



MATERIAL SAFETY DATA SHEET



FireLimit® FL-02

1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name	FireLimit® FL-02
Synonyms	Long-term retardant with extinguishing effect
Chemical Formulae	Not applicable. This is a mixture / preparation.
Product Use	For application by aerial and ground methods in wild firefighting
UN Number	Not applicable
DG Class	Not applicable
Company identification	RIO SAGRADO S.L C/O Forest Systems PTY LTD PO Box 200 Apollo Bay Vic 3233 Colin Coleman - 0417 056 295 cc@forestsystems.com.au www.firelimit.com.au

2 – COMPOSITION ON INGREDIENTS

Component	CAS N	% by weight
Ammonium Sulphate	7783-20-2	> 60
Guar gum, or a derivative	9000-30-0	< 5
Performance Additives*	Trade Secret	> 35

* The specific chemical identities are trade secret and are being withheld as Rio Sagrado S.L. trade secret data. They will be disclosed as confidential data to regulatory authorities.

3 – HAZARDS IDENTIFICATION

Emergency Overview	Appearance and Odor: White / red mixture
Warning Statements	None

POTENTIAL HEALTH EFFECTS

Ingestion	Nontoxic if swallowed based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed.
Eye Contact	Nontoxic and nonirritating based on toxicity studies.
Skin Contact	Nontoxic and nonirritating based on toxicity studies.
Inhalation	Nontoxic and nonirritating based on toxicity information of components. Repeated or prolonged inhalation may cause allergic respiratory reaction in some people.

Refer to section 11 for toxicological information.



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4 – FIRST AID MEASURES

Eye and Skin Contact	Immediate first aid is not likely to be required. This product does not irritate eye nor skin. However, this material can be removed with water. Seek medical attention if skin or eye irritation occurs.
Inhalation	Remove to fresh air. Immediate first aid is not likely to be required, if symptoms persist, seek medical attention.
Ingestion	Immediate first aid is not likely to be required. A physician or Poison Control Center can be contacted for advice. Seek medical attention.

5 – FIRE FIGHTING MEASURES

Flash Point	Not combustible.
Extinguishing Media	Not applicable.
Special Fire Fighting Instructions	Not applicable.
Hazardous products of combustion	Not applicable.

6 – ACCIDENTAL RELEASE MEASURES

For personal protection	Regular measures for the use of nontoxic chemical products.
Clean-up	Clean with water. This product is 100% soluble.

Refer to section 13 for disposal information.

7 – HANDLING AND STORAGE

Storage	Product is stable under normal conditions of storage and handling. Keep closed and stored preferably in a fresh and dry place. In case of transferring the product from its original packaging to any other kind of container, it is important to completely homogenize it and guarantee that the whole product has been transferred. Make sure that the new packaging is totally clean and free of any remainder chemical product before it is transferred.
Handling	Keep packaging closed. Use with adequate ventilation. Emptied packaging retains product non-hazardous residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed. If properly manipulated, no special measures shall be required.



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8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits Product/Component AIHA WEEL
 Guar Gum 10 mg/m³, 8-hour TWA
 OSHA and ACGIH have not established specific exposure limits for this material.

Personal protective equipment Eyes Use safety eyeglasses and good handling practice to avoid eye contact. This product should not cause eye irritation requiring special protection.

Skin and hands Although this product does not present a skin concern, minimize skin contact by following good handling practice. Wearing protective gloves is recommended. Wash hands and skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practices of nontoxic chemical products.

Respiratory Use approved respiratory protection equipment when airborne exposure is excessive. Consult respirator manufacturer to determine appropriate type equipment for given application. Handle in accordance with good industrial hygiene and safety practices of nontoxic chemical products.

9 – PHYSICAL DATA

Appearance White / red.
Physical State Concentrated Liquid
Odor Odorless
Density 68°F [20°C] 1.40 g/cm³ [concentrated product]
pH 6-7 [concentrated product]
Viscosity 73.4°F [23°C] >200 cP [concentrated product]
Mix ratio 10% for FL-02A (1 part of product + 9 parts of H₂O)

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 Product is stable under normal conditions of storage and handling. It is susceptible of suffering a partial freezing process in case it is exposed for long periods to temperatures lower than 23°F [-5°C], it may even generate crystallization of some of its components. However, the product shall return to its regular standard once the temperature is recovered, without any impact on product efficiency.

Compatibility Sodium hypochlorite cancels product efficiency.

Decomposition Ammonia may be formed when these products are heated above 194°F [90°C] . No



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Polymerization decomposition if handled properly in normal temperatures.
Will not occur.

11 – TOXICOLOGICAL INFORMATION

Oral toxicity (LD₅₀)	Nontoxic	> 2,000 mg/kg	[OECD 423]
Toxicity by ingestion	Nontoxic and nonirritating		[category 5 / unclassified]
Dermal toxicity (LD₅₀)	Nontoxic	> 2,000 mg/kg	[OECD 402]
Skin irritation	Nonirritating		[category 5 / unclassified]
Eye irritation	Nonirritating 8.74		[BCOP]

12 – ECOLOGICAL INFORMATION

Fish toxicity (LC₅₀ – 96h)	Nontoxic	= 6,930 mg/l	[OECD 203] <i>Drachydanio rerio</i>
Dalpineas toxicity (EC₅₀ – 48h)	Nontoxic	> 10,000 mg/l	[OECD 202] <i>Daphnia magna</i>
Earth worms (LC₅₀ – 14 days)	Equivalency with <i>Daphnia magna</i> test		
Biodegradability	Biodegradable	93% in 28 days (50 mg COT/L) 87% in 28 days (150 mg COT/L)	

13 – DISPOSAL CONSIDERATIONS

Methods of disposal This product is not a hazardous waste. Product should be disposed in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

14 – TRANSPORT INFORMATION

Transport	The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.
Hazard Class or Division	Not hazardous.
UN Number	Not applicable.
Canadian TDG	Not regulated for transport.
US DOT	Not regulated for transport.

Forest Systems Pty Ltd



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15 – REGULATORY INFORMATION

TSCA Inventory	Listed
DSL Inventory	Listed
Environmental restrictions	None. This is a non-hazardous product.

16 – OTHER INFORMATION

The information contained herein has been prepared in good faith by technological knowledgeable personnel and are offered for information purposes only and any use of this product and product information is intended only for persons having related technical skills. It is not intended to be all-inclusive and the manners and conditions of use and handling may involve other and additional considerations.