



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name All-State Brazaloy No. 1 Flux

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

Use Brazing and Welding Flux

1.3. Details of the supplier of the safety data sheet

SDS created by TDST

Supplier ESAB DENTON

Street address 2800 Airport Road
Denton, TX 76207

Telephone 1-800-372-2123

Email sds.esab@esab.se

Web site www.esab.com

1.4. Emergency telephone number

Emergency phone number 1-800-372-2123

Available outside office hours No

Other

AWS Classification: None

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The product is not classified

2.2. Label elements

The product do not require labeling

2.3. Other hazards

Emergency Overview: A fine white, blue or red powder with no odor. Harmful if swallowed.

Avoid eye contact or inhalation of dust from the product. Dusts may irritate the eyes and can cause respiratory irritation.

This product is normally not considered hazardous as shipped. Gloves should be worn when handling to prevent contaminating hands with product dust.

Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device.

When this product is used in a brazing process, the most important hazards are heat, radiation, electric shock and brazing fumes.

Heat: Spatter and melting metal can cause burn injuries and start fires.



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

Radiation: Arc rays can severely damage eyes or skin.

Electricity: Electric shock can kill.

Fumes: Overexposure to brazing fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat, and eyes. Chronic overexposure to brazing fumes may affect pulmonary function. Prolonged inhalation of nickel and chromium compounds above safe exposure limits can cause cancer. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait

Flame Processing: When used with combustible gas equipment (e.g., oxy-acetylene torch), read the use and safety information for that equipment.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| Chemical name | CAS No. EC No. REACH No. | Concentration | Classification | R-phrase H-phrase |
|--------------------|--------------------------------|---------------|----------------|----------------------|
| Boric acid | 10043-35-3 233-139-2 - | >60% | - Repr. 1B | - H360FD |
| Sodium tetraborate | 1330-43-4 215-540-4 - | 15 - 40% | - Repr. 1B | - H360FD |
| Iron oxide | 1309-37-1 215-168-2 - | 0% | - - | - - |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------|--|
| Inhalation | If breathing has stopped, perform artificial respiration and obtain medical assistance immediately! If breathing is difficult, provide fresh air and call physician. |
| Skin contact | For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist. To remove dust or particles wash with mild soap and water. |
| Eye contact | For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance. |
| Ingestion | IF SWALLOWED: Call a POISON CENTER or doctor . Rinse mouth. Do NOT induce vomiting. |

4.2. Most important symptoms and effects, both acute and delayed

Not applicable

4.3. Indication of any immediate medical attention and special treatment needed

Not applicable

Other

Electric shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin CPR Call a physician immediately.



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

General: Move to fresh air and call for medical aid.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

No specific recommendations for brazing consumables. No specific recommendations for welding consumables. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning materials and fire situation.

5.2. Special hazards arising from the substance or mixture

Not applicable

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus as fumes or vapors may be harmful.

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

Refer to Section 13.

6.3. Methods and material for containment and cleaning up

Not applicable

6.4. Reference to other sections

Not applicable

Other

Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Avoid contact with skin, eyes and clothing. Wear gloves when handling brazing consumables. Do not swallow or breathe vapors produced by use of product. Wash hands after using. Some individuals can develop an allergic reaction to certain materials.

7.2. Conditions for safe storage, including any incompatibilities



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions. Store in cool/well-ventilated place.

7.3. Specific end use(s)

Not applicable

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| National occupational exposure limits | Ingredient | CAS no. | EC No. | Exposure limit mg/m3-ppm | | Short-term exposure limit mg/m3-ppm | | Remark | Source | Year |
|---------------------------------------|--------------------|------------|--------|--------------------------|---|-------------------------------------|---|--------|--------|------|
| | | | | | | | | | | |
| | Boric acid | 10043-35-3 | - | - | - | - | - | NO PEL | OSHA | 2016 |
| | Sodium tetraborate | 1330-43-4 | - | - | - | - | - | NO PEL | OSHA | 2016 |
| | Iron Oxide | 1309-37-1 | - | 10 | - | - | - | fume | OSHA | 2016 |

8.2. Exposure controls

Technical precaution measures

Ensure sufficient ventilation, local exhaust, or both. Keep working place and protective clothing clean and dry. Check condition of protective clothing and equipment on a regular basis. Train welders to avoid contact with live electrical parts and insulate conductive parts.

Other

Avoid exposure to brazing and welding fumes, radiation, spatter, electric shock, heated materials and dust.

Personal protective equipment

Use respirator or air supplied respirator when brazing in a confined space, or where local exhaust or ventilation is not sufficient to keep exposure values within safe limits. Use special care when brazing painted or coated steels since hazardous substances from the coating may be emitted. Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry.

Limitation of exposure

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits. The following limits can be used as guidance. Unless noted, all values are for 8 hour time weighted averages (TWA). When used with brazing and welding products, refer to the brazing or welding product SDS, Section 10, for information on brazing and welding fumes. Blue (No. 1 Flux), red (No. 5 Flux) or white (Brazo Flux) powder with no odor.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|----------------------------|--|
| Appearance | Blue (No. 1 Flux), red (No. 5 Flux) or white (Brazo Flux) powder with no odor. |
| Appearance, colour | Not applicable |
| Appearance, physical state | Not applicable |
| Auto-ignition temperature | Not applicable |



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

| | |
|---|----------------------------------|
| Decomposition temperature | Not applicable |
| Evaporation rate | Solid. Does not evaporate. |
| Explosive properties | Not applicable |
| Flammability (solid, gas) | Not applicable |
| Flash point | Not applicable |
| Initial boiling point and boiling range | Not applicable |
| Melting point / freezing point | Not applicable |
| Odour | Not applicable |
| Odour treshold | Not applicable |
| Oxidising properties | Not applicable |
| Partition coefficient: n-octanol / water | Not applicable |
| pH value | Not applicable |
| Relative density | Not applicable |
| Solubility | Not applicable |
| Specific Gravity | 1.62-1.82 (H ₂ O = 1) |
| Upper / lower flammability or explosive limits | Not applicable |
| Vapour density | Not applicable |
| Vapour pressure | negligible |
| Viscosity | Not applicable |

9.2. Other information

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Contact with chemical substances like acids or strong bases could cause generation of gas.

10.2. Chemical stability

Chemical stability This product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Not applicable



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

10.4. Conditions to avoid

Not applicable

10.5. Incompatible materials

Not applicable

10.6. Hazardous decomposition products

Not applicable

Other

This products is only intended for normal brazing and welding purposes

When these products are used in a brazing and welding process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in Section 3 and those from the brazing and welding consumables, the base metal and coating.

Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in Section 8. A significant amount of the chromium in the fumes can be hexavalent chromium, which has a very low exposure limit in some countries. Manganese and nickel also have low exposure limits, in some countries, that may be easily exceeded.

Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quantity of fumes and gases produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|---|---|
| Information on toxicological effects | Inhalation of brazing and welding fumes and gases can be dangerous to your health. Classification of brazing and welding fumes is difficult because of varying base materials, coatings, air contamination and processes. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (Group 2B). |
| acute toxicity | Overexposure to brazing and welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Borax: 2.66 g/kg Boric acid: 2.6 g/kg Iron oxide: No value found but considered very low toxicity. |
| skin corrosion/irritation | Not applicable |
| serious eye damage/irritation | Not applicable |
| Respiratory/skin sensitization | Not applicable |
| germ cell mutagenicity | Not applicable |
| Genotoxicity | Not applicable |
| carcinogenicity | Not applicable |
| reproductive toxicity | Not applicable |
| STOT-single exposure | Not applicable |
| STOT-repeated exposure | Not applicable |



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

Aspiration hazard Not applicable

Other

Toxicity reported for borates in humans: ingestion and 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 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.

Long term effect

Overexposure to Overexposure to brazing and welding fumes may affect pulmonary function. Prolonged inhalation of nickel and chromium compounds above safe exposure limits can cause cancer. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait

SECTION 12: Ecological information

12.1. Toxicity

Toxicity

Brazing and welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the brazing and welding processes. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

12.2. Persistence and degradability

Not applicable

12.3. Bioaccumulative potential

Not applicable

12.4. Mobility in soil

Not applicable

12.5. Results of PBT and vPvB assessment

Not applicable

12.6. Other adverse effects

Not applicable

SECTION 13: Disposal considerations

13.1. Waste treatment methods



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

Disposal considerations

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available. USA RCRA: This product is not considered hazardous waste if discarded. Residues from brazing and welding consumables and processes could degrade and accumulate in soils and groundwater.

SECTION 14: Transport information

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

Other

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations, limitations and legal regulations

Canada: WHMIS classification: Class D; Division 2, Subdivision A Canadian Environmental Protection Act (CEPA): All constituents of this product are on the Domestic Substance List (DSL).
USA: Under the OSHA Hazard Communication Standard, this product is considered hazardous.
USA: This product contains or produces a chemical known to the state of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code § 25249.5 et seq.)
United States EPA Toxic Substance Control Act: All constituents of this product are on the TSCA inventory list or are excluded from listing.
CERCLA/SARA Title III Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs): No ingredients listed in this section.



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

- Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

Section 311 Hazard Class
 ; As shipped: Immediate
 In Use: Immediate delayed

The following metallic components are listed as SARA 313 "Toxic Chemicals" and potential subject to annual SARA 313 reporting. See Section 3 for weight percent.

Ingredient name/ Disclosure threshold
 No ingredients listed in this section

15.2. Chemical safety assessment

Chemical safety assessment No

Other

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.

WARNING: Welding fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation. ELECTRIC SHOCK can kill. ARC RAYS and SPARKS can injure eyes and burn skin.

Wear correct hand, head, eye and body protection.

SECTION 16: Other information

Changes to previous revision This Safety Data Sheet has been revised due to modification(s) to section(s) 1-16

References to key literature and data sources Refer to ESAB "Welding and Cutting - Risks and Measures", F52-529 "Precautions and Safe Practices for Electric Welding and Cutting" and F2035 "Precautions and Safe Practices for Gas Welding, Cutting and Heating" available from ESAB, and to: www.esab.com

Phrase meaning Repr. 1B - Reproductive toxicity, hazard category 1B
H360FD - FD May damage fertility. May damage the unborn child

Other

Additional information USA: Contact ESAB at www.esabna.com or 1-800 ESAB-123 if you have any questions about this SDS. American National Standard Z49.1 "Safety in Welding and Cutting", ANSI/AWS F1.5 "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", American National Standard Z49.1 "Safety in Welding and Cutting", ANSI/AWS F1.5 "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes", AWSF3.2M/F3.2 "Ventilation Guide for Weld Fume", American Welding Society, 550 North Le Jeune Road, Miami Florida 33135. Safety and Health Fact Sheets available from AWS at www.aws.org.

OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954

American Conference of Governmental Hygienists (ACGIH), Threshold Limit Values and Biological Exposure Indices, 6500 Glenway Ave., Cincinnati, Ohio 45211, USA. American Conference of Governmental Hygienists (ACGIH), Threshold Limit Values and Biological Exposure Indices, 6500 Glenway Ave., Cincinnati, Ohio 45211, USA.

NFPA 51B "Standard for Fire Prevention During Welding, Cutting, and Other Hot Work" published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.

UK: WMA Publication 236 and 237, "Hazards from Welding Fume", "The arc welder at work, some general aspects of health and safety".



SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State Brazaloy No. 1 Flux

Issued: 2016-06-02

Germany: Accident prevention regulation BGV D1, "Welding, cutting and related procedures".

Canada: CSA Standard CAN/CSA-W117.2-01 "Safety in Welding, Cutting, and Allied Processes". This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

ESAB requests the users of this product to study this Safety Data Sheet (SDS) and become aware of product hazards and safety information. To promote safe use of this product a user should:

notify its employees, agents and contractors of the information on this SDS and any product hazards/safety information.

furnish this same information to each of its customers for the product.

request such customers to notify employees and customers for the same product hazards and safety information.

The information herein is given in good faith and based on technical data that ESAB believes to be reliable. Since the conditions of use is outside our control, we assume no liability in connection with any use of this information and no warranty, expressed or implied is given.

Contact ESAB for more information.