

Horner APG Polyester Chemical Compatibility Overview

This overview shows the chemical resistance of polyester sheet. Chemical compatibility of thermoplastics e.g. dependent on contact time, temperature and stress (external stress to which the application is subjected).

Chemical exposure can result in discoloration, softening, swelling, crazing, cracking or loss of properties of the thermoplastic.

The chemicals listed have been evaluated according to a very stringent internal method. This test incorporates exposure to the chemical under defined conditions including temperature (20° and 80° C) and stress (0.5 and 1% strain) for a time period of seven days. The results are listed in the overview using symbols (+ or 0 or -), indicating:

-	Poor; Not recommended - will result in failure or severe degradation.
0	Fair; Found marginal-only for short exposures at lower temperatures or when loss of properties is not critical.
+	Good; Found unaffected in its performance when exposed with regards to time, temperature and stress according to the internal method.

This information should be used as indicative only. The true chemical compatibility can only be determined under conditions as in the final application. Please contact your local distributor in case additional information is required.

The chemicals in the following table are **Good (+)**: Found unaffected in its performance when exposed with regards to time, temperature and stress according to the internal method.

<u>Ethanol</u> <u>Cyclohexanol</u> <u>Dowanol DRM/PM</u> <u>Diacetone</u> <u>alcohol</u> <u>Glycerine</u> <u>Glycol</u> <u>Isopropanol</u> <u>Methanol</u> <u>Triacetin</u>	<u>Acetaldehyde</u> <u>Aliphatic hydrocarbons</u> <u>Formaldehyde (37% - 42%)²</u> <u>Toluene</u> <u>Xylene</u> <u>White Spirit</u>	<u>1.1.1. Trichloroethane (Genklene)</u> <u>Amylacetate</u> <u>Butylcellosolve</u> <u>Diethyl ether</u> <u>Ether</u> <u>Ethyl acetate</u> <u>N-Butyl acetate</u>
<u>Acetone</u> <u>Isophorone</u> <u>Cyclohexanone</u> <u>Methyl ethyl ketone</u> <u>Methyl Isobutyl ketone</u> <u>Lixtop</u>	<u>Acetic acid <50%</u> <u>Formic acid <50%</u> <u>Hydrochloric acid <36%</u> <u>Nitric acid <10%</u> <u>Sulphuric acid <30%</u> <u>Phosphoric acid <30%</u> <u>Trichloroacetic acid <50%</u> <u>Glutaraldehyde 50% in water²</u> <u>Oleic Acid</u>	<u>Dibutyl Phthalate</u> <u>Diocyl Phthalate</u> <u>Fabric conditioner</u> <u>Ferric Chloride (saturated)</u> <u>Ferrous Chloride (saturated)</u> <u>Hydrogen peroxide <25%</u> <u>Potassium carbonate (saturated)</u> <u>Sodium carbonate (saturated)</u> <u>Sodium hypochlorite <20% (Bleach)</u> <u>Tego 51</u> <u>Washing powders</u>
<u>Acetonitrile</u> <u>Ammonia <32%</u> <u>Ammonium chloride <10%</u> <u>Sodium hydroxide 50%</u> <u>Dichromate</u> <u>Ferric Chloride</u> <u>Potassium hydroxide <40%</u> <u>Sodium bisulphate <50%</u> <u>Potassium ferrocyanide/ferricyanide</u> <u>Silver Nitrate</u>	<u>Aviation fluid</u> <u>Blown castor oil</u> <u>Cutting oil (hysol X)</u> <u>Decon</u> <u>Diesel oil</u> <u>Hydraulic oil (Castrol Anvol)</u> <u>Linseed oil</u> <u>Paraffin oil</u> <u>Universal brake fluid (Castrol Girling)</u> <u>Silicone oil</u> <u>Teepol</u> <u>Turpentine substitute</u> <u>Petrol</u> <u>Diabasic Ester 6</u> <u>Skydrol 500B4</u>	<u>Saturated Salt Solution</u> <u>Water</u>

The chemicals in the following table are also **Good (+)**: Found unaffected in its performance when exposed with regards to time, temperature and stress according to the internal method.

<u>Bleach/toilet cleaner</u> <u>Cream cleaners</u> <u>Fabric softeners</u> <u>Furniture polish</u> <u>Coffee</u>	<u>Grape juice</u> <u>Hard surface cleaner (kitchen and bathroom)</u> <u>Milk</u>	<u>Surface cleaner containing ammonia</u> <u>Washing liquid</u> <u>Washing up liquid</u> <u>Washing powder solutions</u>	<u>Window cleaner</u> <u>Vinegar</u>
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The chemicals in the following table are **Fair (O)** : Found marginal-only for short exposures at lower temperatures or when loss of properties is not critical.

Lemon Juice	Tomato Juice
Mustad	Tomato Ketchup
Tea	Coffee

The chemicals in the following table are **Poor (-)** : Not recommended - will result in failure or severe degradation.

<u>Benzoyl alcohol</u>	<u>Dichloromethane</u>	<u>Tetrahydrofuran</u>
<u>Concentrated caustic solution</u>	<u>Dimethylformamide</u>	
<u>Concentrated mineral acids</u>	<u>High pressure steam at over 100°C</u>	