

Aluminum Forming Fluid AFF-1

MATERIAL SAFETY DATA SHEET

SECTION 1 MATERIAL IDENTIFICATION

Product Name: Aluminum Forming Fluid 1

Revision Date: 03/08/07

Chemical Name: Ethyl Hydroxy Propionate

e-mail: info@altboron.com

Emergency Phone #: 800-535-5053

DOT Classification: Combustible Liquid N.O.S. UN NA 1192

Formula: $\text{CH}_3\text{-CH}(\text{OH})\text{-COO-CH}_2\text{CH}_3$

SECTION 2 HAZARDOUS INGREDIENTS

<u>Chemical/Common Name</u>	<u>Percent</u>	<u>CAS NO.</u>	<u>Applicable PEL-OSHA</u>	<u>Exposure Limits TLV-ACGIH</u>
Boron derivatives	8	10043-35-3	none	not classified
Ethyl Hydroxy Propionate	30	97-64-3	none	none

SECTION 3 HEALTH HAZARD DATA

Acute Health Effects:

Eyes: Irritant

Skin Contact: Not an irritant

Ingestion:

Inhalation: Possible narcotic effects at excessive exposure

Chronic Health Effects: Oral Allowed as food additive by FDA and FAO/WHO; not listed as a carcinogen

Routes of Entry: Most common – skin and inhalation

Medical Conditions Aggravated by Exposure: Mist may cause eye/respiratory irritation with coughing

SECTION 4 FIRST AID MEASURES

Eyes: Immediately flush with water for at least 15 minutes. See a medical doctor immediately.

Skin: Rinse with water

Inhalation: Remove to fresh air. If discomfort occurs and persists, obtain medical attention.

Ingestion: Induce vomiting. See a doctor immediately.

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing Media: Water, water fog, carbon dioxide (CO₂), dry chemical

Special Procedures: Wear NIOSH approved respirator

Degree of Fire and Moderate

Explosion Hazard:

Hazardous Decom-

Position Procedures: None. Decomposes to water and CO₂ when completely combusted.

SECTION 6 ACCIDENTAL RELEASE/SPILL MEASURES

Procedure for Release or Spill: Cover with large quantity of absorbent material (e.g. kitty litter) and collect in drums for disposal. Clean contaminated area with water and discharge to sewer.

SECTION 7 CHEMICAL AND PHYSICAL DATA

Melting Point:	not applicable	Specific Gravity (H ₂ O=1):	1.030-1.038
Boiling Point:	309° F	Percent volatile by volume (%):	100
Vapor Pressure (mmHg):	1.7	Evaporation rate (butyl acetate=1):	0.22
Vapor Density (air=1):	4.07	pH of water dispersion:	
Flash Point (method used):	149° F	Appearance and Odor:	Clear colorless liquid; mild odor
ASTM D93, closed cup		Solubility:	(specific solvents) complete (in water)
Flammable limits @ 212° F:	Lel – 1.6% Uel – 10.6%	Odor Threshold:	0.89 mg/m ³ (0.18 ppm)
Extinguishing Media:	water, foam, CO ₂	Bulk Density (G/ML):	not applicable
Special Fire Fighting Proc:	not required	Partition coefficient:	n-octanol/water – not applicable
Incompatibility (materials to avoid):	none	Autoignition Temperature:	752° F
Hazardous decomposition Products:	none	Explosive Properties:	not applicable
		Oxidizing Properties:	not applicable

SECTION 8 STABILITY AND REACTIVITY DATA

Stability:	stable
Hazardous Polymerization:	none known
Conditions to Avoid:	none known
Materials to Avoid:	strong oxidizing agents
Major Contaminants that Contribute to Instability:	none
Incompatibility:	none known
Hazardous Decomposition Products:	none
Sensitivity to Mech. Impact:	none
Sensitivity to Static Discharge:	none

SECTION 9 TOXICOLOGICAL INFORMATION

Eye Contact:	severe irritant (rabbit)
Skin Contact:	LD 50 (rats/24 hrs.) >2000mg/kg
Skin Absorption:	no data available
Inhalation:	LD 50 (rat/4 hrs.) >5400 mg/m ³
Ingestion:	LD 50 = 4090 MG/KG (rat) (RTECS 1985-86)
Acute Effects from Overexposure:	may cause severe irritation of the eyes
Chronic Effects from Overexposure:	none identified

(effects considered include: sensitivities, carcinogenicity, teratogenicity, mutagenicity, synergistic, products, and any medical conditions generally recognized as being aggravated by exposure)

SECTION 10 ECOLOGICAL INFORMATION

Environmental Fate:	100% biodegradable
Environmental Effects:	No adverse effects known or suspected. Not listed toxic chemical under SARA Title 111.302, 304 or 313

SECTION 11 HANDLING AND STORAGE

Handling:	Keep container tightly closed. Store in a cool, dry, well-ventilated, liquid storage area.
Ventilation:	Use adequate general or local exhaust ventilation to keep vapor and mist levels as low as possible.
Storage:	Store in a cool, dry area away from acids.

SECTION 12 EXPOSURE CONTROL/PERSONAL PROTECTION

Recommended Personal Protective Equipment:

Respiratory:	None required where adequate ventilation conditions exist.
Ventilation:	
(Local Exhaust):	recommended
(Mechanical – general):	general dilution
Eye Protection:	Use chemical goggles
Gloves:	Use impervious gloves to prevent skin contact.
Special Clothing and Equipment:	Aprons recommended. If clothing becomes contaminated, remove and launder before reuse.
Other Protective Equipment:	none identified
Foot Protection:	industrial safety shoes
Other Engineering Controls:	none identified
Work Practices:	Do not smoke in areas of storage or use. Avoid all contact with skin and eyes.
Control Measures:	Minimize eye and skin contact by using appropriate protective equipment. Use local or general room ventilation to control vapors or mist that may be generated into the work environment.

SECTION 13 SPECIAL PRECAUTIONS DATA

Precautions to be Taken in Handling and Storing – Avoid all contact with eyes or skin. Wear the appropriate protective equipment. Protect containers from physical damage.

Maintenance Personnel – Wash down vessels. Check the oxygen and combustible vapor content of the vessel atmosphere. Use the appropriate protective equipment.

SECTION 14 DISPOSAL PROCEDURES

Waste Disposal Method: Take up with sand or other non-combustible absorbent material and place into container for later disposal. Flush area with water. Dispose in accordance with all applicable Federal, State and local environmental regulations.

SECTION 15 TRANSPORT INFORMATION

DOT Proper Shipping Name:	Ethyl hydroxy propionate
IATA:	not applicable
IMDG:	Class 3.3
DOT Classification:	Combustible Liquid N.O.S.
DOT Labels:	Flammable Liquid, 3
DOT Marking:	not applicable
DOT Placard:	bulk: flammable liquid 1192. Drums: no placard required under 110 gal.
UN Number:	1192
Hazardous Substance/RQ:	not applicable
49 STCC Number:	not applicable
Precautions To Be Taken in Transport:	none needed
Other Shipping Information:	none

SECTION 16 REGULATORY INFORMATION

OSHA Exposure Limits Substance(s):
 OSHA PEL-TWA: not applicable
 STEL: not applicable
 Ceiling: not applicable
 Skin Designation: not applicable
 AGGIH TLV-TWA: not applicable
 STEL: not applicable
 Ceiling: not applicable
 Skin Designation: not applicable
 Target Organ Effects: Eye
 Carcinogenic Potential: none
 Regulated by OSHA: no
 Listed on NTP Report: no
 IARC Group 1, 2A, 2D: no

US EPA Requirements Release Reporting CERCLA:
 (40 CFR 302):
 Listed Substances: not listed
 RQ: not applicable
 Category: not applicable
 RCRA Waste No.: not applicable
 Unlisted Substances: not applicable
 RQ: not applicable
 Characteristic: not applicable
 RCRA Waste No.: not applicable

SARA Title III Sec 313 (40 CFR 372):
 Listed Toxic Chemical: not listed

Inventory Reporting SARA Title III Sec 311/312:
 (40 CFR 370):
 Substance(s): Ethyl hydroxy propionate
 Hazard Category:
 Planning threshold:
 Emergency Planning:

SARA Title III Sec 302-303 (40 CFR 355):
 Listed Substances: not applicable
 RQ: not applicable
 Planning Threshold: not applicable
 US TSCA Status: listed

Canada Ingredient Disclosure List Substance(s): Ethyl hydroxy propionate
 Controlled Product:
 Hazard Symbols:
 Class and Division:
 Product Identification No.:
 Domestic Substance List:
 CEPA Priority List:
 Carcinogenicity: not listed in other OSHA, ACGIH, NTP, or IARC
 ACGIH Appendix A: not listed
 A1 – Confirmed Human: not listed
 A! – Suspected Human: not listed
 IARC Group 1 or 2: no

Label Language (US/Canada) Health: not applicable
 Physical Handling and Storage: Keep container tightly closed. Store in a cool, dry, well-ventilated liquid storage area.
 First Aid: In case of contact, immediately flush eyes with water for at least 15 minutes. If irritation persists, obtain medical attention. Flush skin with water.

SECTION 17 ADDITIONAL INFORMATION

OSHA permissible exposure limit or ACGIH threshold limit value has not been established.

SECTION 18 HMIS LABEL

HEALTH: 1
FLAMMABILITY: 2
REACTIVITY: 0
PERSONAL PROTECTION: B

DEPARTMENT OF TRANSPORTATION

Hazardous Materials Regulations, 49 CFR

Proper Shipping Name: Ethyl hydroxyl propionate
Hazard Class: 3.3
Packaging Group: III
Reportable Quantity: None
Label Required (drums): None
Placard Required (Bulk): Placard flammable liquid 1192
Maximum Quantity – Aircraft: No limit
Stowage on vessels: Above or Below Deck

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