	temporary or minor injury may occur
Flammability	0	material that will not burn under typical fire conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

# Solar Flux® Type I

## NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	0	material that will not burn under typical fire conditions
Health	2	material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

## 15.2 Chemical Safety Assessment

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

### SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2021-02-13

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
BCF	Bioconcentration factor
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
cD	Combustible dust
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
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
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

## Solar Flux® Type I

Abbr.	Descriptions of used abbreviations
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
Repr.	Reproductive toxicity
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

# Solar Flux® Type I

Transport of dangerous goods by road or rail (49 CFR US DOT).  
International Maritime Dangerous Goods Code (IMDG).  
Dangerous Goods Regulations (DGR) for the air transport (IATA).

## 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 chapter 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.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child (if exposed).
H372	Causes damage to organs through prolonged or repeated exposure.
OSHA003	May form combustible dust concentrations in air.

## Responsible for the safety data sheet

Chemical Regulatory Compliance Company Telephone: +1 (630) 410-1660  
Chicago, IL e-Mail: GHS@crc-us.com  
USA Website: www.crc-us.com

## Disclaimer

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