

CHEMICAL RESISTANCE OF LOW AND HIGH DENSITY POLYETHYLENE, NOT SUBJECTED TO MECHANICAL STRESS, TO VARIOUS FLUIDS AT 20 AND 60 C

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
acetaldehyde	100%	L	NS	S	L
acetanilide				S	S
acetic acid	10%	S	S	S	S
acetic acid	60%	S	L	S	S
acetic acid, glacial	> 96 %	L	NS	S	L
acetic anhydride	100%	L	NS	S	L
acetone	100%	L	NS	L	L
acrylnitrile		S	S	S	S
acetylsilicacid		S	S	S	S
adipic acid	sat sol	S	S	S	S
after shave		NS	NS	NS	NS
aliphatic hydrocarbons		L	NS	L	L
allyl acetate		S	L	S	L
allyl alcohol	100%	L	NS		
allyl alcohol	96%			S	S
allyl alcohol	100%	L	NS		
allyl chloride		L	NS	L	NS
aluminium chloride	sat sol	S	S	S	S
aluminium fluoride	sat sol	S	S	S	S
aluminium hydroxide	sat sol	S	S	S	S
aluminium nitrate	sat sol	S	S	S	S
aluminium oxychloride	sat sol	S	S	S	S
al/potassium sulphate	sat sol	S	S	S	S
aluminium sulphate	sat sol	S	S	S	S
alums	sol	S	S	S	S
aminobenzoic acid		S	S	S	S
ammonia, dry gas	100%	S	S	S	S
ammonia, liquid	100%	L	L	S	S
ammonia, aqueous	dil sol	S	S	S	S
ammonium acetate		S	S	S	S
ammonium carbonate	sat sol	S	S	S	S
ammonium chloride	sat sol	S	S	S	S
ammonium fluoride	sol	S	S	S	S
ammonium hexafluoro silicate	sat sol	S	S	S	S
ammonium hydrogen carbonate	sat sol	S	S	S	S
ammonium hydroxide	10%	S	S	S	S
ammonium hydroxide	30%	S	S	S	S
ammonium metaphosphate	sat sol	S	S	S	S
ammonium nitrate	sat sol	S	S	S	S
ammonium oxalate	sat sol	S	S	S	S
ammonium phosphate	sat sol	S	S	S	S
ammonium persulphate	sat sol	S	S	S	S
ammonium sulphate	sat sol	S	S	S	S
ammonium sulphide	sat sol	S	S	S	S
ammonium thiocyanate	sat sol	S	S	S	S
amyl acetate	100%	NS	NS	L	L
amyl alcohol	100%	L	L	S	L
amyl chloride	100%	NS	NS		
amyl phthalate		L	L	S	L

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
aniline	100%	NS	NS	S	L
anilinchlorohydrate		L			
antimony III chloride	90%			S	S
antimony III chloride	sat sol	S	S	S	S
antimony trichloride	sol	S	S	S	S
apple juice	sol			S	L
aqua regia	(HC1/HN03=3/1)	NS	NS	NS	NS
aromatic hydrocarbons		NS	NS	NS	NS
arsenic acid	sat sol	S	S	S	S
asorbic acid	10%	S	S	S	S
barium bromide	sat sol	S	S	S	S
barium carbonate	sat sol	S	S	S	S
barium chloride	sat sol	S	S	S	S
barium hydroxide	sat sol	S	S	S	S
barium sulphate	sat sol	S	S	S	S
barium sulphide	sat sol	S	S	S	S
beer		S	S	S	S
benzaldehyde	100%	L	NS	S	L
benzene	100%	NS	NS	L	L
benzoic acid	sat sol	S	S	S	S
benzoylchloride		S	L	S	L
benzyl alcohol		S	L	S	S
benzylsulphonic acid	10%	S	S	S	S
bismuth carbonate	sat sol	S	S	S	S
bitumen		S	L	S	S
bleach lye	10%	S	S	S	S
borax	sat sol	S	S	S	S
boric acid	sat sol	S	S	S	S
boron trifluoride		S	S	S	S
brake fluid		L	NS	L	NS
brine		S	S	S	S
bromine, dry gas	100%	NS	NS	NS	NS
bromine, liquid	100%	NS	NS	NS	NS
bromoform	100%	NS	NS	NS	NS
butandiol	10%	S	S	S	S
butandiol	60%	S	S	S	S
butandiol	100%	S	S	S	S
butane, gas	100%			S	S
butanol	100%	S	L	S	S
butter		S	S	S	S
butyl acetate	100%	S	L	S	L
butyl alcohol	100%	S	S	S	S
butyl chloride		S		S	
butylene glycol	10%	S	S	S	S
butylene glycol	60%	S	S	S	S
butylene glycol	100%	S	S	S	S
butyraldehyde				S	L
butyric acid	100%	L	L	S	L
calcium arsenate		S	S	S	S
calcium benzoate		S	S	S	S
calcium bisulphide		S	S	S	S
calcium bromate	10%	S	S	S	S

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
calcium bromide	sat sol	S	S	S	S
calcium carbonate	sat sol	S	S	S	S
calcium chlorate	sat sol	S	S	S	S
calcium chloride	sat sol	S	S	S	S
calcium chromate	40%	S	S	S	S
calcium cyanide		S	S	S	S
calcium hydrosulphide	sol	S	S	S	S
calcium hydroxide	sat sol	S	S	S	S
calcium hypochloride	sol	S	S	S	S
calcium nitrate	sat sol	S	S	S	S
calcium oxide	sat sol	S	S	S	S
calcium perchlorate	1%	S		S	S
calcium permanganate	20%	S	S	S	S
calcium persulphate	sol	S	S	S	S
calcium sulphate	sat sol	S	S	S	S
calcium sulphide	dil sol			L	L
camphor oil		NS	NS	L	L
carbon dioxide, dry gas	100%			S	S
carbon dioxide, wet		S	S	S	S
carbon disulphide	100%	NS	NS	L	NS
carbonic acid		S	S	S	S
carbon monoxide	100%	S	S	S	S
carbon tetrachloride	100%	NS	NS	L	NS
Castor oil	conc	S	S	S	S
chlorine, dry gas	100%	NS	NS	L	NS
chlorine water	2% sat sol	L	L	S	S
chlorine, aqueous	sat sol	NS	NS	L	NS
chloroacetic acid	sol			S	S
chlorobenzene	100%	NS	NS	NS	NS
chloroethanol	100%	S	S	S	S
chloroform	100%	NS	NS	NS	NS
chlorometane, gas	100%	L		L	
chloropropene		NS		L	
chlorosulphonic acid	100%	NS	NS	NS	NS
chlorotoluene		NS	NS	NS	NS
chrome alum	sol	S	S	S	S
chromic acid	sat sol	S	S	S	S
chromic acid	20%			S	L
chromic acid	50%			S	L
chromium VI oxide	sat sol	S	S	S	S
Cider		S	S	S	S
citric acid	sat sol	S	S	S	S
citric acid	10%	S	S	S	S
citric acid	25%	S	S	S	S
coconut oil, alcoholic		S	S	S	S
coffee		S	S	S	S
copper II chloride	sat sol	S	S	S	S
copper II cyanide	sat sol	S	S	S	S
copper II fluoride	2%	S	S	S	S
copper II fluoride	sat sol	S	S	S	S
copper II nitrate	sat sol	S	S	S	S
copper II sulphate	sat sol	S	S	S	S

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
corn oil		S	S	S	S
cottonseed oil		S	S	S	S
cresylic acid	sat sol			L	
crotonaldehyde	sat sol	L			
cyclanone		S	S	S	S
cyclohexane		NS	NS	NS	NS
cyclohexanol	sat sol	L	NS		
cyclohexanol	100%			S	S
cyclohexanone	100%	NS	NS	S	L
decahydronaphthalene	100%	L	NS	S	L
decane		NS	NS	L	NS
decalin	100%			S	L
detergents, synthetic		S	S	S	S
developers, photographic	work conc			S	S
dextrin	sol	S	S	S	S
dextose	sol	S	S	S	S
diacetone alcohol		L	L	L	L
diazo salts		S	S	S	S
dibutyl amine		NS	NS	L	NS
dibutyl ether		NS	NS	L	
dibutylphthalate		L	L	S	L
dichlorobenzene		NS	NS	NS	NS
dichloroethylene		NS	NS	NS	NS
dichloropropylene		NS	NS	NS	NS
diesel oil		S	NS	S	L
diethyl ether	100%	NS	NS	L	
diethyl ketone		L	NS	L	L
diethylene glycol		S	S	S	S
diglycolic acid		S	S	S	S
diisobutylketone	100%	S	L	S	L
dimethyl amine	100%	NS	NS		
dimethylformamid		S	L	S	S
dioctyl phthalate	100%	L	NS	S	L
dioxan	100%			S	S
dipentene		NS	NS	NS	NS
disodium phosphate		S	S	S	S
Drano, plumbing cleaner		S	S	S	S
emulsions, photographic		S	S	S	S
ethandiol	100%	S	S	S	S
ethanol	40%	S	L	S	L
ethanol	96%	L	L		
ethyl acetate	100%	L	NS	L	NS
ethyl acrylate	100%	NS	NS	L	NS
ethyl alcohol	35%	S	S	S	S
ethyl alcohol	100%	S	S	S	S
ethyl benzene		NS	NS	NS	NS
ethyl chloride	100%	NS	NS	NS	NS
ethylene chloride	100%	NS	NS	NS	NS
ethylene diamine	100%	S	L	S	S
ethyl ether		NS	NS	NS	NS
ethylene glycol	100%	S	S	S	S
ethyl mercaptan		NS	NS	NS	NS

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
ferric chloride	sat sol	S	S	S	S
ferric nitrate	sat sol	S	S	S	S
ferric sulphate	sat sol	S	S	S	S
ferrous chloride	sat sol	S	S	S	S
ferrous sulphate	sat sol	S	S	S	S
fish solubles	sol	S	S	S	S
fluoroboric acid		S	S	S	S
fluorine gas	100%	L	NS	NS	NS
fluorine gas, dry	100%	NS	NS	NS	NS
fluorine gas, wet	100%	NS	NS	NS	NS
fluorosilicic acid	40%	S	S	S	S
fluorosilicic acid	conc	S	L	S	L
formaldehyde	40%	S	S	S	S
formic acid	40%	S	S	S	S
formic acid	98 to 100 %	S	S	S	S
fructose	sat sol	S	S	S	S
fruit pulp	sol	S	S	S	S
furfural	100%	NS	NS	NS	NS
furfuryl alcohol	100%	L	NS	S	L
gallic acid	sat sol	S	S	S	S
gasoline, petrol		L	NS	L	L
gelatine		S	S	S	S
glucose	sat sol	S	S	S	S
glycerine	100%	S	S	S	S
glycerol	100%	S	S	S	S
glycolic acid	30%	S	L		
glycolic acid	sol			S	S
n-heptane	100%	NS	NS	L	NS
hexachlorobenzene		NS	NS	S	L
hexachlorophene		NS	NS	L	L
hexamethylenetriamine	40%	S		S	
hexane		S	L	S	L
hexanol, tertiary		S	S	S	S
hydrobromic acid	50%	S	S	S	S
hydrobromic acid	up to 100 %	S	S	S	S
hydrochloric acid	up to 36 %	S	S	S	S
hydrochloric acid	conc	S	S	S	S
hydrochlorous acid	conc	S	S	S	S
hydrocyanic acid	10%	S	S	S	S
hydrocyanic acid	sat sol	S	S	S	S
hydrofluoric acid	40%	S	S	S	S
hydrofluoric acid	60%	S	L	S	L
hydrogen	100%	S	S	S	S
hydrogen chloride, dry gas		S	S	S	S
hydrogen peroxide	30%	S	L	S	S
hydrogen peroxide	90%	S	NS	S	NS
hydrogen sulphide, gas	100%	S	S	S	S
hydroquinone	sat sol	S	S	S	S
hydroxylamine	up to 12 %	S	S	S	S
inks		S	S	S	S
iodine, in potassium sol		L	NS	NS	NS
iodine, in alcohol		NS	NS	NS	NS

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
iron II chloride	sat sol	S	S	S	S
iron II sulphate	sat sol	S	S	S	S
iron III chloride	sat sol	S	S	S	S
iron III nitrate	sol	S	S	S	S
iron III sulphate	sat sol	S	S	S	S
iso octane	100%	S	NS	S	L
iso pentane		NS	NS	NS	NS
isopropanol		S	S	S	S
iso propyl amine		NS	NS	NS	NS
isopropyl ether	100%	L	NS	S	NS
kerosene		NS	NS	NS	NS
lactic acid	10%	S	S	S	S
lactic acid	28%	S	S	S	S
lactic acid	up to 100 %	S	S	S	S
latex		S	S	S	S
lead acetate	dil sol	S	S	S	S
lead acetate	sat sol	S	S	S	S
lead arsenate		S	S	S	S
lubricating oil		S	S	S	S
lysol		NS	NS	L	NS
magnesium carbonate	sat sol	S	S	S	S
magnesium chloride	sat sol	S	S	S	S
magnesium hydroxide	sat sol	S	S	S	S
magnesium nitrate	sat sol	S	S	S	S
magnesium sulphate	sat sol	S	S	S	S
maleic acid	sat sol	S	S	S	S
mercury		S	S	S	S
mercury I nitrate	sol	S	S	S	S
mercury II chloride	sat sol	S	S	S	S
mercury II cyanide	sat sol	S	S	S	S
mercury	100%	S	S	S	S
methyl alcohol	100%	S	L	S	S
methanol	100%	S	L	S	S
methyl benzoic acid	sat sol	NS	NS	L	
methyl bromide	100%	NS	NS	NS	NS
methyl chloride	100%	NS	NS	NS	NS
methylcyclohexane		L	NS	L	NS
methyl ethyl ketone	100%			S	L
methylene chloride		NS	NS	NS	NS
methoxybutanol	100%	S	L	S	L
milk		S	S	S	S
milk of magnesia		S	L	S	L
mineral oils		L	NS	S	L
molasses	work conc	S	S	S	S
motor oil		S	L	S	S
naphtha		L	NS	L	NS
naphthalene		NS	NS	L	
nickel chloride	sat sol	S	S	S	S
nickel nitrate	sat sol	S	S	S	S
nickel sulphate	sat sol	S	S	S	
nicotine	dil	S	S	S	S
nicotinic acid	dil sol	L	L	S	

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
nitric acid	25%	S	S	S	S
nitric acid	50%	S	L	S	L
nitric acid	70%	S	L	S	L
nitric acid	95%	NS	NS	NS	NS
nitric acid	100%	NS	NS	NS	NS
nitrobenzene	100%	NS	NS	NS	NS
nitroethane	100%	S	NS	S	NS
nitromethane	100%	S		S	
nitrotoluene		NS	NS	NS	NS
n-octane		S	S	S	S
octyl alcohol		S	NS	S	NS
oils and fats		L	NS	S	L
oleic acid	100%	L	NS	S	S
oleum (H2SO4 + 10% SO3)		NS	NS	NS	NS
oleum (H2SO4 + 50% SO3)		NS	NS	NS	NS
olive oil		S	NS	S	NS
orthophosphoric acid	50%	S	S	S	S
orthophosphoric acid	95%	S	L	S	L
oxalic acid	sat sol	S	S	S	S
oxygen	100%	S		S	L
ozone	100%	NS	NS	L	NS
paraffin oil		S	L	S	S
n-pentane		NS	NS	NS	NS
pentane-2		NS	NS	NS	NS
perchloroethylene		NS	NS	NS	NS
perchloric acid	20%	S	S	S	S
perchloric acid	50%	S	L	S	L
perchloric acid	70%	S	NS	S	NS
phenol	sol	L	NS	S	S
phosphine	100%	S	S	S	S
phosphoric acid	up to 25 %	S	S	S	S
phosphoric acid	25 to 50 %	S	S	S	S
phosphoric III chloride	100%	S	L	S	L
phosphorous II chloride	100%			S	L
phosphorous pentoxide	100%	S	S	S	S
phosphorous trichloride	100%	S	L	S	L
photographic solutions		S	S	S	S
phthalic acid	50%	S	S	S	S
picric acid	sat sol	S	L	S	
plating solutions		S	S	S	S
pluming cleaner, Drano		S	S	S	S
potassium acetate		S	S	S	S
potassium aluminium sulphate	sat sol	S	S	S	S
potassium benzoate		S	S	S	S
potassium bicarbonate	sat sol	S	S	S	S
potassium borate	sat sol	S	S	S	S
potassium bromate	sat sol	S	S	S	S
potassium bromide	sat sol	S	S	S	S
potassium carbonate	sat sol	S	S	S	S
potassium chlorate	sat sol	S	S	S	S
potassium chloride	sat sol	S	S	S	S
potassium chromate	sat sol	S	S	S	S

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
potassium cyanide	sol	S	S	S	S
potassium dichromate	sat sol	S	S	S	S
potassium fluoride	sat sol	S	S	S	S
potassium hexacyano					
- ferrate II	sat sol	S	S	S	S
- ferrate III	sat sol	S	S	S	S
potassium hexafluoro silicate	sat sol	S	S	S	S
potassium hydrogen carbonate	sat sol	S	S	S	S
potassium hydrogen sulphate	sat sol	S	S	S	S
potassium hydrogen sulphide	sol			S	S
potassium hydroxide	10%	S	S	S	S
potassium hydroxide	sol	S	S	S	S
potassium hypochlorite	sol	S	L	S	L
potassium iodate	10%	S	S	S	S
potassium iodide	sat sol	S	S	S	S
potassium nitrate	sat sol	S	S	S	S
potassium orthophosphate	sat sol	S	S	S	S
potassium oxalate	sat sol	S	S	S	S
potassium perchlorate	sat sol	S	S	S	S
potassium permanganate	20%	S	S	S	S
potassium persulphate	sat sol	S	S	S	S
potassium phosphate	sat sol	S	S	S	S
potassium sulphate	sat sol	S	S	S	S
potassium sulphide	sol	S	S	S	S
potassium sulphite	sat sol	S	S	S	S
potassium thiocyanate	sat sol	S	S	S	S
potassium thiosulphate	sat sol	S	S	S	S
propargyl alcohol		S	S	S	S
n-propyl alcohol		S	S	S	S
propionic acid	50%			S	S
propionic acid	100%			S	L
propylene dichloride	100%	NS	NS	NS	NS
propylene glycol		S	S	S	S
pyridine	100%			S	L
quinol	sat sol	S	S	S	S
resorcinol	sat sol	S	S	S	S
salicylic acid	sat sol	S	S	S	S
sea water		S	S	S	S
selenic acid		S	S	S	S
silicon oil		S	S	S	S
silver acetate	sat sol	S	S	S	S
silver cyanide	sat sol	S	S	S	S
silver nitrate	sat sol	S	S	S	S
soap solution	100%	S	S	S	S
sodium acetate	sat sol	S	S	S	S
sodium antimonate	sat sol	S	S	S	S
sodium arsenite	sat sol	S	S	S	S
sodium benzoate	sat sol	S	S	S	S
sodium bicarbonate	sat sol	S	S	S	S
sodium bisulphate	sat sol	S	S	S	S
sodium bisulphite	sat sol	S	S	S	S
sodium borate	sat sol	S	S	S	S

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
sodium bromide	sat sol	S	S	S	S
sodium carbonate	sat sol	S	S	S	S
sodium chlorate	sat sol	S	S	S	S
sodium chloride	sat sol	S	S	S	S
sodium chlorite	sat sol	L			
sodium cyanide	sat sol	S	S	S	S
sodium dichromate	sat sol	S	S	S	S
sodium fluoride	sat sol	S	S	S	S
sodium hexacyano					
- ferrate II	sat sol			S	S
- ferrate III	sat sol			S	S
sodium hexafluoro silicate	sat sol	S	S	S	S
sod hydrogen carbonate	sat sol	S	S	S	S
sod hydrogen sulphate	sat sol	S	S	S	S
sod hydrogen sulphite	sol	S	S	S	S
sodium hydroxide	40%	S	S	S	S
sodium hydroxide	sol			S	S
sodium hypochloride		L	NS	S	S
sodium hypochlorite	15%			S	S
sodium hypochlorite	available C1			S	S
sodium iodate	10%	S	S	S	S
sodium iodide	sat sol	S	S	S	S
sodium nitrate	sat sol	S	S	S	S
sodium nitrite	sat sol	S	S	S	S
sodium ortophosphate	sat sol	S	S	S	S
sodium oxalate	sat sol	S	S	S	S
sodium phosphate	sat sol	S	S	S	S
sodium silicate	sol	S	S	S	S
sodium sulphate	sat sol	S	S	S	S
sodium sulphide	sat sol	S	S	S	S
sodium sulphite	sat sol	S	S	S	S
sodium thiocyanate	sat sol	S	S	S	S
stannic chloride	sat sol	S	S	S	S
stannous chloride	sat sol	S	S	S	S
starch solution	sat sol	S	S	S	S
stearic acid	sat sol	S	L	S	
styrene	sol	L	NS	L	NS
sulphur dioxide, dry	100%	S	S	S	S
sulphur trioxide	100%	NS	NS	NS	NS
sulphur acid	10 to 50 %	S	S	S	S
sulphuric acid	10%	S	S	S	S
sulphuric acid	50%	S	S	S	S
sulphuric acid	70%	S	L	S	L
sulphuric acid	80%	S	NS	S	NS
sulphuric acid	98%	L	NS	S	NS
sulphuric acid, fuming		NS	NS	NS	NS
sulphurous acid	30%	S	S	S	S
sulphurous acid	sol	S	S	S	S
tallow		S	L	S	L
tannic acid	sol	S	S	S	S
tartaric acid	sat sol	S	S	S	S
tartaric acid	sol			S	S

CHEMICAL OR PRODUCT	CONCENTRATION	LDPE		HDPE	
		20	60	20	60
tetrachloroethylene	100%	NS	NS	NS	NS
tetrachloromethane	100%	NS	NS	L	NS
tetradecane		NS	NS	NS	NS
tetrahydrofuran		NS	NS	NS	NS
tetrahydronaphthalene	100%	L	NS	S	L
thionyl chloride	100%	NS	NS	NS	NS
tin II chloride	sat sol	S	S	S	S
tin IV chloride	sol	S	S	S	S
tin IV chloride	sat sol			S	S
titanium tetrachloride	sat sol	NS	NS	NS	NS
toluene	100%	NS	NS	L	NS
tribromomethane		NS	NS	NS	NS
trichloroacetaldehyde		S		S	
trichlorobenzene		NS	NS		
trichloroethylene	100%	NS	NS	NS	NS
triethanolamine	100%	S		S	
triethanolamine	sol			S	L
triethylene glycol		S	S	S	S
trisodium phosphate	sat sol	S	S	S	S
turpentine		NS	NS	NS	NS
urea	up to 30 %	S	S	S	S
urea	sol	S	S	S	S
urine		S	S	S	S
vanilla extract		S	S	S	S
vaseline		S	L	S	S
vegetable oils		S	L	S	S
vinegar		S	S	S	S
water		S	S	S	S
wetting agents		S	S	S	S
wines and spirits		S	S	S	S
xylene	100%	NS	NS	L	NS
yeast	sol	S	S	S	S
zinc bromide	sat sol	S	S	S	S
zinc carbonate	sat sol			S	S
zinc chloride	sat sol	S	S	S	S
zinc nitrate	sat sol	S	S	S	S
zinc oxide	sat sol	S	S	S	S
zinc stearate	sat sol	S	S	S	S
zinc sulphate	sat sol	S	S	S	S
o-zylene		NS	NS	NS	NS
p-zylene		NS	NS	NS	NS