Section 1. Identification

Product Identity Boron Oxide
Other means of identification Boron trioxide, diboron trioxide, anhydrous boric acid, boric oxide

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

Ceramic, Detergent, Borosilicate glass, Fiberglass

Details of the supplier of the safety data sheet

Company Name

Silver Fern Chemical, Inc.
121 W. De La Guerra Street, Suite B
Santa Barbara, CA 93101 USA

info@silverfernchemical.com
Website - www.silverfernchemical.com

24-hour Emergency Telephone No.

Emergency telephone number:
Infotrac: 1-800-535-5053
Outside USA & Canada +1-352-323-3500

Customer Service: Customer Service: 1-866-282-3384

Section 2. Hazard(s) identification

Classification of the substance or mixture under OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)

Skin corrosion/irritation category 2;H315	Causes skin irritation.
Serious eye damage / eye irritation, category 2A;H319	Causes serious eye irritation.
Reproductive toxicity, category 1B;H360FD	May damage fertility. May damage the unborn child.

Label elements





Danger

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H360FD* May damage fertility. May damage the unborn child.

[Prevention]
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash thoroughly after handling.
P280 Wear protective gloves, eye protection, and face protection.
[Response]
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.
P308+313 IF exposed or concerned: Get medical advice or attention.
P332+313 If skin irritation occurs: Get medical attention.
P337+313 If eye irritation persists: Get medical advice or attention.
P362+364 Take off contaminated clothing and wash it before reuse.
[Storage]
P405 Store locked up.
[Disposal]
P501 Dispose of contents or container in accordance with local and national regulations.

Other hazards

This product contains no PBT/vPvB/vPvM chemicals.
This product contains no endocrine disrupting chemicals.

Does NOT contain component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS) per the US EPA PFASMASTER combined list of PFAS chemicals.

Section 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7).

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Boron oxide **CAS Number: 1303-86-2** **Synonyms: Boron oxide (B2O3), Diboron trioxide**	**>98%**	**Skin corrosion/irritation category 2;H315, Serious eye damage / eye irritation, category 2A;H319, Reproductive toxicity, category 1B;H360FD:**	**No data available**

The actual concentration or concentration range is withheld as a trade secret.
*PBT/vPvB - PBT, vPvM or vPvB-substance.
The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes Rinse with plenty of clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Overview No specific symptom data available.
Reproductive or genetic defect hazard. Treat symptomatically. See section 2 for further details.

Eyes Causes serious eye irritation.

Skin Causes skin irritation.

Section 5. Fire-fighting measures

Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO_2, powder, water spray.
Unsuitable extinguishing media: Do not use; water jet.

Special hazards arising from the substance or mixture

Hazardous decomposition: When heated, emits highly toxic and corrosive fumes of hydrogen compounds and hydrogen gas.

Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

ERG Guide No. ----

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Environmental precautions

Do not allow spills to enter drains or waterways.

Methods and material for containment and cleaning up

Sweep up or pick up.
Contain, dilute cautiously with water, and neutralize with soda ash or lime.

Section 7. Handling and storage

Precautions for safe handling
Handle containers carefully to prevent damage and spillage.
Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal

protective equipment.

Conditions for safe storage, including any incompatibilities
Incompatible materials: Metal, glass, stoneware, alkali and strong concentrated acids. See section 2 for further details. - [Storage]

Specific end use(s)
No available information

Section 8. Exposure controls / personal protection

Control parameters

Exposure Limits

CAS No.	Ingredient	Source	Value
1303-86-2	Boron oxide	OSHA	15 mg/m^3
		ACGIH	TWA: 10 mg/m^3
		NIOSH	TWA 10 mg/m^3

Exposure controls

Respiratory Use NIOSH/MSHA approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.

Eyes Wear safety glasses with side shields to protect the eyes. An eye wash station is suggested as a good workplace practice.

Skin Chemical resistant clothing such as coveralls/apron and boots should be worn. Chemical impervious gloves required.

Engineering Controls Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Use good personal hygiene practices. Wash hands before eating,

Practices drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

Section 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State	Solid
Color	White
Odor	Odorless
Odor threshold	No available information
Melting point / freezing point	Melting point: >450 °C - OECD Test Guideline 102
Initial boiling point and boiling range	1860 °C
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: No available information Upper Explosive Limit: No available information
Flash Point	No available information
Auto-ignition temperature	No available information
Decomposition temperature	No available information
pH	5.46 at 25 °C
Kinematic viscosity	No available information
Solubility in Water	Water: 2.7 % @20 C
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapor pressure (Pa)	< 0.13 hPa at< 300 °C
Relative Density	1838 kg/m^{3}Type: 'density' Temp.: 21,5 °C
Vapor Density	>1 (vs air)
Particle Characteristics	No available information
Evaporation rate (Ether = 1)	No available information
Oxidising properties	No available information
Explosive properties	No available information

No available information
No available information

Other information
No other relevant information.

Section 10. Stability and reactivity

Reactivity
Hazardous Polymerization will not occur.
Chemical stability
Stable under normal circumstances.
Possibility of hazardous reactions
No available information
Conditions to avoid
Excessive heat and open flame.
Incompatible materials
Metal, glass, stoneware, alkali and strong concentrated acids.
Hazardous decomposition products
When heated, emits highly toxic and corrosive fumes of hydrogen compounds and hydrogen gas.

Section 11. Toxicological information

Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Boron oxide - (1303-86-2)	2,601.00, Rat - Category: 5	> 2,000.00, Rat - Category: NA	No data available.	No data available.	No data available.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm

Carcinogen Data

CAS No.	Ingredient	Source	Value
1303-86-2	Boron oxide	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	No
		ACGIH	No Established Limit

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	2	Causes skin irritation.
Serious eye damage/irritation	2A	Causes serious eye irritation.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	1B	May damage fertility. May damage the unborn child.
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

Possible routes of entry:
Inhalation, ingestion, skin contact, and skin absorption.
Symptoms and effects, both acute and delayed:
No specific symptom data available.
Reproductive or genetic defect hazard. Treat symptomatically.

Eyes Causes serious eye irritation.
Skin Causes skin irritation.

Section 12. Ecological information

Toxicity
No additional information provided for this product. See Section 3 for chemical specific data.
Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L
Boron oxide - (1303-86-2)	79.70, Pimephales promelas	167.00, Ceriodaphnia dubia	65.60, Phaeodactylum tricornutum

Persistence and degradability
There is no data available on the preparation itself.
Bioaccumulative potential
No available information
Mobility in soil
No available information
Results of PBT and vPvB assessment
This product contains no PBT/vPvB/vPvM chemicals.
Other adverse effects
No available information

Section 13. Disposal considerations

Waste treatment methods
Observe all federal, provincial and local regulations when disposing of this substance.

Section 14. Transport information

US DOT (Domestic Surface Transportation) **IMO / IMDG (Ocean Transportation)** **ICAO/IATA**

UN number	Not Regulated	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
Transport hazard class(es)	Class: Not Applicable Sub Class: Not Applicable	Class: Not Applicable Sub Class: Not Applicable	Class: Not Applicable Sub Class: Not Applicable
Packing group	Not Applicable	Not Applicable	Not Applicable

Environmental hazards

IMDG Marine Pollutant: No;

Special precautions for user

No available information

Section 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Classification of the substance or mixture under OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)

Toxic Substance Control Act (TSCA)

CAS Number	Ingredient	Toxic Substance Control Act (TSCA)	Comments	Status
0001303-86-2	Boron oxide	Yes		ACTIVE

The following flags are used:
•Active - indicates commercial status designation of active
•E - indicates a substance that is the subject of a Section 5(e) Consent Order under TSCA.
•F - indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
•N - indicates a polymeric substance containing no free-radical initiator in its Inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
•P - indicates a commenced Premanufacture Notice (PMN) substance.
•R - indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
•S - indicates a substance that is identified in a final Significant New Uses Rule.
•SP - indicates a substance that is identified in a proposed Significant New Uses Rule.
•T - indicates a substance that is the subject of a final Section 4 test rule under TSCA.
•UVCB Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials •XU -

indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
•Y1 - indicates a polymer that has a number-average molecular weight greater than 1,000 and that was exempt under the 1984 polymer exemption rule.
•Y2 - indicates a polymer that is a polyester and that was exempt under the 1984 polymer exemption rule.

EPCRA 302 Extremely Hazardous:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 Label Warning:
This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Mass RTK Substances (>1%) :

Boron oxide

New Jersey RTK Substances (>1%):

Boron oxide

Pennsylvania RTK Substances (>1%):

Boron oxide

OSHA Process Safety Management Standard Highly Hazardous Chemicals, Toxics and Reactives:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US EPA List of Regulated Substances under the Risk Management Plan (RMP) Program:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) under the Minimum Risk Exemption:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

U.S. - DEA List II or Essential Chemicals:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

U.S. - DEA - Exempt Chemical Mixtures - List 1 and 2:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

US DHS Chemical Facility Anti-Terrorism Standards (CFATS):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

CERCLA Chemicals and RQs:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Section 16. Other information

Revision Date 12 October, 2026

DISCLAIMER OF RESPONSIBILITY

The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume damage or expense arising out of or in any way responsibility and expressly disclaim liability for loss, connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

The full text of the phrases appearing in section 3 is:

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

End of Document