



BULLETIN #1018-1

TECHNICAL BULLETIN

Foam Compatibility — FIRE-BRAKE & PHOS-CHEK WD881


Introduction

This study was undertaken to determine if SOLBERG® FIRE-BRAKE™ Class A Foam Concentrate is compatible with PHOS-CHEK WD881 Class A Foam Concentrate. Since the U.S. Forest Service Approval for Class A Foam Concentrates does not include any type of compatibility testing protocol, the compatibility test protocol for the U.S. Military specification for AFFF, Mil-F-24385F, was followed. In this specification, mixtures of the two concentrates are prepared at various ratios. These mixtures are tested for foam quality immediately after being prepared and again after being subjected to storage at 50 °C in tightly closed containers for a period of 10 days. In addition to the foam quality testing, the samples are visually inspected for any signs of incompatibility such as precipitation, haziness, gelling, layering, etc.

Sample Preparation

Production lot number K1500105 of the Solberg foam concentrate and production lot number OWD-211008 of the PHOS-CHEK foam concentrate were used in the study. Mixtures of the PHOS-CHEK and Solberg foam concentrates were prepared as follows:

PHOS-CHEK % BY WEIGHT	SOLBERG % BY WEIGHT
100	0
75	25
50	50
25	75
0	100



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Analytic Data (PC = PHOS-CHEK WD881 / SO = SOLBERG FIRE-BRAKE)

Foam quality before temperature conditioning:
(EXP = Expansion value & 50% Drain = Drain time Min:Sec)

100% PC / 0% SO	75% PC / 25% SO	50% PC / 50% SO	25% PC / 75% SO	0% PC / 100% SO
EXP = 4.6 50% Drain = 5:11	EXP = 4.8 50% Drain = 5:30	EXP = 4.2 50% Drain = 3:33	EXP = 3.2 50% Drain = 3:08	EXP = 3.8 50% Drain = 2:54

Foam quality after temperature conditioning:
(EXP = Expansion value & 50% Drain = Drain time Min:Sec)

100% PC / 0% SO	75% PC / 25% SO	50% PC / 50% SO	25% PC / 75% SO	0% PC / 100% SO
EXP = 5.0 50% Drain = 5:20	EXP = 5.2 50% Drain = 5:45	EXP = 4.1 50% Drain = 3:41	EXP = 3.1 50% Drain = 3:01	EXP = 4.0 50% Drain = 3:45

Discussion of Results

Both before and after temperature conditioning, all of the samples were clear liquids, water white to light straw colored with no signs of precipitation, gelling, layering or any other notable condition. The foam quality values showed no signs of deterioration after the temperature conditioning. In fact, many values actually increased slightly over the values obtained before the temperature conditioning.

Conclusion

SOLBERG FIRE-BRAKE Class A foam concentrate and PHOS-CHEK WD881 Class A foam concentrate are completely compatible when mixed at all ratios.



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