



Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: FIREFOAM 103b
Reference Number: AST10148
Date: February 3, 2009

Company/Undertaking Identification:

ICL PERFORMANCE PRODUCTS LP
622 Emerson Road - Suite 500
St. Louis, Missouri 63141

Emergency telephone

In USA call CHEMTREC: 1 800 424 9300
In Canada call CANUTEC: 1 613 996 6666
Outside North America call CHEMTREC: 1 703 527 3887

General Information: 1 800 244 6169 (Worldwide)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS No.</u>	<u>% by weight</u>
Alpha-olefin Sulfonate Solution	68439-57-6	50 - 90
2,4-pentanediol, 2-methyl-	107-41-5	10 - 30
n-Octanol	111-87-5	1 - 5

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: light amber, low viscosity liquid with bland odor.

WARNING STATEMENTS

WARNING!
MAY CAUSE RESPIRATORY TRACT IRRITATION
MAY CAUSE EYE & SKIN IRRITATION

POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Skin contact, inhalation of concentrate mists or vapors and ingestion.

EYE CONTACT: May cause mild to moderate irritation.
SKIN CONTACT: May cause mild to moderate irritation.
INHALATION: May cause moderate irritation.
INGESTION: May be harmful if swallowed.

Refer to Section 11 for toxicological information.

4. FIRST AID MEASURES

IF IN EYES, flush eyes immediately with plenty of water for at least fifteen minutes.

IF ON SKIN, wash off with water. Remove contaminated clothing.

IF INHALED, remove person to fresh air and provide oxygen if breathing is difficult. Get medical attention.

IF SWALLOWED, obtain medical attention immediately.

5. FIRE FIGHTING MEASURES

FLASH POINT: Flash point greater than 200 °F by Pensky Martens Closed Cup Test

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, foam, or water spray. Class A, BC, or ABC fire extinguishers, sand/earth.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

SPECIAL FIRE FIGHTING PROCEDURES IN ENCLOSED AREAS:

There are no special hazards associated with diluted product as used for fire fighting. In case of an accident or fire involving either concentrate, fire fighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Spills of Firefoam 103b concentrates should be physically removed with a shovel. Sand or other absorbent material can be used to facilitate removal. Direct application of water to Firefoam 103b concentrates may result in excessive foaming. Water can be used for final clean up after concentrate is removed.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

7. HANDLING AND STORAGE

HANDLING

For concentrates:

Avoid eye contact with concentrates. Wear goggles when handling concentrates.
Avoid skin contact with concentrates. Use rubber or plastic solvent resistant gloves to avoid prolonged skin contact with concentrates.
Avoid excessive inhalation of concentrate vapors.
Handle concentrates in a well-ventilated area.
Avoid ingestion of concentrates.

For diluted product:

Avoid unnecessary eye and skin contact. Minimal effects expected from contact if it occurs.

STORAGE

Recommend storing concentrates in polyethylene or polyethylene-lined containers only. Do not store concentrates in metal tanks. The concentrates are not corrosive and meet USDA Forest Service requirements for corrosion. However, metal contamination of the concentrates will degrade the foam's performance. This is typical of foaming agents, which are therefore routinely supplied in polyethylene containers. Do not store above 150°F (66°C). Products have been tested

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by the USDA Forest Service according to 90-day weight loss corrosion requirements for Fire Chemicals Specification 5100-304a. There is minimal corrosion on 2024 T3 aluminum and naval brass and moderate corrosion on mild steel for both the concentrate and the diluted product (1.0% by volume). Firefoam 103b is approved for use in fixed-tank helicopters with buckets and ground tanks (fire engines as par of the field evaluation program).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION: Wear goggles when handling concentrates.

SKIN PROTECTION: Use rubber or plastic solvent resistant gloves to avoid prolonged skin contact with concentrates.

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved respiratory protection equipment when airborne exposure limits are exceeded.

VENTILATION: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits.

AIRBORNE EXPOSURE LIMITS:

<u>Product/Component</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
2,4-pentanediol, 2-methyl-	25 ppm ceiling	25 ppm ceiling

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light amber low viscosity liquid
Odor:	Bland
pH:	9.0 – 9.5
Specific Gravity:	1.025 or 8.5 lbs./gal
Vapor Pressure (mm Hg) @ 20°C:	< 1
Solubility in Water:	Forms foam

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

STABILITY: Concentrates have excellent long-term stability for an indefinite period. Can be used at temperatures down to the freezing point of water. Do not store above 150°F (66°C).

MATERIALS TO AVOID: Strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.

HAZARDOUS DECOMPOSITION PRODUCTS: There are no significant hazardous decomposition products from a fire's action on the diluted product as used in firefighting. When a fire occurs adjacent to stored concentrate, such as in a highway accident, the concentrates will break down to give off carbon monoxide and oxides of sulfur. These gases can be harmful in enclosed areas so firefighters must then wear an approved self-contained breathing apparatus and protective clothing.

HAZARDOUS POLYMERIZATION: Will not occur

11. TOXICOLOGICAL INFORMATION

All animal tests reported in this section for both the concentrate and diluted mixtures were done in accordance with "USDA Interim Requirements and Manufacturer Submission Procedures for Wild Land Fire Foam 5100-Fire, August, 1986," through the U.S. Forest Service, by an independent laboratory. The results which follow are all acceptable under those requirements.

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Concentrate

Eye Irritation -	Moderately Irritating	
Skin Irritation -	Slight Irritant	
Acute Oral Toxicity -	Practically Nontoxic	LD ₅₀ , > 5050 mg/kg
Acute Dermal Toxicity-	No More Than Slightly Toxic	LD ₅₀ , > 2010 mg/kg

Diluted Product (1.0% by volume)

Eye Irritation -	Minimally Irritating	
Skin Irritation -	Slight Irritant	
Acute Oral Toxicity -	Practically Nontoxic	LD ₅₀ , > 5050 mg/kg
Acute Dermal Toxicity-	No More Than Slightly Toxic	LD ₅₀ , > 2010 mg/kg

COMPONENTS

Data from ICL Performance Products LP studies and/or the available scientific literature on the components of this material which have been identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200) are discussed below:

2,4-pentanediol, 2-methyl-

2,4-pentanediol, 2-methyl- is an eye irritant; contact with liquid or mists may cause damage to the eyes which are reported to heal slowly. If ingested and absorbed, central nervous system (CNS) depression may occur as evidenced by giddiness, headache, and dizziness progressing to unconsciousness and death. Organ weight changes and effects on liver and kidney tissues have been reported in rodents in repeat dosing studies. No effects were seen on fertility of male rats following repeat oral dosing.

12. ECOLOGICAL INFORMATION

Firefoam 103b is biodegradable and has minimal environmental impact. Due to the sensitivity of aquatic life to chemicals, we do not recommend the application of Firefoam 103b directly into streams or other bodies of water.

96-hr LC₅₀ Juvenile Rainbow Trout: 41.1 mg/l.

13. DISPOSAL CONSIDERATIONS

This material when discarded is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. Dispose of by incineration or recycle in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

IMDG/UN	not regulated
ICAO/IATA	not regulated
RID/ADR	not regulated
Canadian TDG	not regulated
US DOT	not regulated

15. REGULATORY INFORMATION

TSCA Inventory:	Listed
DSL Inventory:	Listed
WHMIS Classification:	D2 (B) - Materials Causing Other Toxic Effects

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SARA Hazard Notification

Hazard Categories Under Title III Rules (40 CFR 370): Immediate, Delayed

Section 302 Extremely Hazardous Substances: None

Section 313 Toxic Chemical(s): None

CERCLA Reportable Quantity: Not applicable

California Proposition 65: Not applicable

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

16. OTHER INFORMATION

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	2	0	0	
Suggested HMIS Rating	2	0	0	G G = Safety glasses, gloves, dust & vapor respirator

Reason for revision: Revised sections 2 & 15. Supersedes MSDS dated: June 15, 2007

Product Use: Fire Suppressant

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, ICL Performance Products LP makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ICL Performance Products LP be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS

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