



## TECHNICAL BULLETIN

### C8 TO C6 FOAM CONCENTRATE COMPATIBILITY

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#### 1. DESCRIPTION

This document relates to the foam concentrate types detailed below and contains guidance on how to manage the use of C6 based foam concentrate in systems that were initially designed for and commissioned with C8 based foam concentrates.

- Viking AFFF 1%S C6
- Viking AFFF 3%S C6
- Viking ARC 3X3S C6
- Viking AFFF 3%M C6
- Viking FP 3% C6



#### 2. CHEMICAL COMPATIBILITY AND MISCIBILITY

C8 and C6 foam concentrates are chemically compatible which means that the old (C8) and new (C6) versions of the foam concentrate types listed above can be mixed without any negative effect on either product.

The compatibility has been verified through mixing temperature conditioned samples of the new C6 formulations with the old C8 formulations at various mixing ratios (25/75, 50/50 and 75/25). The Physical Characteristics of these samples were then tested to verify conformity to required tolerances.

It is always important to verify the quality (laboratory analysis) of the existing foam concentrate before adding new foam concentrate. If the existing foam concentrate is compromised, deteriorated or contaminated, then the new foam concentrate can be compromised if added to the old. If the old foam concentrate is found to be in a satisfactory condition, then adding new foam concentrate is acceptable. Adding “new” foam concentrate into a tank containing “old” foam concentrate means that the complete contents should then be considered “old”.

#### 3. FIRE PERFORMANCE

The new C6 versions of the above mentioned foam concentrate types have been rigorously tested for their fire performance using the same type and model of discharge devices as the old C8 foam concentrates. The new C6 foam concentrates have the same or increased fire performance compared to the old C8 foam concentrates when used in systems utilizing the discharge devices that the old C8 foam concentrates were tested with under the same conditions.

#### 4. PROPORTIONING

The new C6 foam concentrates listed above have physical properties and flow characteristics equal to the old C8 foam concentrates products they replace. Proportioning of the new C6 foam concentrates in systems previously designed for the old C8 foam concentrates will not affect the proportioning capability of the system.

#### 5. GENERAL NOTES

- a) Do not mix different types of foam concentrates - such as 3% AFFF with 1% AFFF or 3% AFFF with 3X3 ARC-AFFF
- b) Mixing of a C6 with a C8 foam concentrate produces a concentrate that may not be in accordance with the 2015 EPA PFOA Stewardship program
- c) Annual testing of foam concentrate to relevant standards such as NFPA 11 or EN 13565-2 should be made. A mixture of old and new foam concentrate may give physical characteristic values that are inferior to those of a completely new foam concentrate supply.
- d) Approvals and certifications are foam concentrate specific and are noted on the Technical Data Sheet of each foam concentrate. For details about approved and listed equipment, devices, orifice sizes, flow and pressure ranges etc; the published approval and/or listing for an individual foam concentrate must be consulted.
- e) **There are differences in approval and listing details between some old and new foam concentrate types. Owners should evaluate whether equipment changes and/or performance testing are required. Acceptability of a C6/C8 foam concentrate mixture should be at the discretion of the Authority Having Jurisdiction (AHJ).**