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POLYETHYLENE (LDPE AND HDPE) RESISTANCE CHART

The chemical compatibility of LDPE and HDPE on this chart is tested at 20°C: and 50°C: for 7 days and 30 days (if applicable) with constant exposure.

Chemical	Compatibility
1.4-dioxane	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE at 50°C: shows some effect after 7 days.•
Acetaldehyde	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	HDPE at 50°C: shows some effect after 7 days.
	LDPE at 50°C: immediate damage may occur.
Acetic Acid 5 %	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Acetic Acid, glacial 50%	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE at 50 °C: immediate damage may occur.
Acetone	LDPE/ HDPE at 20°C-50°C: damage may occur.
	Not recommended for continuous use.
Allyl Alcohol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Aluminum salts	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Amino acids	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ammonia	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ammonium carbonate saturated	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ammonium phosphate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ammonium sulphate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Amyl chloride	HDPE at 20°C: shows some effect after 7 days.
	HDPE at 50°C & LDPE at 20°C-50°C: immediate damage may occur.
	Not recommended for continuous use.
Aniline	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	HDPE at 50°C: shows some effect after 7 days.•
Benzene	LDPE/ HDPE at 20°C-50°C: damage may occur.
	Not recommended for continuous use.
Benzyl alcohol	LDPE/ HDPE at 50°C: immediate damage may occur.
	HDPE at 20°C: shows some effect after 7 days.•
Boric acid	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Bromine	LDPE/ HDPE at 50°C: immediate damage may occur.
	HDPE at 20°C: shows some effect after 7 days.•
Butyric acid	LDPE/ HDPE at 50°C: immediate damage may occur.
	HDPE at 20°C: shows some effect after 7 days.•
Calcium chloride	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Calcium hydroxide saturated	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Carbon tetrachloride	HDPE at 20°C: shows little or no damage after 30 days.
	LDPE at 20°C & HDPE at 50°C: show some effect after 7 days.
	LDPE at 50°C: not recommended.
Chlorine 10% in water	LDPE/ HDPE at 20°C: shows little or no damage after 30 days.
	LDPE at 50°C: shows damage and is not recommended.
Chlorobenzene	Immediate damage may occur.

	Not recommended for continuous use.
Chloroform	LDPE/ HDPE at 20°C: show some effect after 7 days.
	LDPE/ HDPE at 50°C: immediate damage may occur.
	Not recommended for continuous use.
Chromic acid 10%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Chromic acid 50%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Citric acid 10%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Cresol	HDPE at 20°C: shows some effect after 7 days.
	LDPE at 20°C-50°C & HDPE at 50°C: show immediate damage.
	Not recommended for continuous use.
Cyclohexane	LDPE/ HDPE at 50°C: immediate damage may occur.
	LDPE/ HDPE at 20°C: show some effect after 7 days.
Diethyl ketone	LDPE/ HDPE at 20°C-50°C: damage may occur.
	Not recommended for continuous use.
Dimethylsulfoxide	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ethanol 95%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ethyl acetate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ethyl benzene	HDPE at 20°C: shows some effect after 7 days.
	LDPE at 20°C-50°C & HDPE at 50°C: show immediate damage.
	Not recommended for continuous use.
Ethylene glycol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Ethylene oxide	HDPE at 20°C: shows little or no damage after 30 days.
	LDPE at 20°C: and LDPE/HDPE at 50°C: show some effect after 7 days.•
Ferric chloride	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Fluoride	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Fluorine	HDPE at 20°C: shows little or no damage after 30 days.
	LDPE at 20°C: shows some effect after 7 days.
	Not recommended at 50°C.
Formaldehyde 10%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Formaldehyde 40%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Glycerol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hexane	HDPE at 20°C: shows little or no damage after 30 days continuous use.
	HDPE at 50 °C: shows some effect after 7 days.
	LDPE not recommended at any temperature.
Hydrochloric acid 20%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hydrochloric acid 35%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hydrochloric acid 5%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hydrocyanic acid	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hydrofluoric acid	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hydrofluoric acid 4%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hydrofluoric acid 48%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•

Hydrogen peroxide 3%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Hydrogen peroxide 30%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Isobutyl alcohol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Isopropyl alcohol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Kerosene	LDPE/ HDPE at 20°C: show some effect after 7 days.
	LDPE/ HDPE not recommended at 50°C, as immediate damage may occur.
Lactic Acid 10 %	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Lactic Acid 90 %	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Lead acetate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Methanol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Methyl ethyl ketone	Immediate damage may occur.
	Not recommended for continuous use.
Methyl propyl ketone	HDPE at 20°C: shows some effect after 7 days.
	LDPE at 20°C-50°C & HDPE at 50°C: Immediate damage may occur.
	Not recommended for continuous use.
Methylene chloride	HDPE at 20°C: shows some effect after 7 days.
	LDPE at 20°C-50°C & HDPE at 50°C: Immediate damage may occur.
	Not recommended for continuous use.
Mineral oil	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE at 50°C: may show immediate damage and is not recommended.
n-amyl acetate	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE at 50°C: shows some effect after 7 days or constant exposure.
n-butyl alcohol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Nitric acid 50 %	LDPE at 20°C: shows little or damage after 30 days.
	HDPE at 20°C & LDPE at 50°C: show effect after 7 days.
	HDPE at 50°C: shows immediate damage and is not recommended.
Nitric acid 70 %	LDPE/ HDPE at 20°C: show some effect after 7 days.
	LDPE/ HDPE at 50°C: show immediate damage.
	Not recommended.
n-octane	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Oleic acid	HDPE at 20°C-50°C: little or no damage after 30 days.
	LDPE at 20°C-50°C: shows immediate damage and is not recommended.
Oxalic acid	LDPE at 20°C: shows some effect after 7 days.
	HDPE at 20°C and LDPE/ HDPE at 50°C: shows little/ no damage after 30 days.•
Ozone	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE/ HDPE at 50°C: show immediate damage.
	Not recommended.
Perchloric acid	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE/ HDPE at 50°C: show immediate damage.
	Not recommended.
Perchloric ethylene	LDPE/ HDPE at 20°C-50°C: show immediate damage.

	Not recommended.
Phenol	LDPE/ HDPE at 20°C-50°C: show immediate damage.
	Not recommended.
Phosphoric acid 10%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Phosphoric acid 85%	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE at 50°C: shows immediate damage and is not recommended.
Phosphorous trichloride	LDPE/ HDPE at 20°C: little or no damage after 30 days.
	LDPE at 50°C: has no data available. HDPE at 50°C: shows some effect after 7 days.•
Potassium carbonate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Potassium hydroxide 5 %	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Potassium hydroxide concentrated	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Potassium permanganate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Propylene glycol	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Pyridine	Immediate damage may occur.
	Not recommended for continuous use.
Salicylic acid, saturated	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Silver acetate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Silver nitrate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sodium carbonate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sodium chloride, saturated	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sodium dichromate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sodium hydroxide 1%	LDPE at 20°C-50°C: shows little or no damage after 30 days.
	HDPE at 20°C-50°C: shows some effect after 7 days.•
Sodium hydroxide 50%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sodium hypochlorite 15%	HDPE at 20°C-50°C: little or no damage after 30 days.
	LDPE at 20°C: is suitable but at 50°C: shows some effect after 7 days.•
Sodium nitrate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sodium sulphate	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sucrose	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sulfuric acid 20%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sulfuric acid 6%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sulfuric acid 60%	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Sulfuric acid 98%	LDPE at 20°C-50°C: shows little or no damage after 30 days.
	HDPE at 20°C: shows effect after 7 days.
	Not recommended for use at 50°C.
Tannic acid	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Tetrahydrofuran	LDPE/ HDPE at 20°C: show some effect after 7 day of constant exposure.
	LDPE/ HDPE at 50°C: show immediate damage.
	Not recommended.
Toluene	LDPE at 20°C: show some effect after 7 day of constant exposure.
	HDPE at 20°C-50°C & LDPE at 50°C: show immediate damage.

	Not recommended.
Trichloracetic acid	LDPE/ HDPE at 20°C: show some effect after 7 day of constant exposure.
	LDPE/ HDPE at 50°C: show immediate damage.
	Not recommended.
Trichlorethane	Immediate damage may occur.
	Not recommended for continuous use.
Turpentine oil	LDPE/ HDPE at 20°C: show some effect after 7 days.
	LDPE/ HDPE at 50°C: show immediate damage.
	Not recommended.
Urea	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•
Xylene	HDPE at 20°C: shows some effect after 7 day of constant exposure.
	LDPE at 20-50°C and HDPE at 50°C: show immediate damage.
	Not recommended.
Zinc chloride	LDPE/ HDPE at 20°C-50°C: little or no damage after 30 days.•

CAUTION: Variations in chemical behavior during handling due to factors such as temperature, pressure, and concentrations can cause equipment to fail, even though it passed an initial test.