

FOAM COMPATIBILITY PHOS-CHEK® 1% FLUORINE FREE FOAM CONCENTRATE & WETTING AGENT VS. COMPETITOR FOAM CONCENTRATES

INTRODUCTION

This study was undertaken to determine if PHOS-CHEK® 1% Fluorine Free Synthetic Foam Concentrate and Wetting Agent is compatible with NOVACOOL® UEF, FIREADE® 2000, and HCT F-500. For this test, mixtures of the PHOS-CHEK 1% Fluorine Free Synthetic Foam Concentrate and Wetting Agent with the various concentrates were prepared at various ratios. These mixtures were tested for foam quality at 0.3% and 0.6% immediately after being prepared and subjected to storage at 6 °F (-21 °C) and 90 °F (32 °C) in tightly closed containers for a period of 7 days. In addition to the foam quality testing, the samples were visually inspected for any signs of incompatibility such as precipitation, haziness, gelling etc.

SAMPLE PREPARATION

Mixtures of PHOS-CHEK 1% Fluorine Free Synthetic Foam Concentrate and Wetting Agent and the various concentrates were prepared as follows:

PHOS-CHEK 1% FF (% by volume)	NOVACOOL UEF (% by volume)	PHOS-CHEK 1% FF (% by volume)	FIREADE 2000 (% by volume)	PHOS-CHEK 1% FF (% by volume)	HCT F-500 (% by volume)
100	100	100	100	100	100
10	90	10	90	10	90
50	50	50	50	50	50
90	10	90	10	90	10

KEY

Analytical Data

- **PC1% FF:** PHOS-CHEK 1% Fluorine Free Synthetic Foam Concentrate and Wetting Agent

Foam Quality

- **ER** = Expansion Ratio
- **DT** = 25% Drain Time (minutes) of Total Volume Tested

100 PC1% FF		10 PC1% FF / 90 NOVACOOL UEF	50 PC1% FF / 50 NOVACOOL UEF	90 PC1% FF / 10 NOVACOOL UEF	100 NOVACOOL UEF		
0.3%	0.6%	0.3%	0.6%	0.3%	0.6%	0.3%	
ER =	1.9	3.3	2.2	3.7	2.2	3.4	
DT =	1.7	4.6	2.9	6.3	2.8	5.8	
100 PC1% FF		10 PC1% FF / 90 FIREADE 2000	50 PC1% FF / 50 FIREADE 2000	90 PC1% FF / 10 FIREADE 2000	100 FIREADE 2000		
0.3%	0.6%	0.3%	0.6%	0.3%	0.6%	0.3%	
ER =	1.9	3.3	1.5	2.0	1.9	3.2	
DT =	1.7	4.6	1.4	2.0	1.6	4.2	
100 PC1% FF		10 PC1% FF / 90 HCT F-500	50 PC1% FF / 50 HCT F-500	90 PC1% FF / 10 HCT F-500	100 HCT F-500		
0.3%	0.6%	0.3%	0.6%	0.3%	0.6%	0.3%	
ER =	1.9	3.3	1.3	1.4	1.3	1.4	
DT =	1.7	4.6	2.0	2.3	2.5	2.4	

For more information, contact any of our worldwide Perimeter Solutions Fire Safety offices or visit www.PHOS-CHEK.com or www.Perimeter-Solutions.com

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DISCUSSION OF RESULTS

Results show that mixing PHOS-CHEK 1% Fluorine Free Synthetic Foam Concentrate and Wetting Agent with NOVACOOL UEF, FIREADE 2000 and HCT F-500 causes no gelling, crystal or precipitate formation. Mixing PHOS-CHEK 1% Fluorine Free Synthetic Foam Concentrate and Wetting Agent with NOVACOOL UEF has no impact on the foaming characteristics of the diluted solutions. Mixing PHOS-CHEK 1% Fluorine Free Synthetic Foam Concentrate and Wetting Agent with FIREADE 2000 and or HCT F-500 reduces foam performance when sample is tested at 0.6%.



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