

# MSDS

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## Firetrol 104

### 1. IDENTIFICATION

Product Identifier: **FIRE-TROL® FireFoam® 104**  
Product use: Foam concentrate used to produce foam for wildfire control.  
Manufacturers name: FIRE-TROL CANADA COMPANY  
455 Dene Drive  
Kamloops, BC V2H 1J1  
**Emergency Phone (24 hrs.)**  
**(250)374-0379 Kamloops**  
**(530)865-4932 Orland, California**

### GENERAL INFORMATION : WHMIS CLASSIFICATION: D2b

**FireFoam® 104** is listed with the following  
-BC: Drug and Poison Information Centre [800] 567-8911  
-ALTA: Poison and Drug Information Centre [780] 270-1414  
-SASK: Poison Control Centre [306] 359-4545  
-MAN: Manitoba Poison Centre [204] 787-2591  
-YUKON: Whitehorse General Hospital [867] 668-9444  
-NWT: Stanton Yellowknife Hospital [867] 920-4111, Ext. 237  
-NFLD: Poison Control Centre [709] 722-1110

### WARNING

**Avoid eye contact, may be irritating. Avoid exposure to skin, may be irritating. Work in a well ventilated area to avoid possible irritation of respiratory tract. Do not ingest.**

### 2. HAZARDOUS INGREDIENTS

**FIRE-TROL® FireFoam® 104** is a proprietary mixture of foaming and wetting agents and has no CAS number. FireFoam® 104 concentrate is a blend of salts of mixed alkylsulfonic acids, Hexylene Glycol (CAS #107-41-5), and Alkanol. The formula is a trade secret of FIRE-TROL CANADA COMPANY and approval has been granted (Registry #1220-001), by the Hazardous Materials Review Commission for an ingredient disclosure exemption.

### 3. PHYSICAL DATA

1. Physical State: Low viscosity liquid.
2. Odour and Appearance: Bland. Light amber.
3. Odour Threshold (ppm): No data available.
4. Vapor Pressure (mm Hg): <1 at 20 degrees C.
5. Vapor Density (Air = 1): No data available.
6. Evaporation Rate: Not applicable.
7. Boiling Point: No data available.
8. Freezing point: -23 degrees C.
9. pH: 9.0 to 9.5
10. Specific Gravity: 1.02 to 1.03.
11. Coeff. Water/Oil Dist.: No data available.

#### **4. FIRE AND EXPLOSION DATA**

1. Flammability: Not flammable
2. Extinguishing Media: Carbon dioxide, dry chemical, foam, or water spray. Class A, BC, or ABC fire extinguishers. Sand/earth.
3. Special Firefighting Procedures in Enclosed Areas:  
In case of accident or fire involving **FireFoam® 104 Concentrate** firefighters must be equipped to prevent breathing of any vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing. There are no special hazards involved in fighting fires involving the diluted product.
4. Flashpoint: Greater than 200 degrees F (95C). (Pensky Martens Closed Cup).
5. Upper and Lower Flammable Limits (%): Not Applicable.
6. Auto-ignition Temp.: No data available.
7. Hazardous Combustion Products: When heated to point of combustion, **FireFoam® 104 Concentrate** will produce carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), and oxides of sulfur.
8. Explosion Data:  
Sensitivity to Impact: Not Applicable  
Sensitivity to Static Discharge: Not Applicable

#### **5. REACTIVITY DATA**

1. Stability: Excellent long-term stability. Can be used down to the freezing point of water. Freezing point of concentrate is -10 degrees F (-23 degrees C). If frozen, concentrate can be warmed up and used with no loss of effectiveness. Do not store above 150 degrees F (66 degrees C).
2. Incompatibility: Avoid strong oxidizers such as hydrogen peroxide, bromine and chromic acid. Avoid strong reducing agents.
3. Reactivity: Not Applicable.
4. Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, and oxides of sulfur.

#### **6. TOXICOLOGICAL PROPERTIES**

##### **1. Routes of Entry:**

Skin contact, inhalation of concentrate mists or vapors and ingestion can be expected to be the most common types of exposure to **FireFoam® 104 concentrate**. Available information on FireFoam® 104 ingredients indicates that inhalation of concentrate vapors may be irritating to the upper respiratory tract. Inhalation of high concentrations of one ingredient in the FireFoam® 104 concentrate have been shown to have adverse effects on the central nervous system. These effects include nausea, headache and dizziness. Acute ingestion of one ingredient of FireFoam® 104 concentrate has been shown to have adverse effects on the central nervous system of laboratory animals. Chronic ingestion of alkanol II has produced adverse effects on the kidneys and livers of laboratory animals.

##### **2. Toxicological Data:**

###### **FireFoam® 104 - Concentrate**

Oral LD50 (Rat): > 5050 mg/kg. Practically non-toxic

Dermal LD50 (Rabbit): > 2010 mg/kg. Practically non-toxic

Eye Irritation (Rabbit): Irritation score 24.8. Moderately irritating

Skin Irritation (Rabbit): Irritation score 4.0 out of 8.0. Moderate irritant.

## **FireFoam® 104 - 1% Solution**

Oral LD50 (Rat): > 5050 mg/kg. Practically non-toxic

Dermal LD50 (Rabbit): > 2010 mg/kg. Practically non-toxic

Eye Irritation (Rabbit): Irritation score 2.3. Practically non-irritating

Skin Irritation (Rabbit): Irritation score 0.7 out of 8.0. Slight irritant

All tests were carried out at an accredited lab under guidelines promulgated by EPA Publication 540/9-82-025 and were in compliance with Good Laboratory Practice Standards, Fed. Reg.48, 53946, 1983.

### **3. Exposure Limits:**

Hexylene Glycol 25ppm (NIOSH REL)

Alkanol I 100 ppm (OSHA PEL) 50 ppm (ACGIH TLV skin notation)

### **4. Effects of Acute Exposure:**

Skin: Mild to Moderate Irritation.

Eyes: Mild to Moderate Irritation.

**Respiratory Tract:** Moderate Irritation.

### **5. Effects of Chronic Exposure:**

No data available.

### **6. Carcinogenicity:**

Not listed by NTP or IARC.

### **7. Teratogenicity:**

Not listed by NTP or IARC.

### **8. Mutagenicity:**

Not listed by NTP or IARC.

### **9. Reproductive toxicity:**

Not listed by NTP or IARC.

### **10. Synergistic Products:**

Not applicable.

## **7. PREVENTIVE MEASURES:**

1. Protective clothing and equipment should be utilized when handling **FireFoam® 104 concentrate**.

(i) Gloves: Avoid prolonged skin contact. Use any type of rubber, plastic, or solvent resistant gloves when handling concentrate.

(ii) Eye: Avoid eye contact. Use chemical safety goggles offering a full seal around the eyes.

(iii)Clothing: Use a neoprene type apron if working with concentrate for prolonged periods.

(iv) Footwear: Due to the wetting properties of FireFoam® 104 rubber footwear should be worn when handling concentrate or working with the diluted product.

(v) Respirator: Avoid excessive inhalation of concentrate vapors such as may occur in a confined space. Use concentrate in a ventilated area. If a respirator is utilized, use NIOSH/OSHA approved respirator with vapor cartridge.

2. **Ventilation Type Required:** Mechanical

3. Store concentrate in plastic, polyethylene, or polyethylene lined containers only. **DO NOT** store concentrate in metal tanks since metal contamination can affect the effectiveness of the concentrate.

#### 4. **Leak and Spill Procedure:**

Spills of FireFoam® 104 should be contained with a physical barrier such as earth or a berm. Concentrate should be recovered for reuse or physically removed. Sand or other absorbent material can be used to facilitate removal. Do not apply water directly to spills of FireFoam® 104 to avoid excessive foaming. Water can be used for final cleanup once concentrate has been removed.

5. Waste Disposal: Dispose of in accordance with all Federal, Provincial and Local regulations.

6. Transportation Information:

Transport Canada: Not Regulated

Reportable Quantity: Not Applicable

Freight Classification: Adjuvant spreader/sticker

Non-flammable, non-corrosive

#### 8. **ENVIRONMENTAL EFFECTS**

1. FireFoam® 104 is biodegradable and has minimal environmental impact. **Test 796-3100 - Aerobic Aquatic Biodegradation** outlined in **NFPA Standard 298 - Foam Chemicals for Wildland Fire Control** was conducted on FireFoam® 104. Results indicate FireFoam® 104 is 50% biodegraded in 2.25 days and 90% biodegraded in 3 days.

2. Due to the sensitivity of aquatic life to chemicals, do not apply FireFoam® 104 directly into streams or other bodies of water.

##### **Concentrate:**

96 hr. LC50 Juvenile Rainbow Trout: 41 mg/litre.

Slightly Toxic

##### **0.5% Solution**

96 hr. LC50 Juvenile Rainbow Trout: 8220 mg/litre

Practically Non – Toxic

#### 9. **FIRST AID PROCEDURES**

1. Skin Contact: Wash off with water. Remove contaminated clothing. Use medicated lotion if skin becomes dry or chapped.

2. Eye Contact: Flush eyes immediately with large amounts of water for at least 15 minutes. Consult a physician.

3. Inhalation: Remove to fresh air and give oxygen if breathing is difficult. Get medical attention.

4. Ingestion: If ingested, dilute with a small amount of water (200-300ml) Do not induce vomiting. If vomiting has occurred naturally, have victim lean forward to reduce risk of aspiration. If breathing has stopped, trained personnel should begin artificial respiration immediately. Get medical attention.

#### 10. **PREPARATION DATE**

Prepared By: Wally McCulloch

Fire-Trol Canada Company [250] 374-0379

Effective Date: January 17, 2002

Supersedes: March 1, 1999

## NOTICE OF WARRANTY

**Fire-Trol Holdings L.L.C.** warrants that **FIRE-TROL®** products are reasonably fit for the purposes for which they were developed only when used in accordance with manufacturers recommended use practices and when used under normal conditions. The liability of **Fire-Trol Holdings L.L.C.** with respect to the use and handling of **FIRE-TROL®** products is limited to the amount of the purchase price of the product to the user, and **Fire-Trol Holdings L.L.C.** will not be liable for consequential, special, or indirect damages resulting from such use or handling. **FIRE-TROL HOLDINGS L.L.C. MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**



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