

SOP 09.07 - Firefighting Foams and Retardants

The new SOP **09.07 Fire Fighting Foams and Retardants** replaces the existing **9.07 Foams, Wetting Agents and other additives Firefighting** (endorsed 2009)

The new SOP highlights consideration for wildlife and biodiversity are outlined to ensure compliance with the Environment Protection Act 2017.

- Guidance is now provided for non-operational use of foam.
- Clarification of approved foam concentrates.
- Retardants – the amendments to retardant use, as determined in consultation with subject matter experts, stem from the use of retardant usually being deployed by Forest Fire Management Victoria (FFMV). Therefore, this SOP has removed a specific procedure for retardant use.

This updated SOP is considerably longer than the old SOP and therefore goes into a lot more detail about the use of foam, where to use it and the safety requirements as well as environmental requirements when using foam.

Colour code

	Minor change in wording
	Small updates in the wording but the intent is the same as the old SOP
	Significant change or new procedure in the new SOP

	NEW SOP 09.07	OLD SOP 09.07
Scope	This procedure applies to all CFA members	This Standard Operating Procedure applies to all CFA Members.
Objective	1. To ensure that the safety of CFA members is upheld, while conserving the environment and wildlife when handling, storing and using firefighting foams and retardants.	To ensure that care is taken by all CFA members when using firefighting foams, wetting agents and retardants.
Procedure	(3) Where a brigade is issued with Class A Foam or Class B Foam, they should ensure that a sufficient number of CFA members are appropriately trained and familiarised in the use of these systems.	Where a brigade is issued with Class A or Class B foam, they shall ensure that a sufficient number of members are competent in the use of these systems
	(4) Only CFA members trained in the handling and use of firefighting foams should use these systems at an operational response.	
	(5) CFA approved foam concentrates are listed in Schedule 1.	

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	<p>(6) All other foams should be documented, photographed, stored on a banded pallet, covered and then secured on a hardstand area where possible in preparation for collection and disposal.</p>	
	<p>(7) Batch mixing of firefighting foams is not permitted.</p>	<p>6. Batch mixing of firefighting foam is not permitted.</p> <p>7. Retardant can only be applied by CFA tankers during emergency situations when authorised by the incident controller and approved by the CFA State Duty Officer subject to the following conditions:</p> <p>7.1 Only retardant certified by the manufacturer for on ground use and used in accordance with the Chief Officer’s SOP: Foams , Wetting Agents and Other Additives – Firefighting Page 3 of 6 SOP 9.07 – Version 3 19/6/2009 S O P 9.07 manufacturers procedures shall be used in CFA tankers.</p> <p>7.2 Mixing and application of fire retardant shall only be undertaken by trained operators.</p> <p>7.3 All tankers which have been used for retardant application must be decontaminated (cleaned and washed) in accordance with the retardant manufacturers directions and to the satisfaction for the appliances home DMO manager.</p> <p>8. Class A foam and Class B foam and retardant must not be mixed due to coagulation that occurs as a consequence.</p> <p>9. Due to batch mixing being the only way wetting agents can effectively be used, this may occur in CFA appliance water tanks where appropriate.</p>

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Handling of Foam	(8) CFA members should wear approved Personal Protective Clothing (PPC) and Protective Equipment (PE) issued for use with firefighting foams	CFA members shall wear approved PPC and PE issued for use with firefighting foam, wetting agent and retardant (Schedule 1).
	(9) Approved Personal Protective Clothing (PPC) and Protective Equipment (PE) for handling firefighting foam concentrate and solution: <ul style="list-style-type: none"> a. Wildfire or Structural firefighting garments as appropriate for the risk environment. b. Nitrile or neoprene gloves. c. Rubber or leather firefighting boots. d. Safety goggles. e. P2 respirator (non-cartridge type). f. Wildfire or Structural helmet. 	Outlined in the definitions of the old SOP
	(10) Protective Equipment (PE) kits for handling firefighting foam concentrate should be carried on appliances equipped with firefighting foams.	PPC and PE kits for handling firefighting foam concentrate shall be carried on appliances equipped with firefighting foam
	(11) Foam Management Kits should be kept on the tanker and inspected for expired items and replenished at least annually.	PPC and PE kits for handling firefighting foam concentrate shall be carried on appliances equipped with firefighting foam.
	(12) If applicable, Personal Protective Clothing (PPC) and Protective Equipment (PE) decontamination and request for cleaning should be done in accordance with CFA or relevant agency guidelines.	
	(13) For further information on storage, filling, spillage and waste disposal refer to: <ul style="list-style-type: none"> a. <u>ChemAlert</u> for Safety Data Sheets (SDS). b. <u>Guidelines for Class A and B Foam Ordering, Storage, Filling and Recycling.</u> 	
Operational Consideration	(14) Considerations should be made for local wildlife and biodiversity when discharging firefighting foams such as: <ul style="list-style-type: none"> a. Foams and retardants may be toxic for aquatic life so every effort should be taken to ensure that firefighting 	Minimise the use of firefighting foams to reduce environmental impacts

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	<p>foams do not enter bodies of water where operationally practicable.</p> <p>b. Plan for containment and disposal of firefighting foams and potential runoff.</p> <p>c. Take care when filling tanks.</p> <p>d. Minimise repetitive application – do not use the foam on the one spot.</p>	<p>4.1 Every effort shall be taken to ensure that firefighting foam or wetting agent does not enter bodies of water. Consider this when filling tanks.</p> <p>4.2 Where possible, the use of firefighting foam and wetting agent on organic and certified properties should be avoided. Every reasonable effort shall be made to alert organic and certified property owner/occupier(s) to potential issues that may result from contact with, or contamination from, firefighting foam and wetting agent.</p> <p>5. Notify EPA in cases of substantial or significantly polluted fire water runoff.</p>
	<p>(15) To comply with the Environment Protection Act 2017, CFA members should ensure that firefighting foam is not discharged into the storm water network, mitigating environmental risks wherever reasonably practicable.</p>	
	<p>(16) Where operationally practicable, CFA members should avoid the use of firefighting foams in areas where use may impact water ways, water sources or sensitive areas such as organic and certified properties.</p> <p>a. Every reasonable effort should be made to alert organic and certified property owner/occupier(s) to potential issues that may result from contact with, or contamination from, firefighting foams.</p>	<p>4. Minimise the use of firefighting foams to reduce environmental impacts</p> <p>4.1 Every effort shall be taken to ensure that firefighting foam or wetting agent does not enter bodies of water. Consider this when filling tanks.</p> <p>4.2 Where possible, the use of firefighting foam and wetting agent on organic and certified properties should be avoided. Every reasonable effort shall be made to alert organic and certified property owner/occupier(s) to potential issues that may result from contact with, or contamination from, firefighting foam and wetting agent.</p>
Non Operational considerations	<p>(17) Non-operational activities that may require the use of foam are:</p> <p>a. Training.</p> <p>b. Testing of equipment.</p> <p>c. Use of a Compressed Air Foam System (CAFS)</p>	
	<p>(18) Non-operational foam use should adhere to clauses 14-16.</p>	

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	(19) When foam use is required for non-operational activities, foam use should be minimal and with the smallest amount of foam to achieve the required outcome.	
	(20) Avoid discharging foam in reticulated areas.	
	(21) Where Class A or Class B Foam is used for any non-operational or training purpose, at any location, including at brigades and on private or public land, ensure that all foam is either: <ul style="list-style-type: none"> a. captured; b. allowed to evaporate safely (sweep/shovel any remnants); and/or DRAFT This document may be varied, withdrawn or replaced at any time. Printed copies, or part thereof, are regarded as uncontrolled and should not be relied upon as the current version. It is the responsibility of the person printing this document to always refer to the Policy Library for the latest version. Page 3 of 5 c. disposed of in line with clause 13a&b. 	
Retardants	(22) Only appropriately authorised and trained CFA members shall handle, mix and/or load retardant. Handling and use of retardant should be in line with the manufacturer's guidance and directions.	
	(23) CFA members handling retardant at approved airbases, shall be appropriately skilled and authorised to do so by the agency controlling the airbase.	Retardant can only be applied by CFA tankers during emergency situations when authorised by the incident controller and approved by the CFA State Duty Officer subject to the following conditions: 7.1 Only retardant certified by the manufacturer for on ground use and used in accordance with the Chief Officer's SOP: Foams , Wetting Agents and Other Additives – Firefighting Page 3 of 6 SOP 9.07 – Version 3 19/6/2009 S O P 9.07 manufacturers procedures shall be used in CFA tankers. 7.2 Mixing and application of fire retardant shall only be undertaken by trained operators. 7.3 All tankers which have been used for

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		retardant application must be decontaminated (cleaned and washed) in accordance with the retardant manufacturers directions and to the satisfaction for the appliances home DMO manager.
	(24) For further information refer to <u>13.03 Working with Firebombing Aircraft SOP</u> and the relevant <u>Interagency Aviation Operating Procedures (IAOPs)</u> . Specifically: <ul style="list-style-type: none"> a. GO 3.01 Airbase Operations. b. GO 3.02 Aviation Fuel and Aircraft Refuelling Operations. c. GO 3.04 Fixed Wing Firebombing Aircraft Loading Operations. d. EQ 5.02 Personal Protective Equipment Aviation Operations. 	Class A foam and Class B foam and retardant must not be mixed due to coagulation that occurs as a consequence. 9. Due to batch mixing being the only way wetting agents can effectively be used, this may occur in CFA appliance water tanks where appropriate.
Safety Notes	(25) All foam and retardant operators should be familiar with the product's Safety Data Sheet (SDS), accessible on <u>ChemAlert</u> , and have access to the information in case of an emergency.	
	(26) Physical contact with foam or retardant concentrate or solution, without appropriate protective clothing and equipment, should be avoided. <ul style="list-style-type: none"> a. If contact occurs, clean the area with water and neutral soap and refer to the relevant Safety Data Sheet (SDS). 	
	(27) Immediately flush eyes if splashed with foam or retardant concentrate or solution. <ul style="list-style-type: none"> a. Flush with clean water or saline wash in the Foam Management Kit. If applicable, contact lenses should be removed. 	Immediately flush eyes if splashed with foam or retardant concentrate or solution.
	(28) In the event of contact with hazardous substances, refer to <u>11.02 Medical Monitoring- Biological and Hazardous Substances SOP</u> .	Consider possible effects on the health and safety of CFA members from the use of firefighting foam, wetting agent and retardant.

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	(29) In the case a serious or notifiable incident occurs, refer to 14.06 Notifications of Injuries and Fatalities SOP.	All Foam and Retardant operators must be familiar with the products MSDS and have access to the information in case of an emergency.
	(30) All incidents should be reported to CFASafe.	
Environmental Note	(31) The Incident Controller must give careful consideration of the environmental implications of using retardants and firefighting foams in environmentally sensitive areas.	Consider foam and fire water runoff and plan for containment or disposal.
	(32) CFA members have a responsibility to minimise contamination of sites and must report environmental notifiable incident to the Environment Protection Authority (EPA) as soon as reasonably practical.	
	(33) CFA values the importance and protection of Victoria's Cultural Heritage. Upon discovering a site of cultural significance, CFA members should contact the Incident Controller as soon as possible to notify CFA Cultural Heritage Advisors.	
	(34) Where practicable, discharging of foam near sites of cultural significance should be avoided.	

Section 4- Definitions

(35) Commonly defined terms are located in the CFA [centralised glossary](#).

Section 5- Related Documents

(36) [Guidelines for Class A and B Foam Ordering, Storage, Filling and Recycling](#)

(37) [How to search for a safety data sheet](#)

(38) [Personal Protective Clothing Decontamination Flow Chart](#)

(39) 11.02 Medical Monitoring- Biological and Hazardous Substances SOP

(40) 13.03 Working with Firebombing Aircraft SOP

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(41) 14.06 Notification of Injuries and Fatalities SOP

(42) 16.00 Environmental Care SO

(43) Environment Policy

(44) CFA Contingency Plan- For discovery of Aboriginal Cultural Heritage

(45) J02.06- Aviation Resources Readiness (Bushfire)

Section 6 – Schedule 1 – approved foam concentrates

CLASS A	CLASS B	HIGH EXPANSION FOAM
PHOS-CHEK WD881A	SOLBERG RE-HEALING RF 3X6 ATC	SOLBERG HI-EX FOAM

OLD SOP Schedule 1.

<p>Schedule 1 – Approved PPC and PE for Handling Firefighting</p> <p>Foam Concentrate and Solution Foam Concentrate ☑ Wildfire Overalls or two piece wildfire ensemble or Structural ensemble as appropriate for specialist applications; ☑ Nitrile or neoprene gloves; ☑ Rubber or leather boots; ☑ Safety goggles; ☑ P2 nuisance level organic vapour respirator (non cartridge type) such as the 3M 8247; and ☑ Wildfire or structural helmet.</p>	<p>Schedule 1 –</p> <p>Foam Solution ☑ Wildfire Overalls or two piece wildfire ensemble or Structural ensemble as appropriate for specialist applications; ☑ Barrier cream for hands ☑ Leather gloves; ☑ Rubber or leather boots; ☑ Safety goggles and ☑ Wildfire or structural helmet.</p>
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