

# VOLUNTEER FIRE BRIGADES VICTORIA

## POSITION PAPER ON THE USE OF CLASS A FOAM FOR FIREFIGHTING OPERATIONS

### Application and Purpose:

This paper is designed to:

- Provide advice to CFA and Fire Brigades on VFBV's position regarding the use of Class A foam by fire brigades during the suppression of fires for which Class A foam is deemed advantageous over the conventional use of water as an extinguishing agent.
- Provide advice to volunteers on the position they should adopt in the event that they are ordered to cease using Class A foam for other than operational or environmental reasons.
- Seek the support of the CFA to endorse this Position Paper particularly as it relates to the use of Class A foam at incidents at the discretion of the Incident Controller and/or Crew Leader.

### Volunteer Fire Brigades Victoria Position on the use of Class A foam for fire fighting operations:

- VFBV is satisfied that CFA have taken all the necessary precautionary steps to ensure that the use of Class A foam poses a minimal health risk to firefighters provided the agent is used in accordance with procedures and practices developed by the CFA.
- VFBV supports the CFA's policy that Brigades must be trained in the handling and use of Class A foam prior to its introduction into individual brigades.
- **VFBV recommends that brigades use Class A foam at incidents when the Incident Controller or Crew Leader is satisfied that:**
  - There are no legitimate environmental reasons to cease using the agent, and;
  - Personnel have been trained in the application of Class A foam;
  - There are operational advantages to be gained in limiting damage to property and the environment, or;
  - The use of Class A foam will reduce the time personnel must spend on the fireground to achieve a particular task or objective.

## **Background:**

In 1997 CFA undertook a number of initiatives to investigate the use of Class A foam. The Initial investigation included a detailed review of the following;

- use of Class A foam overseas
- operational effectiveness
- environmental impact
- effects on human health and safety
- equipment compatibility and
- financial implications

VFBV is advised that the CFA also sought information from independent sources regarding the human health effects of Class A foam, environmental impacts and effects on flora and fauna. The principle sources consulted were;

- *United States Department of Agriculture* for their internationally recognised research and product approval process.
- *AMCOSH*, a business unit of the State Chemistry Laboratory who provided evidence to CFA that the proper use of Class A foam posed minimal risk to users of the product subject to a number of simple operating procedures and PPE/PPC for the safe handling of the concentrate and solution.

VFBV is aware that during the course of CFA's preliminary investigations, there was some concern raised relating to the presence of the chemical compound Diethylene Glycol Monobutyl Ether (DGBE) which is one of two main active ingredients in Class A foam. The AMCOSH report advised that DGBE belongs to a group of chemicals collectively known as 'glycol ethers'. The report went on to explain that glycol ethers are used extensively in products such as domestic and commercial surface cleaners, cosmetics and perfumes, water based paints, inks, oils and greases. The report indicated that whilst a small number of glycol ethers are highly toxic, **DGBE was not one of these.**

AMCOSCH also advised that the other main active ingredient in Class A foam, Lauryl Alcohol, is extensively used in products such as laundry detergents and soaps. The AMCOSH report established that this chemical is not volatile, is not absorbed through the skin and is relatively non toxic.

Resulting from a positive response to operational trials conducted and on receipt of information from the USDA and AMCOSCH that subject to the controlled use of the agent, there were no significant risks to human health or the environment, CFA commenced a program to introduce the use of Class A Foam in late 1997. In conjunction with this program, a comprehensive training program was developed

and rolled out across the state. The completion of this training program was a precursor to the issue of Class A foam equipment to individual brigades.

VFBV is aware that following the introduction of Class A foam into the CFA, the use of this agent has gained wide acceptance by firefighters throughout the organisation in recognition of its benefits of rapid knockdown and effectiveness in assisting to expedite mopping up during both structural and wildfire operations. To date, following over 10 years of use by CFA volunteers, VFBV is unaware of any confirmed illness or other detrimental health effects suffered by CFA personnel who have used the product in accordance with CFA's training, SOP's and instructions for use.

However, despite this record, some lingering doubts concerning the impact of DGBE on human health remain.

VFBV is informed that DGBE is also a constituent chemical in Class B foam. In conjunction with the recent search to secure an alternative Class B foam agent, in July 2006 CFA commissioned *WYNSAFE Occupational Health Services* to undertake further research in relation to the effects of airborne aerosols containing DGBE that may be encountered whilst decanting foam concentrates containing DGBE.

The report issued by *WYNSAFE* confirmed the previous advice from AMCOSH and in fact highlighted that the procedures and equipment implemented by the CFA for respiratory protection whilst decanting Class A foam concentrate were excessive. Subsequently CFA have implemented amended arrangements to require a lesser standard of respiratory protection during decanting of Class A foam concentrate.

VFBV also understands that the product has been in use overseas for many years including periods well prior to its introduction by CFA. It is also noted that Class A foam has been and is still being used extensively by other fire services and land management agencies throughout Australia. VFBV is unaware of any confirmed adverse human effects stemming from the proper use of the product in any overseas or local agencies.

### **Advantages to Volunteers and CFA arising from the use of Class A foam**

- Class A foam has been proven to expedite containment of a fire and assist minimise the need for extended overhaul and blacking out. As a result, volunteers spend less time on the fireground and are able to return to their normal activities quicker.
- Accelerated knockdown, overhaul and blacking out provides for improved safety for firefighters as personnel spend less time on the fireground by

comparison with the duration of operations required to achieve the same outcome when water is used as the sole extinguishing agent.

- Concurrent with the ability to achieve quicker containment and extinguishment of a fire, damage is reduced and public recognition of firefighter performance is enhanced.
- Class A foam increases the effectiveness of water thereby increasing the area extinguished without the need to replenish water supply. Operations are therefore more efficient and tasking is achieved in reduced time.
- Class A foam can be applied at higher application rates to protect exposures.

#### **Disadvantages to Volunteers and CFA arising from the use of Class A foam**

- Firefighters must complete additional training prior to being issued with equipment to permit the use of Class A foam.

#### **Budget implications of this position:**

As with any new innovation or technology, there are initial cost impacts. With Class A foam, these can be summarised as the introduction and maintenance of the equipment, purchase of concentrate and training for personnel. VFBV considers that when budget inputs are balanced against the efficiencies gained in operational outcomes, convenience and firefighter safety, this budget impost is warranted.