

Safety Data Sheet

Solar Flux type I

acc. To OSHA GHS (29 CFR 1910.1200)

1. Identification

Product identifier: Trade name – Solar Flux™ Type I

Recommended use: Powder flux for welding

Restrictions on use: None

Manufacturer: Golden Empire Corporation

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Safety Data Sheet Questions: eaw.solarflux@gmail.com

2. Hazard(s) Identification

Classified according to the criteria of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), OSHA Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Controlled Products Regulations



GHS06

Acute oral toxicity, Category 3

Skin irritation, Category 2

Eye irritation, Category 2



GHS08

Reproductive toxicity, Category 1B

Signal word: Danger

Hazard-determining components of labeling:

- Sodium Fluoride/Lithium Fluoride
- Boric Acid/Sodium Tetraborate

Hazard statements:

H301: Toxic if swallowed.

H315: Causes skin irritation

H319: Causes serious eye irritation

H360: May damage fertility or the unborn child

Precautionary Statements:

P102: Keep out of reach of children.

P103: Read label before use.

P264: Wash skin thoroughly after handling.

P270: Do not eat, drink, or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351: IF IN EYES: Rinse cautiously with water for several minutes.

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

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in GHS classification:

Electric Shock can kill. Arc rays can injure eyes and burn skin. Welding arc and sparks can ignite combustibles and flammable materials. Overexposure to welding fumes and gases can be hazardous.

3. Composition/information on ingredients

Chemical characterization: Mixtures

Dangerous components:

7681-49-4	Sodium Fluoride	15-18%
7789-24-4	Lithium Fluoride	1-3%
10043-35-3	Boric Acid	1-3%
1330-43-4	Sodium Tetraborate	1-3%

Additional information: For the listed ingredient, the identity and exact percentages are withheld as a trade secret.

4. First-aid measures

Routes of exposure:

- Inhalation: Move to fresh air. If irritation persists, seek medical assistance.
- Eye contact: Rinse with water. If irritation persists, seek medical assistance.
- Skin contact: Wash with soap and water. If irritation persists, seek medical assistance.
- Ingestion: Rinse mouth. Drink plenty of water. Do not induce vomiting. Seek medical assistance.

Most important symptoms or effects, both acute and delayed:

- Nausea; Gastric or intestinal disorders, if ingested; Shortness of breath; Headache; Watery or irritated eyes

5. Fire-fighting measures

As shipped, the product does not burn.

6. Accidental release measures

If spilled, allow any dust to settle and then sweep up and discard as solid waste in accordance with local/regional/national/international regulations.

7. Handling and storage

Precautions for safe handling:

- Avoid breathing dust.
- Ensure good ventilation/exhaustion in work area.
- Regularly remove any deposit of dust that cannot be avoided.
- Read instructions completely before handling.
- Keep out of the reach of children.

Conditions for safe storage:

Close container tightly between uses. Store in a dry place. No known incompatibilities.

8. Exposure controls/personal protection

Use only with adequate ventilation and exhaust.

Personal protective equipment: Standard for welding

Exposure guidelines:

Component	CAS- No.	ACGIH TLV	OSHA PEL	NIOSH
Sodium Fluoride	7681-49-4	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	250 mg/m ³ IDLH 2.5 mg/m ³ TWA
Lithium Fluoride	7789-24-4	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA	2.5 mg/m ³ TWA
Boric Acid	10043-35-3	2 mg/m ³ TWA	5 mg/m ³ TWA	5 mg/m ³ TWA
Sodium Tetraborate	1330-43-4	2 mg/m ³ TWA	5 mg/m ³ TWA	5 mg/m ³ TWA

9. Physical and chemical properties

Appearance:	Dark gray powder
Odor:	None
Odor threshold:	Not determined
pH-value:	N/A
Melting point/range:	Not determined
Boiling point/range:	1682° C (3060° F)
Flash point:	N/A
Flammability:	Product is not flammable.
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto-igniting:	Product is not self-igniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits – upper/lower:	Not determined/Not determined
Vapor pressure:	N/A
Density:	2.2 g/cm ³ (18.359 lbs/gal)
Relative density:	Not determined
Vapor density:	N/A
Evaporation rate:	N/A
Solubility in water:	4.2 gm/100 ml
Partition coefficient (n-octanol/water):	Not determined
Viscosity:	N/A

10. Stability and reactivity

Reactivity: Non-reactive under normal conditions of use, storage, and transport.

Chemical stability: Stable under normal temperatures and pressures.

Thermal decomposition: None if used/stored according to specifications

Possibility of hazardous reactions: Reacts with strong acids/alkalis and strong oxidizing agents.

Conditions to avoid: None

Incompatible materials: None known

Hazardous decomposition products: Not specific to the product. Decomposition products are dependent on the material being welded, the welding process used, and the environment in which welding is performed.

11. Toxicological information

Routes of exposure and effects:

Ingestion: Short term effects – possible nausea or gastric/intestinal disorders

Long term effects – none known
Skin contact: Short term effects – none known
Long term effects – none known
Eye contact: Short term effects – mild irritation
Long term effects – none known
Inhalation: Short term effects – coughing, shortness of breath
Long term effects – none known

Acute Toxicity/LD50:

Component	CAS- No.	LD50 Oral	LD50 Dermal
Sodium Fluoride	7681-49-4	52 mg/kg	> 2,000 mg/kg
Lithium Fluoride	7789-24-4	143 mg/kg	No data available
Boric Acid	10043-35-3	3,400-4,000 mg/kg	> 2,000 mg/kg
Sodium Tetraborate	1330-43-4	>2,500 mg/kg	>2,000 mg/kg

Carcinogens: Not classified as a carcinogen.

12. Ecological information

Aquatic toxicity: Contains Sodium Fluoride which may be harmful to aquatic organisms.

Persistence and degradability: Soluble in water. Persistence is unlikely based on available information.

Bioaccumulative potential: No relevant information available

Mobility in soil: Likely mobile due to its water solubility.

General notes: Based on available data prolonged environmental damage is unlikely. However, it is not recommended to allow large quantities of undiluted product to reach ground water, water courses, or sewage systems.

13. Disposal considerations

- Contact waste processors for recycling of unused product, residue, or containers.
- The user of this material is responsible for disposal of unused product, residue, or containers according to local/regional/national/international regulations.

14. Transport information

The product, as manufactured and shipped, is not classified as a shipping or environmental hazard. No special transportation precautions are required.

15. Regulatory information

Regulations pertaining to component Sodium Fluoride –7681-49-4:

Right-to-Know Regulations: Massachusetts, New Jersey, Pennsylvania, Illinois, Rhode Island

16. Other information

The information contained herein is believed to be accurate. Golden Empire Corporation makes no warranty to and disclaims all liability for reliance. Golden Empire Corporation cannot anticipate all conditions under which this product, or the products of other manufacturers in combination with this product, may be used. It is the user's responsibility to ensure safe conditions for use, handling, storage, and disposal of the product, and to assume liability for loss, injury, damage, or expense due to improper use.

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