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## Use of Phos-Chek® MVP-F chemical retardant for Agency firebombing operations.

### PURPOSE

Victoria has for many years used Phos-chek D75R retardant for its firebombing operations.

D75R is a sulphate based retardant and the company has ceased production of this product. Stocks in Australia are rapidly diminishing and the agencies have elected to introduce a similar product called Phos-chek MVP-F.

MVP-F is an all-phosphate, gum thickened, fugitive coloured retardant and is a highly soluble powder that mixes readily with water and will be suitable for use with existing DSE eductor-mixer systems.

The "F" stands for fugitive, which fades to a neutral earth colour with exposure to UV light over days and weeks.

MVP-F long-term retardant is qualified by the USDA Forest Service under specification 5100-304c for use in fixed wing airtankers and helicopters with buckets.

MVP-F is not approved for fixed tank helicopter operations.

It is expected that it may take some time for the Air Attack Supervisors and pilots to adapt to the colour change. Reports are that it appears a "lighter red" to D75R. The MVP-F looks different and anecdotal comments are that it appears "weaker than D75R".

If mixed to field quality and checked with the refractometer then it will be as effective as D75R. All formulations meet the USFS Specification on retarding efficacy.

Material Safety Data sheets (MSDS) for MVP-F will be available shortly in the Information/OHS/MSDS section of Fireweb.

Additional information will be distributed.

### Note:

Do not combine D75R and MVP products. There must be a clean separation of product usage.

A scaled introduction of MVP is being conducted at present with existing D75R stock being used or removed as MVP-F stock is introduced.

### MIX RATIO

The following is important information for mixing crews and Air Attack Supervisors as this product is significantly different in comparison to the mixing and quality control requirements for D75R.

Mix ratio for MVP-F is 0.1138kg per litre or **7,972lt water per Phos-bin.**

This will yield (with expansion) 8,423lt of mixed MVP-F retardant per Phos-bin

Yield is significantly more than D75R (6,770lt).

This has implications for the mixing/storage container as it will need to hold a minimum of 9000 lt per Phos-bin mix to allow for expansion.

Mix ratio 11.38kg/100lt

Expansion 5.66%

Solution Density 1.05kg/lt @ 27 C

Viscosity 400-600 cps @ 27° C operational

No. Phosbins	Litres of Water	Litres of Mixed Retardant
1	7,972	8,423
2	15,944	16,847
3	23,916	25,270
4	31,888	33,693
5	39,859	42,117
6	47,831	50,540
7	55,803	58,963
8	63,775	67,387
9	71,747	75,810
10	79,719	84,234
15	119,578	126,350
20	159,438	168,467

### Refractometer Reading

The refractometer measures the salt content of the retardant and readings and different scales apply between brand of refractometer – these are provided below as they vary to readings required for D75R.

Reichert vs Shilac Refractometer	
Reichert 10440	Shilac ATC1125
7.75	8.2
8.00	8.5
8.25	8.7
8.50	9.0
<b>8.75</b>	<b>9.3</b>
9.00	9.5
9.25	9.8
9.50	10.0
9.75	10.3



## WHAT DO YOU NEED TO DO?

### Retardant mixing crews

- Check the product you are mixing and ensure it is MVP.
- Before introducing MVP-F, the mixing system including eductors, lines, pumps etc must be rinsed with clean water as thoroughly as possible. “Shocking” the system is not required.
- Storage tanks must be emptied as much as possible and rinsed as best as can be achieved.
- Mixing crew personnel must be aware of the new mix ratio and the different refractometer readings required to ensure quality control.

### Airbase Managers

- Check the product your crews are mixing and determine if it is D75R or MVP-F.
- Be aware of the variation in mix ratios and the quality control requirements for MVP-F.
- Be aware of the increased yield from each Phosbin.
- Ensure mixing crews are briefed on the new mix ratios and the quality control requirements.
- Ensure mixing equipment is cleaned as above.
- Ensure pilots and AASs are briefed when MVP-F is being loaded into the SEATs – especially with regards the change in colouring.
- If a delivery of MVP-F does arrive while still operating with D75 ensure both products are clearly marked and that the MVP is quarantined until D75R is used.

### Air Attack Supervisors

- Check with the airbase that the product being loaded/delivered is MVP and not weak D75R.
- Report any quality issues or observations to Airbase Manager.
- Report operational effectiveness to the Innovation Manager.

### For further information contact:

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