

Fyrquel[®] Fire-Resistant Fluids & Lubricants

supresta[™]
BUILT-IN DEFENSE

Compatibility Guide



Introduction

Supresta has developed a summary of compatible materials of construction. Proper care in ordering components and replacement parts that are compatible with triaryl phosphate ester fire resistant fluids is essential. Component manufacturers and suppliers are familiar with the requirements of phosphate esters and compatible materials are readily available. The below recommendations are general in nature. Compatibility testing with compounded products is recommended to assure in-service performance.

| <u>Material</u> | <u>Compatible</u> |
|-----------------------------|-------------------|
| Butyl | to 225 deg F |
| Fluorocarbon ⁽¹⁾ | to 300 deg F |
| EPR; EPDM | to 300 deg F |
| PTFE ⁽²⁾ | to 350 deg F |
| Silicone Rubber | to 350 deg F |
| Nylon | to 250 deg F |
| Engineered Resins | contact supplier |

⁽¹⁾ Viton[®]; Kalrez[®]; Fluoroel[®]
⁽²⁾ Teflon[®]

| <u>Material</u> | <u>Not Compatible</u> |
|------------------|-----------------------|
| Nitrile; Buna-N | Not Recommended |
| Neoprene | Not Recommended |
| Polyurethane | Not Recommended |
| Ethylene Acrylic | Not Recommended |
| Natural Rubber | Not Recommended |
| Polyacrylates | Not Recommended |
| Acetal Resin | Not Recommended |

Wire Insulation

Insulated wire requires an outer coating of material resistant to phosphate esters. The materials usually specified are nylon, silicone rubber, polyethylene, polypropylene and Teflon[®] polymers. Polyvinyl chloride (PVC) is not recommended as an outer coating.

Filters

A variety of standard filters can be employed to maintain phosphate esters. The fluids are compatible most common filter media such as paper, cellulose, synthetic fibers and metals. However, when using filters, care must be taken that both the filter adhesive and seals are compatible with the fluid.

Metals

Phosphate esters have little effect on metals they may contact in operating systems, and are compatible with all metals. One of the most commonly used materials of construction compatible with phosphate esters is carbon steel. In adverse environments such as chlorine or caustic applications, the use of stainless steel should be considered.

Paints and Coatings

Standard paints and coatings will soften and peel in the presence of phosphate esters. However, certain polyurethane and two-component catalyzed epoxy finishes are generally resistant. Supresta recommends that all interior surfaces remain uncoated. Fyrquel® fluids passivate metal surfaces while limiting corrosion.

Solvents and Cleaners

For cleaning or removal of phosphate esters from equipment or clothing, or in general maintenance, nonchlorinated solvents are recommended. Mineral spirits or isopropyl alcohol may be used in certain conditions.

Pipe Sealing Compounds

Failure to use compatible compounds can result in leakage of phosphate ester fluid, foaming, or fragmentation of sealing materials, which can clog filters or plug control valves. Please consult the manufacturing companies for their materials that can be utilized in the presence of triaryl phosphate esters.

Other Hydraulic Fluids

Mixing of phosphate ester fluids with other hydraulic fluids is not recommended. This may cause elastomer incompatibility, foaming, and reduced fire resistance. Water containing fluids are not compatible with phosphate esters and should never be mixed. Before mixing any two fluids containing phosphate esters, please contact your Supresta Sales Manager.

For more information about our products and to place an order, please contact one of Supresta's regional sales offices.

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