SDS NO. 7-E
DATE REVISED: 07/14/2010

SAFETY DATA SHEET

This Safety Data Sheet complies with European Commission Directive 91/155/EEC, ISO 11014-1 and ANSI Z400.1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: ALL-STATE JET FLUX P/N: 69080170, 69080171, 69080172
Application: Brazing Flux
Classification: None
Supplier: THE ESAB GROUP, INC., 801 Wilson Avenue, Hanover, PA 17331
Telephone No.: 1-717-637-8911, 1-800-933-7070
Emergency No.: 1-717-637-8911 and 1-800-424-9300 (CHEMTREC)
Web site: www.esabna.com

2. HAZARDS IDENTIFICATION

Emergency Overview: A clear, colorless flammable liquid with an organic odor. Can irritate the skin and eyes. Toxic if swallowed; may also cause blindness. Vapors are harmful if inhaled.

Can irritate the skin and eyes Toxic if swallowed and may cause blindness due to the methyl alcohol content. Vapor can cause respiratory irritation and may cause headaches, nausea, and depression of the central nervous system resulting in drowsiness or the loss of consciousness.

Persons with a pacemaker should not go near brazing 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.

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 or 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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a liquid.

Ingredients	Weight %	CAS#	EINECS#	Hazard classification[1]	IARC [2]	NTP [3]	OSHA List[4]
Acetone	25	67-64-1	200-662-2	F; R11, Xi; R36 R66, R67	--	--	--
Methyl Alcohol	20	67-56-1	200-659-6	F; R11 T; R23/24/25-39/23/24/25	--	--	--
Trimethylborate	55	121-43-7	204-468-9	R10, Xn; R21	--	--	--

(1) Hazard Classification according to European Council Directive 67/548/EEC, for R-phrases, see Section 16.
(2) Evaluation according to the International Agency for Research on Cancer.
1 – Human Carcinogen 2B – Possibly carcinogenic to humans
(3) Classification according to the 11th Report on Carcinogens, published by the US National Toxicology Program.
K – Known Carcinogen S – Suspect Carcinogen
(4) Carcinogen listing according to OSHA, Occupational Safety & Health Administration (USA).

4. 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.

Eye contact: To liquid or mist, flush with water for at least fifteen minutes. 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.

Skin contact: Immediately remove liquid from skin and wash with mild soap and water. Launder contaminated clothing before reusing. 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.

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 Cardio Pulmonary Resuscitation (CPR). Immediately call a physician.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting unless directed to do so by a physician.

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

5. FIRE FIGHTING MEASURES

Use CO_2, dry chemical, water spray or alcohol foam. Water stream may spread the burning liquid. Vapors may travel to a source of ignition and flash back. Firefighters should wear full protective equipment and self-contained breathing apparatus. Keep product containers exposed to heat or fire cool with water stream to prevent rupture from internal pressure.

6. ACCIDENTAL RELEASE MEASURES

Extinguish all sources of ignition within 35 feet (11m) of spill or vapor release. Provide adequate ventilation. If spill is of significant or unknown quantity, use self-contained breathing apparatus during clean up. Always wear proper protective clothing to prevent skin or eye contact. Released product which has evaporated forms smooth, slippery surface on floors, posing an accident risk. Absorb small spills with sand or fuller's earth, and place in appropriate waste container. Large spills should be diluted and pumped into approved containers for disposal in accordance with all local, state, and federal laws and regulations.

Personal precautions: refer to Section 8.

Environmental precautions: refer to Section 13.

7. HANDLING AND STORAGE

Handling:

Avoid contact with skin, eyes and clothing. 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. Retain all warning and identity labels.

Storage:

Store in cool, dry, well-ventilated place suitable for flammable liquids. Keep away from strong oxidizers and from sources of ignition including sparks, static electricity or open flames.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

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

Engineering measures: (Brazing operations)

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

Personal protective equipment: (Brazing operations)

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.

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits. The following limits can be used as guidance. When used with brazing products, refer to the brazing product SDS, Section 10, for information on brazing fumes.

Substance	CAS#	ACGIH TLV [(1)] mg/m^3	OSHA PEL [(2)] mg/m^3
Acetone	67-64-1	1188, 1782 (STEL) [500 ppm , 750 ppm (STEL)]	2400 [1000 ppm]
Methyl Alcohol	67-56-1	262, 382 (STEL) [200 ppm, 250 ppm (STEL)]	260 [200 ppm]
Trimethylborate	121-43-7	None	None

(1) Threshold Limit Values according to American Conference of Governmental Hygienists, 2010
(2) Permissible Exposure Limits according to the Occupational Safety & Health Administration (USA)
Unless noted, all values are for 8 hour time weighted averages (TWA).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless liquid with organic odor.
Specific Gravity:	0.855 (H_2O = 1)
Boiling Point:	58°C/137°F
Freezing Point:	-26°C/-32°F
Vapor Pressure:	161 mm Hg
Vapor Density:	1.6
Evaporation Rate:	16 (vs. butyl acetate = 1)
Solubility in Water:	Decomposes at 10%.
Flash Point:	-7.7°C/18°F
Upper/Lower Flame Limit:	36.5%/6.0%
Auto-ignition Temperature:	Not determined.

10. STABILITY AND REACTIVITY

General: This product is intended for normal brazing purposes.

Stability: This product is stable under normal conditions.

Reactivity: Contact with strong oxidizers may cause a violent reaction.

When this product is used in a brazing process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the brazing consumable and of the materials from the base metal and coating.

Refer to applicable national exposure limits for fume compounds, including those exposure limits for compounds found in Section 8 of this SDS and of the brazing consumable SDS. 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 that may be easily exceeded.

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

11. TOXICOLOGICAL INFORMATION

Inhalation of brazing fumes and gases can be dangerous to your health. Classification of brazing 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: Acetone: LD_{50}, oral, rat: 9,750 mg/kg; dermal, rabbit: 20,000 mg/kg; LC_{50} Rat : 50,100 mg/m^3 (8hr)

Methanol: LD_{50}, oral, rat: 5,628 mg/kg dermal, rabbit: 20 ml/kg; LC_{50}: inhalation, rat: 64,000 ppm (4hr) Affects optic nerve. Irritant.

Trimethylborate: LD_{50} oral, rat: 6,140 mg/kg; dermal, rabbit: 1,981 mg/kg.

Overexposure to brazing fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.

Chronic toxicity: None anticipated from flux.

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.

12. ECOLOGICAL INFORMATION

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

13. 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: Unused product is considered an ignitable hazardous waste if discarded, RCRA ID D001.

Prevent waste from contaminating surrounding environment.

Residues from brazing consumables and processes could degrade and accumulate in soils and groundwater.

14. TRANSPORT INFORMATION

US DOT: Class: Flammable liquid Shipping Name: Flammable liquid n.o.s. (acetone, methanol)
ID Number: UN1993
Packing group: II

Canada TDG: Class: Flammable liquid Shipping Name: FLAMMABLE LIQUID n.o.s. (acetone, methanol)
ID Number: UN1993
Packing group: II

15. REGULATORY INFORMATION

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 brazing and protect yourself and others.

WARNING: Brazing 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.

Canada: WHMIS classification: B2, D1B, D2A, D2B

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.

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):

Ingredient name	RQ (lb)	TPQ (lb)
Acetone	5000	None
Methanol	5000	None
Trimethylborate	None	None

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, Fire hazard In use: Immediate, Fire hazard

EPCRA/SARA Title III 313 Toxic Chemicals

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
Methanol	1.0% de minimis concentration

16. OTHER INFORMATION

This Safety Data Sheet has been revised due to modifications to several paragraphs and/or new format. This SDS supersedes 7-D.

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:

USA: Contact ESAB at www.esabna.com or 1-800-ESAB-123 if you have 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", 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.

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".

Germany: Unfallverhütungsvorschrift BGV D1, "Schweißen, Schneiden und verwandte Verfahren".

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.

R-phrases: R10 – Flammable.

R11 – Highly flammable.

R21 – Harmful in contact with skin.

R36 – Irritating to eyes.

R66 – Repeated exposure may cause skin dryness or cracking.

R67 – Vapours may cause drowsiness and dizziness.

R23/24/25 – Toxic by inhalation, in contact with skin and if swallowed.

R39/23/24/25 – Toxic: danger of vary serious irreversible effects through inhalation, in contact with skin and if swallowed.

ESAB requests the users of this product to study this Safety Data Sheet (S.D.S.) 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 S.D.S and any product hazards/safety information.
- furnish this same information to each of its customers for this product.
- request such customers to notify employees and customers for the same product hazards and safety information.

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