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**Number 21**

# TECHNICAL NOTE

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## Compatibility of Stabilant 22 with Elastomers

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### Introduction

The table that follows shows a comparison of various solvents that could be used with Stabilant 22, rating their effects on various elastomers. Because of the large number of individual compounds that can be formulated using each type of elastomer, we have chosen not to list specific properties such as "swell", "change in compression modulus", etc. which would have to be listed on a compound-by-compound basis, as it is doubtful if an engineer would encounter the exact formulations we used in our tests. Instead, we ran tests on a number of the more common formulations for each type of elastomer and have based the following list on the general compatibility of Stabilant 22 and its dilutions with that group of compounds. The results are ranked as Good/Fair/Doubtful/Poor with "---" indicating inconsistent test results.

<b>Elastomer Type</b>	<b>S22 Alone</b>	<b>+Isopropyl Alcohol</b>	<b>+Trichloroethane</b>	<b>+Fluorocarbon</b>
<b>Butadiene</b>	Fair	Fair	Poor	---
<b>Buna S</b>	Good	Fair	Poor	Good
<b>Butyl</b>	Good	Good	Poor	Fair
<b>Ethylene Propylene</b>	Good	Good	Poor	Good
<b>Hypalon</b>	Good	Good	Poor	Fair
<b>Fluorocarbon</b>	Good	Good	Poor	Fair
<b>Fluorosilicone</b>	Fair	Fair	Fair	---
<b>Isoprene</b>	Good	Good	Poor	---
<b>Natural Rubber</b>	Good	Good	Poor	Doubtful
<b>Neoprene (both)</b>	Good	Fair	Poor	Good
<b>Nitrile</b>	Fair	Fair	Doubtful	Good
<b>Polyacrylic</b>	Fair	Poor	Poor	---
<b>Polysulphide</b>	Good	Good	Poor	Good
<b>Polyurethane</b>	Fair	Poor	Poor	---
<b>Silicone</b>	Fair	Good	Poor	Poor

## Comments

The tests were conducted using the various elastomer samples immersed in the Stabilant 22 concentrate or, in the diluted forms, one part Stabilant 22 and four parts of the diluent by volume. Where a diluent was used, it was present for ten percent of the initial 30-day exposure period and then the samples were transferred to a pure Stabilant 22 bath. The tests were run after an exposure of 30 days, 90 days, 180 days, and 360 days and the listings were based on the worst-case information within these periods for the elastomer listed.

The degradation of the elastomer seemed more dependent upon the diluent used than on the Stabilant 22 and it must be remembered that the diluent would usually evaporate within a relatively short period of time following the application of the diluted Stabilant 22 to an actual connector, switch, or circuit board.

### ***NATO Identification for military procurement***

CAGE (NATO Supplier Code) for D.W. Electrochemicals Ltd: 38948

5ml Stabilant 22 (Concentrate)	NATO Stock Number 5999-20-002-1112
15ml Stabilant 22 (Concentrate)	NATO Stock Number 5999-21-909-9981
15ml Stabilant 22A (Isopropanol Diluted)	NATO Stock Number 5999-21-900-6937
15ml Stabilant 22E (Ethanol Diluted)	NATO Stock Number 5999-21-909-9984

Stabilant products are patented. Because the patents cover contacts treated with the material a Point-of-Sale license is granted with each sale of the material.

**SAFETY DATA SHEETS ARE AVAILABLE ON REQUEST**

### **NOTICE**

This data has been supplied for information purposes only. While to our knowledge it is accurate, users should determine the suitability of the material for their application by running their own tests. Neither D.W. Electrochemicals Ltd., their distributors, or their dealers assume any responsibility or liability for damages to equipment and/or consequent damages, howsoever caused, based on the use of this information.

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