Chemical resistance of PMMA products

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- PMMA is a non-crystalline transparent polymer and is relatively good in chemical resistance.
- The chemical resistance of the product is affected greatly by its internal and external stress.
- The bigger the stress, the more easy to crack even using the same chemical. The listed chemicals as careful handling have to be cautious especially and will make a big different with stress.
- Crack happens easily when in contact with the plasticizers inside the packing materials. (Generally the DBP, DOP)

Chemicals which can be used:	Chemicals requiring careful handling:	Chemicals which must not be used:
Water **Dilute acid** Hydrochloric acid(30%), Sulfuric acid (30%), Nitric acid (30%), etc. **Alkali(aqueous solution)** Sodium hydroxide (45%), etc. **Aqueous solution of inorganic salts** **Milk, Soy sauce, Vinegar,** **Worcester sauce,** **Beer, Sake**	**Aliphatic hydrocarbon** **Alcohol** Methanol, Ethanol, Ethylene glycol, Glycerin, etc. **Oil, Grease** Gasoline, Engine oil, Kerosene, Wax remover, Rape-seed oil, Batter, etc. **Surface-active agents** Shampoo (undiluted) Kitchen cleaning agents (undiluted), etc. **Others** Hair dressing agents, Insecticide, etc. **Plasticizers** Dioctyl phthalate (DOP), Dibutyl phthalate(DBP), etc.	**Aromatic hydrocarbons** Benzene, Toluene, Xylene, etc. **Ketones** Acetone, Methyl ethyl ketone, etc. **Ethers** Diethyl ether, Tetrahydrofuran, etc. **Halogenated hydrocarbon** Chloroform, Carbon tetrachloride, etc. **Esters** Ethyl acetate, Butyl acetate, etc. **Aldehydes, Amides** Form aldehyde, Dimethyl aldehyde, etc. **Organic acid** Formic acid, Acetic acid, etc. **Strong concentrated acids** Hydrochloric acid (35%), Sulfuric acid (70%), Nitric acid (70%), etc.