



# TECH SERVICES DOCUMENT

## Shelf Life on FRONTLINE<sup>®</sup> Chemical Suits.

(Rev. 12/09)

Shelf life is typically quoted for products or materials which contain components that are expected to degrade and/or lose their performance effectiveness after a period of time. Kappler is not aware of an accepted industry standard for determining shelf life of chemical barrier fabrics.

Under proper storage conditions (as outlined in the Instruction Manual), there is no evidence to indicate the FRONTLINE<sup>®</sup> film composite fabrics lose their protective characteristics or physical properties over time. This conclusion is based on the comparative testing of "aged" and new ZYTRON<sup>®</sup> fabric over the last fifteen years. Fifteen year old ZYTRON<sup>®</sup> 500 has been tested against Dichloromethane (Methylene Chloride) with no breakthrough in >480 minutes. Aged fabric has also been tested for physical properties and still meets manufacturing specifications. **Based on this information, Kappler considers the shelf life of FRONTLINE<sup>®</sup> products to be undetermined.**

Chemical suits contain components made from various polymer or rubber materials for which there is no specific shelf life data currently available. The garments may therefore be used as long as they are deemed safe after a visual inspection, and, in the case of vapor protective (Level A) garments, after passing the ASTM F1052 pressure test. It is recommended that downgrading suits to "Training Use Only" be considered when they no longer pass the visual inspection and/or pressure test.

It is the responsibility of the wearer to ensure that all components, including fabric, valves, visors, gloves, zippers, seams, and suit-to component interfaces are in good working condition, and provide adequate protection for the operation and chemicals to be encountered. Any suit which does not pass the visual and/or pressure test, should be immediately removed from service.

***WARNING: There are uses, environments and chemicals for which these garments and/or fabrics are unsuitable. It is the responsibility of the user to review available data and verify that the garment and/or fabric is appropriate for the intended use and meets all specified government and industry standards.***

***CAUTION: Do not use for fire protection. Avoid open flame or intense heat.***