SAFETY DATA SHEET

FORCE INDUSTRIES DIVISION

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product identifier
Product name: Peterson #1
Other means of identification
Product code: 550

Recommended use of the chemical and restrictions on use
Recommended use: General purpose brazing and welding flux

Details of the supplier of the safety data sheet
Manufacturer: Force Industries Division.
28 Industrial Blvd. Paoli, PA 19301.

Emergency Telephone number
For hazardous materials incidents only, call CHEMTREC Emergency Response Number: 1-800-424-9300.
For all other inquiries about this product, call Force Industries Division at 610-647-3575.

Revision Date: July 11, 2016
Supersedes: January 4, 2016

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Eye irritation (Category 2A) H319
Reproductive toxicity (Category 1B), H360
Acute aquatic toxicity (Category 3), H402
Chronic aquatic toxicity (Category 3), H412
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Emergency overview

Appearance: Light Blue
Physical state: Fine Powder
Odor: None
Signal word: DANGER

Hazard statement(s)

H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P281 Use personal protective equipment as required.
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.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS –none.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	EINECS No.	Weight %
Boric acid	10043-35-3	233-139-2	60-70
Sodium tetraborate	1330-43-4	215-540-4	30-40

Others, if any, are non-hazardous and claimed as trade secret.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, remove person to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Existing skin disorders will be aggravated. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Contains boric acid. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Borane/boron oxides

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

No data available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Boric acid	10043-35-3	TWA	2 mg/m3 *	See Note below
Sodium tetraborate	1330-43-4	TWA	2 mg/m3	See Note below

*as borate compounds)

Note: ACGIH Threshold Limit Values (TLV)

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Fine Powder
Odor:	No data available
Color:	Blue
Flash point:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Specific gravity:	No data available
Bulk Density:	106.6 lbs/cu. ft
Water solubility:	Moderate

9.2 Other safety information
No other data

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions
.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Avoid moisture.

10.5 Incompatible materials
Potassium, Acid anhydrides

10.6 Hazardous decomposition products
Other decomposition products – no Reactivity
No dangerous reaction known under conditions of normal use
In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Component toxicity

Components	LD50/Rabbit (Dermal)	LD50/Oral/Rat
Boric acid	No Data	2,660 mg/kg
Sodium tetraborate	2,000 mg /kg	2,600 mg/kg

Skin corrosion/irritation

Skin - Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Eyes - Rabbit
Result: Moderate eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitization

Buehler Test - Guinea pig
Result: Does not cause skin sensitization. (OECD Test Guideline 406)

Germ cell mutagenicity

No data available

Chronic Toxicity and Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Developmental Toxicity

No data available

Reproductive Toxicity

For the minor component(s): In animals, effects have been reported on the following organs: Male reproductive organs. Repeated excessive exposures to high amounts may cause effects on testes and fertility in males.
Presumed human reproductive toxicant

Genetic Toxicology

Based on information for component(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, and erythematous lesions on the skin and mucous membranes. Other symptoms include: circulatory collapse, tachycardia, cyanosis, delirium, convulsions, and coma. Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams. Liver - Irregularities - Based on Human Evidence Liver - Irregularities - Based on Human Evidence

Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in the rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

SECTION 12: ECOLOGICAL INFORMATION

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 - Ptychocheilus lucius - 279 mg/l - 96 h
LC50 - Lepomis macrochirus (Bluegill) - > 1,021 mg/l - 96 h
LC50 - Limanda limanda - 74 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

LC50 - Daphnia magna (Water flea) - 53.2 mg/l - 21 d
EC50 - Daphnia magna (Water flea) - 133 mg/l - 48 h.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Harmful to aquatic life with long lasting effects

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49CFR)
Not dangerous goods

International Air Transportation (ICAO/IATA):
Not dangerous goods

International Maritime Organization (IMO/IMDG):
Not dangerous goods

SECTION 15: REGULATORY INFORMATION

International Inventories

USA (TSCA): Complies

Federal Regulations

SARA Title III 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA Tittle III 313 Reportable Substances
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA Title III Section 311/312 Hazard Categories:
Acute Health Hazard, Chronic Health Hazard

State Regulations (RTK)
Massachusetts Right To Know Components

Component	CAS No.
Sodium tetraborate	1330-43-4

Pennsylvania Right to Know Components

Component	CAS No.
Boric acid	10043-35-3
Sodium tetraborate	1330-43-4

New Jersey Right to Know Components

Component	CAS No.
Boric acid	10043-35-3
Sodium tetraborate	1330-43-4

California Proposition 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

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

Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
H319	Eye Irritant. Eye irritation Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child. Reproductive toxicity
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

HMIS:
Health: 1*
Flammability: 0
Reactivity: 0

PREPARATION INFORMATION: Technical Service Department,
Force Industries Division

DISCLAIMER: The data set forth in these sheets are based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. Force Industries makes no warranty with respect to the accuracy of the information provided by their suppliers, and declaims all liability of reliance thereon. Force Industries warrants only that its products conform to their published specifications and no other express warranty is made with regards thereof. We do not guarantee favorable results, and we assume no liability in connection with the use of the products. They are intended for use by persons having technical skill and knowledge, at their own discretion and risk.