



SOLID & POWERFUL SUBSTANCE MAKES INDUSTRY SAFETY

PE Chemical Compatibility Guide

This guide is generated based on material chemical characteristics and lab test Up Quark had in past 13 years. Due to different application & environment, the product's performance might be variable. To ensure performance safety in extremely environment, we recommend that you operate compatibility and absorption test of your chemicals with the product beforehand. For technical questions or information, pls contact Up Quark technical center by:

technicalsupport@upquarksafety.com

Product Applicable to the PE Chemical Compatibility Guide:

- Up Quark Drum Spill Pallets
- Up Quark IBC Spill Pallets
- Up Quark Containment Trays
- Up Quark Dynamic Spill Pallets
- Up Quark Spill Kit Container

Guide Information:

This list is prepared to provide guidance to the chemical compatibility of Up Quark Products manufactured and constructed by molding polyethylene. Following Ratings / Keywords show the chemical effect on polyethylene:

- "O": Conditionally Resistant. The medium can attack the material or causeswelling. Restrictions must be made as regards the pressure and/or temperature, taking the expected service life into account. The service life of the installation can be significantly shortened.
- "-": Non-Resistant. The material cannot be used with the medium at all, or only under special conditions
- "Ox": Oxidizing property. Oxidizing is due to chemical reaction caused by oxidizing agents
- "S": Stress cracking property. Stress cracking is the unexpected sudden failure of normally ductile metals or tough thermoplastics subjected to a tensile stress in a corrosive environment, especially at elevated temperature (in the case of metals).
- "D": Diffusion property. Diffusion is the movement of molecules from a region of higher concentration to one of lower concentration by random molecular motion. In a phase with uniform temperature, diffusion processes tend to lead towards even helping the cell. Diffusion is a statistical phenomenon in the chance of a molecule "jumping" from one volume to another depends on the number of molecules in the first volume, so molecules in volumes which have a relatively high initial concentration tend to disperse to less concentrated areas until a balance of exchange (equilibrium) is reached.

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Medium	Concentration	Temp °C	PE
HCL	5%	20	OK
		40	OK
		60	OK
		80	
		100	
HCL	10%	20	OK
		40	OK
		60	OK/S
		80	
		100	
HCL	30%	20	OK/D
		40	OK/D
		60	OK/S/D
		80	
		100	
HCL	36%	20	OK/D
		40	OK/D
		60	OK/S/D
		80	
		100	
HF	Up to 40%	20	OK
		40	OK
		60	O
		80	
		100	
HF	50%	20	OK
		40	OK
		60	O
		80	
		100	
HF	70%	20	OK
		40	OK
		60	O
		80	
		100	

Medium	Concentration	Temp °C	PE
HCLO3	10%	20	OK
		40	OK
		60	OK
		80	
		100	
HCLO3	20%	20	OK
		40	-
		60	
		80	
		100	
CL2	97% Wet Gas	20	—
		40	
		60	
		80	
		100	
CL2	Pure Dry Gas	20	O/S/Ox
		40	-
		60	-
		80	
		100	
CL2	Pure Liquid	20	—
		40	
		60	
		80	
		100	
CL2	Saturated, Aqueous	20	O
		40	O
		60	
		80	
		100	
CHCL3		20	O
		40	O
		60	-
		80	
		100	

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Medium	Concentration	Temp °C	PE
HBr	50%	20	OK/S
		40	OK/S
		60	OK/S
		80	
		100	
		120	
H2O2	10%	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
H2O2	30%	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
H2O2	90%	20	OK
		40	OK
		60	-
		80	
		100	
		120	
H2S	Pure	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
H2S	Saturated, Aqueous	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
H2SO4	Up to 40%	20	OK
		40	OK
		60	OK
		80	
		100	
		120	

Medium	Concentration	Temp °C	PE
CH3CL		20	O
		40	
		60	
		80	
		100	
		120	
CCL4		20	—
		40	
		60	
		80	
		100	
		120	
NH3	Pure gas	20	OK
		40	OK
		60	O
		80	
		100	
		120	
NH4OH	Saturated, Aqueous, Cold	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
Alcohol	Pure, 96%	20	OK/S
		40	OK/S
		60	OK/S
		80	
		100	
		120	
Chloroethane		20	O
		40	-
		60	
		80	
		100	
		120	
Glucose		20	OK
		40	OK
		60	OK
		80	
		100	
		120	

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Medium	Concentration	Temp °C	PE
H2SO4	0.6	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
H2SO4	0.8	20	OK
		40	OK
		60	OK/S
		80	
		100	
		120	
H2SO4	0.9	20	O/S
		40	
		60	
		80	
		100	
		120	
H2SO4	0.96	20	O/S
		40	
		60	
		80	
		100	
		120	
HNO3	0.06	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
HNO3	0.4	20	O/S
		40	
		60	-
		80	
		100	
		120	
HNO3	0.65	20	O/S
		40	-
		60	
		80	
		100	
		120	

Medium	Concentration	Temp °C	PE
Glycolic Acid	0.37	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
CH4	Pure	20	OK
		40	
		60	
		80	
		100	
		120	
CH3OH		20	OK
		40	OK
		60	OK
		80	
		100	
		120	
CH2CL2	Pure	20	O/S
		40	
		60	
		80	
		100	
		120	
O3	Up to 2%	20	O
		40	-
		60	
		80	
		100	
		120	
O3	Saturated, Aqueous, Cold	20	O
		40	-
		60	
		80	
		100	
		120	
HCLO4	0.1	20	OK
		40	OK
		60	OK
		80	
		100	
		120	

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Medium	Concentration	Temp °C	PE
HNO3	0.9	20	—
		40	
		60	
		80	
		100	
		120	
Ca(OH)2	Saturated, Aqueous	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
NaOH	0.1	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
NaOH	0.4	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
NaOH	0.5	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
KOH	0.5	20	OK
		40	OK
		60	OK
		80	
		100	
		120	

Medium	Concentration	Temp °C	PE
HClO4	0.7	20	OK
		40	O
		60	-
		80	
		100	
		120	
Phosgene	Liquid, Pure	20	O
		40	
		60	
		80	
		100	
		120	
Phosgene	Pure Gas	20	O
		40	
		60	
		80	
		100	
		120	
H3PO4	0.3	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
H3PO4	0.5	20	OK
		40	OK
		60	OK
		80	
		100	
		120	
H3PO4	0.85	20	OK
		40	OK
		60	O
		80	
		100	
		120	

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