

SPILL STATION AUSTRALIA PTY LTD

“PLUG IT UP”

RESISTANCE TO ATTACK FROM LIQUID CHEMICALS

GENERAL

Tests show that ‘Plug It Up’ possesses good resistance to most organic liquids, solvents, hydrocarbons etc and will act as a secure barrier for at least 4 hours against these liquids.

The same applies to most aqueous solutions including dilute acids, all alkalis, and dilute hydrogen peroxide.

Care should be exercised with concentrated acids and strong oxidising agents, where ‘Plug It Up’ can only be expected to resist attack for 1-5 hours.

Where a spill clean up is to be effected immediately (in less than 1 hour) ‘Plug It Up’ can be safely recommended as a seal against all liquids.

RESISTANCE TESTS

Using the ‘Plug’ method (see Appendix 1), the effects of various liquid chemicals on the ‘Plug It Up’ mix were assessed at room temperature over a period of time according to the following criteria:

- Effect on the surface of the mix
- Effect on the structure of the mix
- Length of time over which the material formed an effective barrier to chemical attack

Please note:

Barrier effectiveness times have been established using small samples to determine the *chemical* resistance.

Physical pressures combined with the chemical attack will seriously reduce the quoted times, and they are given here as a *guide only*.

Where chemical attack does occur, the *thickness of the barrier is significant* - even serious attacks take time to progress through the structure.

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Key: N/C = No Change, i.e. no significant effects

CHEMICAL TESTED	EFFECT ON SURFACES	EFFECT ON STRUCTURE	BARRIER EFFECTIVE
Acetone	Sludgy at 2 hours	Surface only	Over 24 hrs
Ammonia Solution 35% by weight	Sludgy at 1 hour	Sludges	Over 24 hrs
Benzene	N/C	N/C	Over 24 hrs
Caustic Soda Liquor 50%	N/C	Hardened	Over 24 hrs
Chloroform	N/C	N/C	Over 24 hrs
Diesel Oil	N/C	N/C	Over 24 hrs
Hydrochloric Acid, Conc	Immediate Discolouration Hard Crust Forms	Hardened, Crumbles	Up to 1 hr
Hydrogen Peroxide 100 Vol	Very soft in 10 mins	Mixture Froths	Over 24 hrs Barrier, but serious bub- bling as time goes on
Isobutyl Alcohol	Very slight cracking	N/C	Over 24 hrs
Methanol	Sludgy	Surface only	Over 24 hrs
Methylated Spirits	Sludgy	Surface only	Over 24 hrs
Methyl Isobutyl Ketone	N/C	N/C	Over 24 hrs

(Resistance, Continued...)

CHEMICAL TESTED	EFFECT ON SURFACE	EFFECT ON STRUCTURE	BARRIER EFFECTIVE
Nitric Acid conc	Discolouration and cracking immediately	Destroyed, cracks in layers and crumbles	Up to 1 hr
Oil - Motor 20W50	N/C	N/C	Over 24 hrs
Perchloric Acid	Cracks, hardens	Hardened Crumbled	Up to 1 hr
Petroleum Spirit	N/C	N/C	Over 24hrs
Phosphoric, Ortho, Acid (98%)	Bubbles, cracks	Hardened Crumbles	Up to 1 hr
Salt Solution (10%)	Softens	Surface only	Over 24 hrs
Sea Water	Very Sludgy	Surface only	Over 24 hrs
Sulphuric Acid, conc	Bubbles, hardens Cracks	Hardened, Crumbled	Up to 1 hr
Sulphuric Acid, Dilute (0.02N)	Softens	Surface only	Over 24 hrs
Terpene, in proprietary cleaners	Softens	Surface only	Over 24 hrs
Tetrahydrofuran	Discolouration	N/C	Over 24 hrs
111, Trichlorethane	N/C	N/C	Over 24 hrs
Trichlorethylene	N/C	N/C	Over 24 hrs
Water (tap)	Sludgy	Surface only	Over 24 hrs
Xylene	N/C	N/C	Over 24 hrs