

SAFETY DATA SHEET



This Safety Data Sheet (SDS) complies with the requirements of the U.S. Federal Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200, as updated in 2012), the American National Standards Institute (Z400.1, 1989), and equivalent state standards. It has also been developed in accordance with the Canadian Workplace Hazardous Materials Standard and the United Nations Globally Harmonized System of Classification of Chemicals, as well as European Union requirements under REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances, per EC 1907/2006) and Directive 91/155/EEC. Refer to Section 16 of this document for the definition of terms and abbreviations.

SECTION 1: IDENTIFICATION of the Substance/Mixture and of the Company/Undertaking

1.1 PRODUCT IDENTIFIER:

- PRODUCT NAME: **FXB1**
- SYNONYMS: Not applicable
- CHEMICAL NAME/CLASS: Solution of Inorganic Salts
- PRODUCT CODE(S): 54.400, 54.402, 54.404, 54.406, 54.408, 54.410

1.2 RELEVANT IDENTIFIED USES OF THE MIXTURE OR USES ADVISED AGAINST

- IDENTIFIED USE: Used in soldering.
- USES ADVISED AGAINST: None Specified

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

- DISTRIBUTED BY: GROBET FILE CO. OF AMERICA, INC.
- ADDRESS: 750 Washington Ave.; Carlstadt, NJ 07072
- BUSINESS PHONE: 201-939-6700; Toll Free – 800-847-4188 (USA only)
- EMERGENCY PHONE: 1-800-255-3924 (9 am – 5 pm EST)

1.4 OTHER PERTINENT INFORMATION

- This product is sold in relatively small quantities. This SDS has been developed to address safety concerns affecting small volume handling situations and those involving warehouses and other workplaces where large numbers of these items are stored or distributed.

SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

REGULATION	CLASSIFICATION
OSHA HAZARD COMMUNICATION (GHS)	Acute Toxicity – Oral – Category 4; Skin Corrosion/Irritation – Category 2; Eye Damage/Irritation – Category 2A; Reproductive Toxicity – Category 1B

2.2 LABEL ELEMENTS:

- OSHA/CLP – BASED ON GLOBALLY HARMONIZED SYSTEM

Symbol: To the right.
Signal Word: WARNING.

- Hazard statement(s): Harmful if swallowed. Causes serious eye and skin irritation. Suspected of damaging fertility or the unborn child.



FXB1
Product Line
GROBET USA
Page 1 of 8
SAFETY DATA SHEET
May 5, 2015

SECTION 2: HAZARDS IDENTIFICATION (Continued)

Precautionary statement(s)

- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, see a physician. If skin irritation occurs: Get medical advice, attention. Call a POISON CENTER/doctor if you are unwell. Take off contaminated clothing and wash it before reuse. ALL EXPOSURES: If exposed or concerned Get medical advice/attention.

STORAGE: Store locked up.

DISPOSAL: Dispose of contents/ container to an approved waste disposal plant.

2.3 OTHER PERTINENT DATA ON CHEMICAL AND PHYSICAL HAZARDS:

- HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

Hazard	2	HMS Personal Protective Equipment Rating:
Flammability	0	Occupational Use situations: B/C, Safety glasses and gloves/ body protection suitable to specific circumstances of use should be considered.
Physical Hazard	0	*Reproductive Toxicity
Protective Equipment	B/C	

- CANADIAN REGULATORY STATUS

- This product is classified as hazardous under Canadian Controlled Products regulations (SOR-98-56). It is classified D2-A/B. Materials Causing Other Toxic Effects/Very Toxic/Toxic.

- This SDS contains all the information required by the CPR.



SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 SUBSTANCES/MIXTURES

COMPONENT	CAS NUMBER	GHS HAZARD CLASSIFICATION FOR COMPONENT	% (w/w)
Borax/Sodium Tetraborate	1303-96-4/1330-43-4	Reproductive toxicity (Category 1B)	Proprietary ¹
Ammonium Chloride	12125-02-9	Acute toxicity, Oral (Category 4); Eye irritation (Category 2A); Acute aquatic toxicity (Category 2); Chronic aquatic toxicity (Category 2), H411	Proprietary
Sodium Phosphate, Dibasic	7558-79-4	Not classified as hazardous.	Proprietary
The remaining components of this product are not classified as hazardous in their existing concentrations.			Balance

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

Eyes: Flush with copious amounts of water for 15 minutes. "Roll" eyes during flush. Seek medical attention if symptoms continue. Skin: Flush area with warm, running water for 15 minutes. Inhalation: If mists or sprays of this product are inhaled, remove victim to fresh air. Ingestion: Contact a Poison Control Center or physician for instructions. If professional advice is not available, do not induce vomiting. Victim should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow.

¹ The exact percentage of composition has been withheld as a trade secret. All relevant physical and health hazards have been declared, in accordance with regulatory requirements.

FXB1
Product Line
GROBET USA
Page 2 of 8
SAFETY DATA SHEET
May 5, 2015

SECTION 4: FIRST AID MEASURES (Continued)

4.2 MOST IMPORTANT ACUTE AND CHRONIC EXPOSURE SYMPTOMS

- ACUTE: CONTACT WITH SKIN OR EYES: Contact causes eye irritation and may also be irritating to the skin. Eye contact can cause redness, pain, and tearing and tissue damage. Skin contact may result in redness and irritation. Prolonged or repeated skin contact may result in severe irritation, redness, or dermatitis. SKIN ABSORPTION: No component of this product is reported to be absorbed through intact skin. INGESTION: If the product is swallowed, irritation of the mouth, throat, and other tissues of the gastro-intestinal system will occur. Ingestion of large amounts can cause severe irritation, pain, vomiting, and diarrhea and may damage tissues of the digestive system. Ingestion of large volumes may be fatal. Borates (e.g., Borax/ Sodium Tetraborate, components of this product) can cause severe, adverse effects if swallowed in large quantities. Swallowing this product can cause gastric disturbances, electrolyte imbalances, and potentially cyanosis (a bluish discoloration of the skin due to deficient oxygenation of the blood). Borate poisoning begins with nausea, vomiting, and diarrhea. There is a red rash followed by exfoliation of rash area and mucous membranes. Kidney injury and central nervous system effects have been observed in cases of severe adult and pediatric exposure cases. INHALATION: Inhalation of this product causes irritation to the respiratory tract. Symptoms of such exposure can cause coughing, wheezing, and inflammation of the tissues of the nose, throat, and other respiratory system organs.
- CHRONIC: Borates (e.g., Borax/ Sodium Tetraborate, components of this product) can cause severe, adverse effects if swallowed in large quantities. Swallowing this product can cause gastric disturbances, electrolyte imbalances, and potentially cyanosis (a bluish discoloration of the skin due to deficient oxygenation of the blood). Borate poisoning begins with nausea, vomiting, and diarrhea. There is a red rash followed by exfoliation of rash area and mucous membranes. Kidney injury and central nervous system effects have been observed in cases of severe adult and pediatric exposures.
- TARGET ORGANS: Acute – eyes, skin. Chronic – Reproductive system.

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate exposure.
- MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Disorders associated with the target organs may be aggravated after either acute or chronic exposures.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

- RECOMMENDED FIRE EXTINGUISHING MEDIA: Water Spray, Water Jet, Dry Powder, Foam, Carbon Dioxide, Halon, or any other.
- UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

- NFPA FLAMMABILITY CLASSIFICATION: Not flammable.
- UNUSUAL HAZARDS IN FIRE SITUATIONS: This product is non-combustible. It will not contribute to the intensity of a fire. Use extinguishing material suitable to the surrounding fire.
 - Sensitivity to Mechanical Impact: Not sensitive.
 - Explosion Sensitivity to Static Discharge: Not sensitive.



5.3 ADVICE FOR FIREFIGHTERS

- Wear Self Contained Breathing Apparatus and full protective equipment for fire response. Move containers from fire area if it can be done without risk to personnel. Otherwise, use water spray to keep fire-exposed containers cool. Contaminated equipment should be rinsed thoroughly with water before returning to service.

FXB1
Product Line
GROBET USA
Page 3 of 8
SAFETY DATA SHEET
May 5, 2015

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

- RESPONSE TO INCIDENTAL RELEASES: Personnel who have received basic chemical safety training can generally handle small-scale releases (e.g., under 1 gallon). Wear gloves, safety glasses when cleaning-up spills. Use caution during clean-up; avoid stepping on contaminated surfaces, as they may be slippery.
- RESPONSE TO NON-INCIDENTAL RELEASES: In the event of a non-incident release (more than 5 gallons), Minimum Personal Protective Equipment should be Level C: triple-gloves, chemical resistant apron, boots, and splash goggles and an Air-Purifying respirator with high efficiency particulate filter. Clean-up spilled liquid carefully, with a damp sponge or pad. If necessary, triple-rinse contaminated area or items with water.
- ENVIRONMENTAL PRECAUTIONS
- Avoid response actions that can cause a release of a significant amount of the substance (5 gallon or more) into the environment.
- METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP
- SPILL RESPONSE EQUIPMENT: Polypad or other absorbent material.
- REFERENCES TO OTHER SECTIONS
- SECTION 8: For exposure levels and detailed personal protective equipment recommendations.
- SECTION 13: For waste handling guidelines.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

- HYGIENE PRACTICES: Keep out of reach of children. Follow good chemical hygiene practices. Do not smoke, drink, eat, or apply cosmetics in the chemical use area. Avoid inhalation of mists or sprays. Use in well-ventilated area. Avoid contact with skin or eyes. Remove contaminated clothing promptly. Clean up spilled product immediately.
- HANDLING RECOMMENDATIONS: Employees must be appropriately trained to use this product safely as needed. Keep containers closed when not in use.
- CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES
- STORAGE RECOMMENDATIONS: Ensure all containers are correctly labeled. Store containers away from direct sunlight, sources of intense heat, or where freezing is possible. Store this product away from incompatible chemicals (See Section 10, Stability and Reactivity). Empty containers may contain residual material; therefore, empty containers should be handled with care. Material should be stored in secondary containers, or in a diked area, as appropriate. Storage and use areas should be covered with impervious materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.
- INCOMPATIBILITIES: See Section 10 (Stability and Reactivity).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

- U.S. NATIONAL EXPOSURE LIMITS:

COMPONENT	ACGIH TLV	OSHA PEL	NIOSH REL	OTHER
Ammonium Chloride	10 mg/m ³ TWA; 20 mg/m ³ STEL		10 mg/m ³ TWA; 20 mg/m ³ STEL	
Borax	2mg/m ³ TWA; 6 mg/m ³ STEL	NE	NE.	NE.

FXB1
Product Line
GROBET USA
Page 4 of 8
SAFETY DATA SHEET
May 5, 2015

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (Continued)

- **BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS:** There are no Biological Exposure Indices (BEIs) for components of this product.
- 8.2 **EXPOSURE CONTROLS**
 - **ENGINEERING CONTROLS:** Use this product in well-ventilated environment. Safety showers, eye wash stations, and hand-washing equipment should be available.
 - **RESPIRATORY PROTECTION:** None needed under normal conditions of use. Use NIOSH approved respirators if ventilation is inadequate to prevent exposure to mists or sprays.
 - **HAND PROTECTION:** Nitrile or neoprene gloves should be used. If necessary, refer to U.S. OSHA 29 CFR 1910.138, appropriate Standards of Canada, or of the European Economic Community.
 - **EYE PROTECTION:** Splash goggles or safety glasses. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, or the European Standard EN166.
 - **BODY PROTECTION:** Use a body protection appropriate to task (e.g., lab coat, coveralls, or apron). Care should be taken to select protection for potentially exposed areas when prolonged exposure could occur in occupational settings.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

- (a) **APPEARANCE:** Creamy, white liquid.
- (b) **ODOR:** Odorless.
- (c) **ODOR THRESHOLD:** Not determined.
- (d) **pH:** Not determined.
- (e) **MELTING POINT/FREEZING POINT:** Not determined.
- (f) **INITIAL BOILING POINT AND BOILING RANGE:** Not determined.
- (g) **FLASH POINT:** Not determined.
- (h) **EVAPORATION RATE (water=1):** Not applicable.
- (i) **FLAMMABILITY:** Not applicable.
- (j) **UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:** Not applicable.
- 9.2 **OTHER INFORMATION**
 - **VOC (less water & exempt):** Not applicable.
 - **WEIGHT% VOC:** Not applicable.
- (k) **VAPOR PRESSURE (mmHg @ 20°C):** Not determined.
- (l) **VAPOR DENSITY:** Not determined.
- (m) **DENSITY:** Not determined.
- (n) **SOLUBILITY:** Soluble.
- (o) **PARTITION COEFFICIENT: N-OCTANOL/WATER:** Not applicable.
- (p) **AUTO-IGNITION TEMPERATURE:** Not applicable.
- (q) **DECOMPOSITION TEMPERATURE:** Not determined.
- (r) **VISCOSITY:** Not applicable.
- (s) **EXPLOSIVE PROPERTIES:** Not applicable.
- (t) **OXIDIZING PROPERTIES:** Not an oxidizer.

SECTION 10: STABILITY AND REACTIVITY

- 10.1 **REACTIVITY**
 - Not reactive under typical conditions of use or handling; contact with water can generate some amount of heat.
- 10.2 **CHEMICAL STABILITY**
 - Normally stable under standard temperatures and pressures.
- 10.3 **POSSIBILITY OF HAZARDOUS REACTIONS**
 - This product is not self-reactive or air-reactive.
 - This product will not undergo hazardous polymerization.
- 10.4 **CONDITIONS TO AVOID**
 - Avoid contact with incompatible chemicals.

FXB1 GROBET USA SAFETY DATA SHEET
Product Line Page 5 of 8 May 5, 2015

SECTION 10: STABILITY AND REACTIVITY (Continued)

10.5 INCOMPATIBLE MATERIALS

- This product is not compatible with strong oxidizing agents and strong reducing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

- Products of thermal decomposition of this product includes boron oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

- **ACUTE TOXICITY:**
 - **DEGREE OF IRRITATION:** Eye irritant.
 - **SENSITIZATION:** Not reported to be a skin or respiratory sensitizer.
 - **TOXICOLOGY DATA:** The following toxicology data are available for components of this product:

Specific	Locus	Test-Orsophila
metanogaster-Oral 714 ppm	Cyrogenic	Analys-Orsophila
metanogaster-Oral 714 ppm	Cyrogenic	Analys-Orsophila
Oral-Rat LD ₅₀ : 37 g/kg (multi) Reproductive effects		
Oral-Rat LD ₅₀ : 1000 mg/kg		
Oral-Rat LD ₅₀ : 700 mg/kg		
Oral-Rat LD ₅₀ : 2600 mg/kg		
Oral-Rat LD ₅₀ : 2000 mg/kg		

Specific	Locus	Test-Orsophila
metanogaster-Oral 714 ppm	Cyrogenic	Analys-Orsophila
metanogaster-Oral 714 ppm	Cyrogenic	Analys-Orsophila
Oral-Rat LD ₅₀ : 37 g/kg (multi) Reproductive effects		
Oral-Rat LD ₅₀ : 1000 mg/kg		
Oral-Rat LD ₅₀ : 700 mg/kg		
Oral-Rat LD ₅₀ : 2600 mg/kg		
Oral-Rat LD ₅₀ : 2000 mg/kg		
- **REVIEW OF ACUTE SYMPTOMS AND EFFECTS:** See Section 2 (Hazards Information) and Section 4 (First-Aid Measures) for further details.
 - **EYES:** Can cause eye irritation.
 - **SKIN:** May cause mild skin irritation upon prolonged exposure.
 - **INHALATION:** Mists or sprays of this product may cause mild nasal irritation.
 - **INGESTION:** Although not anticipated to be a significant route of occupational over-exposures, ingestion of this product may cause gastrointestinal problems and other health effects.
- **CHRONIC TOXICITY:**
 - **CARCINOGENICITY STATUS:** Not established.
 - **REPRODUCTIVE TOXICITY INFORMATION:** The components of this product are not reported to cause reproductive effects under typical circumstances of exposure associated with use of the product as directed. The following data are available, in terms of reproductive toxicity effects:
 - **BORAX:** 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.
 - **MUTAGENIC EFFECTS:** The components of this product are not reported to cause reproductive effects under typical circumstances of exposure at the concentrations present in this product.
 - **SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Not applicable.
 - **SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** Not applicable.
- **OTHER INFORMATION**
 - **TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None known.
 - **ADDITIONAL TOXICOLOGY:** None known.

FXB1 GROBET USA SAFETY DATA SHEET
Product Line Page 6 of 8 May 5, 2015

SECTION 12: ECOLOGICAL INFORMATION

- 12.1 **TOXICITY**
 - Based on available data, this product can be harmful or to contaminated terrestrial plants or animals.
 - Based on available data, this product can be harmful or fatal to contaminated aquatic plants or animals.
- 12.2 **PERSISTENCE AND DEGRADABILITY**
 - When released into the soil, the components of this product are expected to biodegrade, dissipate in soils via oxidation, or otherwise chemically degrade or photo-decompose via solar radiation.
- 12.3 **BIOACCUMULATIVE POTENTIAL**
 - The components of this product are not anticipated to bioaccumulate in any significant quantities.
- 12.4 **MOBILITY IN SOIL**
 - It is to be expected this product will have small mobility in soil. Some of the components may get into the soil and, ultimately, the ground water.

SECTION 13: DISPOSAL CONSIDERATION

- 13.1 **WASTE TREATMENT METHODS**
 - **WASTE HANDLING RECOMMENDATIONS:** Prepare, transport, treat, store, and dispose of waste product according to all applicable local, U.S. State and U.S. Federal regulations, the applicable Canadian standards, or the appropriate standards of the nations of the European Community.
 - **PRECIOUS METAL RECLAMATION:** When applicable and practical, users of the product may wish to utilize precious metal reclamation services for final disposition of wastes.

SECTION 14: TRANSPORT INFORMATION

- 14.1 **DANGEROUS GOODS BASIC DESCRIPTION AND OTHER TRANSPORT INFORMATION**
 - This material is not hazardous for shipment, per the Hazardous Materials Regulations or Dangerous Goods Codes. Please contact the manufacturer if there are questions pertinent to the shipment of this product.
- 14.2 **ENVIRONMENTAL HAZARDS**
 - None described, as related to transportation.
- 14.3 **SPECIAL PRECAUTIONS FOR USERS**
 - Not applicable.
- 14.4 **TRANSPORT IN BULK**
 - Not applicable.

SECTION 15: REGULATORY INFORMATION

- 15.1 **SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT.**
 - **OTHER IMPORTANT U.S. REGULATIONS**
 - U.S. SARA THRESHOLD PLANNING QUANTITY: Not applicable to Hydrochloric Acid in this concentration.
 - U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No
 - U.S. CERCLA REPORTABLE QUANTITY (RQ): Ammonium Chloride – 5000 lb.
 - U.S. TSCA INVENTORY STATUS: All components of this product are listed on the TSCA Inventory.
 - CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS: Not applicable.

FXB1 GROBET USA SAFETY DATA SHEET
Product Line Page 7 of 8 May 5, 2015

SECTION 16: OTHER INFORMATION

- 16.1 **INDICATION OF CHANGE**
 - **CHANGE INDICATED:** Update per OSHA Hazard Communication Standard (29 CFR 1910.1200).
 - **DATE OF PUBLICATION:** May 5, 2015
 - **SUPERCEDES:** Not applicable.
- 16.2 **KEY LITERATURE REFERENCES AND SOURCES FOR DATA**
 - **SAFETY DATA SHEETS FOR COMPONENT PRODUCTS.**
 - **SAX – Dangerous Properties of Industrial Materials**
 - **RTECS – Registry of Effects of Toxic Chemicals**
 - **ECHA – European Chemical Hazards Agency** <http://echa.europa.eu/en/information-on-chemicals/>
 - **TOXNET:** <http://toxnet.nlm.nih.gov/>
- 16.3 **ABBREVIATIONS AND ACRONYMS.**

ALL SECTIONS: OSHA: U.S. Federal Occupational Safety and Health Administration. **HMMS:** Canadian Workplace Hazardous Materials Standard. **QHS:** Globally Harmonized System of Classification of Chemical Substances. **REACH:** European Union regulation, Registration, Evaluation, Authorization and Restriction of Chemical Substances.

SECTION 2: CAS Number: Chemical Abstract Service Number, which is used by the American Chemical Society to uniquely identify a chemical. **EINECS:** European Inventory of Existing Commercial Substances.

SECTION 3: HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATING: This is a rating system used by industry to summarize physical and health hazards to chemical users and was originally developed by the National Paint and Coatings Association. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

SECTION 6: NFPA: National Fire Protection Association. NFPA FLAMMABILITY CLASSIFICATION: The NFPA uses the flash point (FLP) and boiling point (BP) to classify flammable or combustible liquids. Class IA: FLP below 73°F and BP below 100°F. Class IB: FLP below 73°F and BP at or above 100°F. Class IC: FLP at or above 73°F and BP at or above 100°F. Class II: FLP at or above 100°F and below 140°F. Class III: FLP at or above 140°F and below 200°F. Class IV: FLP at or above 200°F.

HAZARDOUS MATERIALS RATING: This is a rating system used to summarize physical and health hazards to firefighters. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

SECTION 8: HGL: Not established. **ACGIH:** American Conference of Government Industrial Hygienists. **TWA:** Time-Weighted Average (over an 8-hour work day). **STEL:** Short-Term Exposure Limit (15 minute average, no more than 4-times daily and each exposure separated by one-hour minimum). **C:** Ceiling Limit (concentration not to be exceeded in a work environment). **PEL:** Permissible Exposure Limit. **OSHA:** National Institute of Occupational Safety and Health. **REL:** Recommended Exposure Limit. **IDLH:** Immediately Dangerous to Life and Health Concentrations. **Note:** In July 1992, a court ruling vacated the more protective PELs set by OSHA in 1989. Because OSHA may enforce the more protective levels under the "general duty clause", both the current and vacated levels are presented in this document. **PPM:** Parts per Million. **MG/ML:** Milligrams per cubic meter. **MMPP:** Millions of Particles per Cubic Foot. **BL:** Biological Exposure Limit. **EL:** Exposure Limit (United Kingdom). **Federal Republic of Germany (FRG):** Maximum Concentration Values in the Workplace (**MMSV**)

SECTION 8: pH: Scale (0 to 14) used to rate the acidity or alkalinity of aqueous solutions. For example, a pH value of 0 indicates a strongly acidic solution, pH of 7 indicates a neutral solution, and a pH value of 14 indicates an extremely basic solution. **FLASH POINT:** Temperature at which a liquid generates enough flammable vapors so that ignition may occur. **AUTOTEMPERATURE:** Temperature at which spontaneous ignition occurs. **LOWER EXPLOSIVE LIMIT (LEL):** The minimal concentration of flammable vapors in air which will sustain ignition. **UPPER EXPLOSIVE LIMIT (UEL):** The maximum concentration of flammable vapors in air which will sustain ignition. **Approximately symbol.**

SECTION 11: CARCINOGENICITY STATUS: NTP: National Toxicology Program. **IARC:** International Agency for Research on Cancer. **REPRODUCTIVE TOXICITY INFORMATION:** **Mutagen:** Substance capable of causing chromosomal damage to cells. **Embryotoxin:** Substance capable of damaging the developing embryo in an overexposed female. **Fetotoxic:** Substance capable of damaging the developing fetus in an overexposed female. **Reproductive toxin:** Substance capable of adversely affecting male or female reproductive organs or functions. **TOXICOLOGY DATA:** **LD₅₀ (LC₅₀):** The Lethal Dose or Lethal Concentration of a substance which will be fatal to a given percentage (x%) of exposed test animals by the designated route of administration. This value is used to access the toxicity of chemical substances to humans. **TD₅₀ (TC₅₀):** The Toxic Dose or Toxic Concentration of a substance which will cause an adverse effect to a given percentage (x%) of exposed test animals by the designated route of administration.

SECTION 12: TLM – Median Tolerance Limit

SECTION 13: RCRA – Resource Conservation and Recovery Act. The regulations promulgated under this act under Act are found in 40 CFR, Sections 260 ff, and define the requirements of hazardous waste generation, transport, treatment, storage, and disposal. **EPA RCRA Waste Codes:** Defined in 40 CFR Section 261.

SECTION 16: CERCLA: Comprehensive Environmental Response Compensation and Liability Act (a.k.a. "Superfund") and SARA: (Superfund Amendment and Reauthorization Act). The regulations promulgated under this act are located under 40 CFR 300 ff, and provide "community right-to-know" requirements. **DSL/NDSL: Canadian Domestic Substances and Non-Domestic Substances Lists.**

FXB1 GROBET USA SAFETY DATA SHEET
Product Line Page 8 of 8 May 5, 2015