



AFFF Compatibility

Compatible: Capable of existing together, congruous.

The question often arises regarding the mixing or compatibility of foam concentrates manufactured by one manufacturer and the same type of and proportioning-rate concentrate from a second manufacturer.

It is recognized that finished foam of the same type can be added to the same fire or hazard simultaneously. But the more urgent question is whether concentrates can be mixed and stored together in bladder tanks or other containers.

Foam concentrates on the QPL for MIL-F-24385F (Military Specifications foam) are compatible by definition since the specifications require it. Even so, the National Fire Protection Association has not allowed for mixing of foam concentrates in storage. However, the need for allowing mixing under specific controlled circumstances has become apparent and NFPA 11, 2002 edition (4.4.1.2) has made allowances for mixing under certain circumstances, specifically when documented test results are presented and approved by an authority having jurisdiction.

Chemguard has conducted compatibility tests with their concentrates, mixed with a variety of competitor's concentrates. In no circumstance have mixtures of agents performed worse than the weaker of the two components.

The only area of caution should be when considering the mixing of alcohol resistant foam concentrates. Since listed application rates may be different for two concentrates being mixed, this difference will have to be taken into account.

Take for example, a system that is protecting isopropyl alcohol.

The agent being used in the system is listed at 0.14 gpm/ft² and the system delivers 0.14 gpm/ft². Adding an agent that is listed at 0.16 gpm/ft² would not provide the protection that the system is designed for.

For this reason caution must be used when considering the mixing of concentrates.

Chemguard recommends that when mixing is considered two things must be obtained:

- 1.) Certification from the manufacturer of the foam to be added, that the mixture is a viable one. (This will need to be done by supplying documentation of what concentrate is currently in the system and by supplying a sample for the manufacturer to do specific fire tests to verify the effectiveness of the combination of agents.)
- 2.) Approval of the authority having jurisdiction.

The only concentrates eligible for consideration here have to be of the same type (AFFF or AR-AFFF or FFFP or Fluoroprotein or Protein) and proportioning rate (1%, 3%, and 6%)

Synthetic-based products should not be mixed with protein-based products. Products for hydrocarbons only, should not be mixed with alcohol resistant products. Regular temperature products should not be mixed with low temperature products. 1% AFFF should not be mixed with 3% AFFF and so on.

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