



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT NAME

Powder Brazing Flux: 6150

1.2 MANUFACTURER

Selectrode Industries, Inc.
230 Broadway
Huntington Station, NY 11746 U.S.A.
Phone: 631-547-5470
Fax: 631-547-5475
E-mail: info@selectrode.com

1.3 EMERGENCY TELEPHONE NUMBER: 631-547-5470

2. COMPOSITION / INFORMATION ON INGREDIENTS

PREPARATION:

Important: This section covers the materials of which the products are manufactured. The fumes and gases produced during normal use of this product are covered in Section V. The term "Hazardous" in "Hazardous Material" should be interpreted as a term required and defined in OSHA Hazard Communication Standard 29CFR 1910-1200 and it does not necessarily imply the existence of hazard. The chemicals or compounds reportable by Section 313 of SARA are marked by the symbol #.

INGREDIENTS	CAS#	% RANGE	OSHA PEL mg/m ³	ACGIH-TLV mg/m ³	CARCINOGENICITY	R-PHASE
5 Mol Borax	12179-04-3	75-85	15.0	NR	NO	
Borax, Pentahydrate	1303-43-4	15-25	10.0	1.0	NO	

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Sodium Tetraborate Pentahydrate is a white odorless, powdered substance that is not flammable, combustible, or explosive, and it presents no unusual hazard if involved in a fire. Sodium Tetraborate Pentahydrate presents little or no hazard (to humans) and has low acute oral and dermal toxicities. Care should be taken to minimize the amount of Sodium Tetraborate Pentahydrate released to the environment to avoid ecological effects.

POTENTIAL ECOLOGICAL EFFECTS: Large amounts of Sodium Tetraborate Pentahydrate can be harmful to boronsensitive plants and other ecological systems.

POTENTIAL HEALTH EFFECTS:

Routes of Exposure: Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because Sodium Tetraborate Pentahydrate is not absorbed through intact skin.

Inhalation: Occasional mild irritation effects to nose and throat may occur from inhalation of Sodium Tetraborate Pentahydrate dusts at levels greater than 10mg/m³.

Eye Contact: Sodium Tetraborate Pentahydrate is non-irritating to eyes in normal industrial use.

Skin Contact: Sodium Tetraborate Pentahydrate does not cause irritation to intact skin.

Ingestion: Products containing Sodium Tetraborate Pentahydrate are not intended for ingestion. Sodium Tetraborate Pentahydrate has a relatively low acute toxicity. Small amounts (e.g., a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

Cancer: Sodium Tetraborate Pentahydrate is not considered carcinogen.



Reproductive: Long-term, high dose animal ingestion studies of similar inorganic borate chemicals have demonstrated reproductive effects in male animals. A human study of occupational exposure to borate dust showed no adverse effect to reproduction.

Development: High dose animal ingestion studies of similar inorganic borate chemicals have demonstrated developmental effects in fetuses of pregnant animals, including fetal weight loss. A human study showed no adverse effect.

Target Organs: No target organ has been identified in humans. High dose animal ingestion studies of similar inorganic borate chemicals indicate the testes are the target organs in male animals.

Signs and Symptoms of Exposure: Symptoms of accidental over-exposure to borate products have been associated with ingestion or by absorption through large areas of damaged skin. These may include nausea, vomiting, and diarrhea, with delayed effects of skin redness and peeling.

Primary Route(s) of Entry: Inhalation, skin contact- and ingestion

Health Hazards (Acute and Chronic):

Inhalation-

Acute- Considered a nuisance dust, high concentrations may cause upper respiratory irritation.

Chronic- None known

Skin Contact-

Acute- Mild irritation or drying

Chronic- Not absorbed through intact skin, prolonged contact damages skin. May result in absorption of boron leading to systemic poisoning as seen with ingestion. See ingestion.

EYE CONTACT

Acute- Irritation

Chronic- None known

INGESTION

Acute- Nausea, vomiting, diarrhea, possibly followed by weakness, depression and headache. Skin rashes, cracked lips, and loss of hair may follow ingestion. Shock may occur following ingestion of large quantities.

Chronic- Same as acute.

Signs and Symptoms of Exposure: Respiratory, skin or eye irritation, nausea, vomiting, and diarrhea from ingestion.

Medical Conditions Generally Aggravated by Exposure: None Known

4. FIRST AID MEASURES

Inhalation - Remove to fresh air. Seek medical attention if irritation persists. **Skin** - Wash with water. If irritation persists, seek medical attention. **Eyes** - Wash with running water for at least 15 minutes. Seek medical attention. **Ingestion** - Obtain medical attention as soon as possible. Note to Physicians: Observation only is required for adult ingestion of a few grams of Sodium Tetraborate Pentahydrate.

Ingestion of larger amounts, maintain adequate kidney function and force liquids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine should not be used to evaluate severity of poisoning or to guide treatment.

5. FIRE FIGHTING MEASURES

General Hazard: None

Flash Point (°F): NA

Method Used: NA

Flammability Limits: NEL: NA

UEL: NA



Auto-Ignition Temperature (°F): NA
Extinguishing Media: NA (Noncombustible; inherent fire retardant)
Special Fire-Fighting Instructions: None
Unusual Fire and Explosion Hazards: None
Flammability Classification: 29 CFR 1910.120 (Non Flammable Solid)

This information and recommendations are based upon data believed to be accurate. However, no guarantee or warranty of any kind expressed or implied is made with respect to this information.

6. ACCIDENTAL RELEASE MEASURES

Action To Take For Spills (Use Appropriate Safety Equipment): Sweep up
Waste Disposal Method: As an inert solid waste in accordance with state, local, and federal regulations.
California: Sodium Tetraborate Pentahydrate is a "hazardous waste" in California and should be handled in accordance with state regulations.
EPA Hazardous Waste Number: None
RCRA (40 CFR 261): Sodium Tetraborate Pentahydrate is not listed under any sections of the Federal Resource Conservation and Recovery Act.
Water Spill: Sodium Tetraborate Pentahydrate will cause localized contamination of surrounding waters based on the quantity dissolved in these waters. At high concentrations, some damage to local vegetation, fish, and other aquatic life may be expected. Advise local water authority that none of the affected water should be used for irrigation or for potable water until natural dilution returns boron level to normal.

7. HANDLING AND STORAGE

Ventilation: Natural
Respiratory Protection: A NIOSH/MSHA approved nuisance dust mask should be worn to prevent irritation if exposure exceeds guidelines.
Protective Clothing: Goggles, gloves, and long sleeved clothing to prevent excessive contact with dry materials. **Work/Hygienic Practices:** No special requirements.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Technical measures: Avoid Fume inhalation.
Avoid grinding dust inhalation
Exposure limits: see section 2.
Personal protection:

- **Respiratory protection:** use an air purifying dust respirator.
- **Hands protection:** wear appropriate gloves to prevent skin contact.
- **Eyes protection:** wear-brazing glasses.
- **Skin protection:** wear appropriate overalls to prevent skin or body contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: YAfite Crystals, Orderless
Specific Gravity (H2O = 1): 1.82
Melting Point: 200°C (Decomposition) 741°C (Melt)
Vapor Pressure (mmHg @ 20°C): Negligible



Percent Volatile By Volume: 0
Solubility In Water: 0.39 Lb./Gallon @ 72°F
Formula Weight: 291.35

pH: 9.26 (0.1 % solution at 20°C)
9.24 (1.0% solution at 20°C)
9.32 (3.7% solution at 20°C)

10. STABILITY AND REACTIVITY

Stability (Conditions to Avoid): Stable, loses H₂O on heating
Incompatibility (Materials to Avoid): Elemental zirconium. Also, strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard.
Hazardous Decomposition Products: None known
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Effects of acute exposure

Local effects: not applicable.

Inhalation: not applicable.

Ingestion: not applicable.

Contact with skin: may cause dermatitis in sensitised individuals.

12. ECOLOGICAL INFORMATION

About product: data are unknown
About ingredients: data are unknown.

13. DISPOSAL CONSIDERATIONS

Product: For product elimination, consult recycling companies or appropriate local authority.
Package: May be disposed in approved landfills provided local regulations are observed.

14. TRANSPORT INFORMATION

Precautions To Be Taken In Handling and Storage: Store in dry location.

DOT Information:
Hazardous Material Proper Shipping Name: Not hazardous
Hazard Class: Not hazardous
UN Identification Number: None
Sodium Tetraborate Pentahydrate is not regulated under international rail, highway, water or air transport regulations.



15. REGULATORY INFORMATION

TSCA No.: Sodium Tetraborate Pentahydrate appears on the EPA TSCA inventory list under the CAS no. 1330-43-4, which represents the anhydrous form of this inorganic salt.

RCRA: Sodium Tetraborate Pentahydrate is not listed as a hazardous waste under any sections of the Resource Conservation and Recovery Act or regulations (40 CFR 261 et seq.).

Superfund: CERCLA/SARA. Sodium Tetraborate Pentahydrate is not listed under CERCLA (the Comprehensive Environmental Response Compensation and Liability Act) or its 1986 amendments, SARA, (the Superfund Amendments and Reauthorization Act), including substances listed under Section 313 of SARA, Toxic Chemicals, 42 USC 11023, 40 CFR 372.65; Section 302 of SARA, Extremely Hazardous Substances, 42 USC 11002, 40 CFR 355; or the CERCLA Hazardous Substances list, 42 USC 9604, 40 CFR 302.

Safe Drinking Water Act: Sodium Tetraborate Pentahydrate is not regulated under the SDWA, 42 USC 300g-1, 40 CFR 141 et seq. Consult state and local regulations for possible water quality advisories regarding Boron.

Clean Water Act (Federal Water Pollution Control Act): 33 USC 1251 et seq.

- (a) Sodium Tetraborate Pentahydrate is not itself a discharge covered by any water quality criteria of Section 304 of the CWA, 33 USC 1314.
- (b) It is not on the Section 307 List of Priority Pollutants, 33 USC 1317, 40 CFR 129.
- (c) It is not on the Section 311 List of Hazardous Substances, 33 USC 1321, 40 CFR 116.

OSHA/Cal OSHA: This MSDS document meets the requirements of both OSHA (29 CFR 1910.1200) and Cal OSHA (Title 8 CCR 5194(g)) hazard communication standards. Refer to Section 6 for regulatory exposure limits.

IARC: The International Agency for Research on Cancer (of the World Health Organization) does not list or categorize Sodium Tetraborate Pentahydrate as a carcinogen.

NTP Annual Report on Carcinogens: Sodium Tetraborate Pentahydrate is not listed.

OSHA Carcinogen: Sodium Tetraborate Pentahydrate is not listed.

California Proposition 65: Sodium Tetraborate Pentahydrate is not listed on any Proposition 65 lists of carcinogens or reproductive toxicants.

CONEG Model Legislation: Sodium Tetraborate Pentahydrate meets all the CONEG requirements relating to heavy metal limitations on components of packaging materials.

Clean Air Act: Sodium Tetraborate Pentahydrate was not manufactured with and does not contain any Class I or Class II ozone depleting substances, as defined by EPA.

Federal Food, Drug and Cosmetic Act: Pursuant to 21 CFR 175.105, 176.180 and 181.30, Sodium Tetraborate Pentahydrate is approved by the FDA for use in adhesive components of packaging materials, as a component of paper coatings on such materials, or for use in the manufacture, thereof, which materials are expected to come in contact with dry food products.

Chemical Inventory Listing

US EPA TSCA 1330-43-4
Canadian DSL 1330-43-4
EINECS 215-540-4
South Korea 1-760
Japanese MITI (1)-69

Federal Food, Drug, and Cosmetic ACT:

Pursuant to 21 CFR 175.105, 176.108 and 181.30, Sodium Tetraborate Pentahydrate is approved by the FDA for use in adhesive components of packaging materials, as a component of paper coatings on such materials or for use in the manufacture, thereof, which materials are expected to come in contact with dry food products

16. OTHER INFORMATION

Product Label Text Hazard Information:

- May be harmful if swallowed. -May cause reproductive harm or birth defects based on animal data. -Avoid contamination of food or feed.
- Not for food, drug or pesticidal use.
- Refer to MSDS.
- KEEP OUT OF REACH OF CHILDREN.**

Material
Safety
Data
Sheet

MSDS # 285
Latest Revision: May 2009
Page 6 of 6
Selectrode Industries, Inc.



National Fire Protection Association (NFPA) Classification:

Health 0
Flammability 0
Reactivity 0

Hazardous Materials Information Systems (HMIS):

Red: (Flammability) 0
Yellow: (Reactivity) 0
Blue: (Acute Health) 1*

*Chronic Effects

The information in this document is believed to be correct as of the date issued. However, no warranty is expressed to be implied regarding the accuracy or completeness of this information. This information and product are furnished on the condition that the person receiving them shall make his own determinations as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

This Material Safety Data Sheet complies with the EC directives 91/155/EEC and 93/112/EEC Including modifications 2001/58/EC.

Complies with OSHA Communication Standard 29 CFR 1910.1200 and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499.

End of the document.