

# Halar<sup>®</sup> List of chemical resistance

The following list of chemical resistance contains material data from the manufacturers for different temperatures of application. The data is based on long years of experience and results from the development department. The data is not binding. In case of doubt, it will be necessary to perform tests. Particularly in the case of combinations of media, which could react differently to the coating than the individual media does. In the case of changes in temperature of coated containers  $\Delta t < 30\text{ }^{\circ}\text{C}$  should be kept to.

The data mean: + = recommended - = not recommended o = no data

Substance	23°C	65°C	120°C	150°C	Substance	23°C	65°C	120°C	150°C	Substance	23°C	65°C	120°C	150°C	Substance	23°C	65°C	120°C	150°C
<b>A</b>					Antimony trichloride	+	o	o	o	Calcium bisulphide	+	+	+	+	Vinegar, white	+	+	+	o
Acetone	+	+	-	-	Malic acid	+	+	+	o	Calcium bisulphide	+	+	+	+	Acetic acid 10%	+	+	+	o
Acetophenone	+	-	-	-	Arsenic acid	+	+	+	+	Calcium carbonate	+	+	+	+	Acetic acid 20%	+	+	+	o
Acethyl chloride	+	+	o	o	<b>B</b>					Calcium chlorate	+	+	+	+	Acetic acid 50%	+	+	+	o
Acetylene	+	+	o	o	Barium carbonate	+	+	+	+	Calcium chloride	+	+	+	+	Acetic acid 80%	+	+	o	o
Acryl nitrile	+	o	o	o	Barium chloride	+	+	+	+	Calcium hydroxide	+	+	+	+	Acetic acid ester	+	+	o	o
Adipic acid 105	+	+	o		Barium hydroxide	+	+	+	+	Calcium hypochloride	+	+	+	+	Acetic acid hydride	+	-	-	-
Ethyl					Barium nitrate	+	o	o	o	Calcium nitrate	+	+	+	+	Ethyl acetate	+	+	o	o
Alum	+	+	+	+	Barium sulphate	+	+	+	+	Calcium oxide	+	+	+	+	Ethyl acetoacetate	+	o	o	o
Alcohol, allyl-	+	+	+	+	Barium sulphide	+	+	+	+	Calcium sulphate	+	+	+	+	Ethyl acrylate	+	-	-	-
Alcohol, amyl-	+	+	+	+	Cotton seed oil	+	+	+	+	Caprylic acid	+	+	o	o	Ethyl ether	+	+	o	o
Alcohol, benzyl-	+	+	+	+	Benzaldehyde 10 %	+	+	-	-	Cellosolve	+	+	+	+	Ethyl chloride	+	+	+	+
Alcohol, butyl-					Benzaldehyde					Cellosolve acetate	+	o	o	o	Ethyl chloroacetate	+	o	o	o
primary	+	+	+	+	over 10 %	+	-	-	-	Chlorine, liquid	+	+	+	o	Ethylene bromide	+	+	+	+
Alcohol, butyl-					Petrol, unleaded	+	+	+	+	Chloralhydrate	+	+	o	o	Ethylene chloride	+	+	+	+
secondary	+	+	+	+	Petrol, leaded	+	+	+	+	Chloramine	+	o	o	o	Ethylene chlorhydrin	+	-	-	-
Alcohol, diacetone	+	+	-	-	Petrol,					Chlorobenzene	+	+	-	-	Ethylene diamine	+	-	-	-
Alcohol, ethyl-	+	+	+	+	sulphureous	+	+	+	+	Chlorobenzene chloride	+	-	-	-	Ethylene dichloride	+	-	-	-
Alcohol, hexyl-	+	o	o	o	Benzoic acid	+	+	+	o	Chloroacetic acid	+	+	+	o	Ethylene glycol	+	+	+	+
Alcohol, isopropyl	+	+	+	+	Benzene	+	+	-	-	Chloric gas, dry	+	+	-	-	Ethylene oxide	+	+	+	+
Alcohol, methyl-	+	+	+	+	Benzene sulphonic acid					Chlorgas, wet	+	+	+	o	<b>F</b>				
Alcohol, propyl-	+	+	+	+	10 %	+	+	-	-	Chlorine water,					Fatty acids	+	+	+	+
Allyl chloride	+	+	+	+	Succinic acid	+	+	+	o	saturated	+	+	+	o	Fluoboric acid	+	o	o	o
Aluminium chloride	+	+	+	+	Beer	+	+	o	o	Chloroform	+	+	+	o	Fluorine gas, moist	+	o	o	o
Aluminium fluoride	+	+	+	+	Epsom salt	+	+	+	+	Chlorosulfonic acid	+	o	o	o	Fluorosilicic acid	+	+	+	+
Aluminium hydroxide	+	+	+	+	Hydrocyanic acid	+	+	+	+	Chrome alum	+	+	o	o	Hydro-fluorosilicic acid	+	+	+	+
Aluminium nitrate	+	+	+	+	Hydrocyanic acid 10 %	+	+	+	+	Chromic acid 10%	+	+	+	o	+				
Aluminium-					Lead acetate	+	+	+	+	Chromic acid 30%	+	+	+	o	Hydrofluoric acid, diluted	+	+	+	+
oxychloride	+	+	o	o	Lead chloride	+	+	+	+	Chromic acid 40%	+	+	+	o	Hydrofluoric acid 30%+	+	+	+	+
Aluminium sulphate	+	+	+	+	Lead nitrate	+	+	+	+	Chromic acid 50%	+	+	+	o	+Hydrofluoric acid 40%+	+	+	+	o
Formic acid	+	+	+	o	Lead sulphate	+	+	+	+	Cyclohexane	+	+	+	+	Hydrofluoric acid 50%+	+	+	+	o
Ammonia,					Lead tetraethyl	+	+	+	+	Cyclohexanol	+	+	-	-	Formaldehyde 35%	+	+	o	o
gaseous	+	+	+	+	Bleaching agent,					Cyclohexanone	+	-	-	-	Formaldehyde 37%	+	+	o	o
Ammonia, aqueous	+	+	+	o	5.5% active					Cyan hydrogen	+	+	+	+	Formaldehyde 50%	+	o	o	o
Ammonium acetate	+	+	o	o	chlorine	+	+	+	+	<b>D</b>					Photographic				
Ammonium alum	+	+	+	+	Bleaching agent					Detergents	+	+	+	+	solutions	+	+	o	o
Ammonium bifluoride	+	+	+	+	12.5% active					Detergent solution,					Freon F-11	+	+	o	o
Ammonium bisulphide	+	+	+	+	chlorine	+	+	+	+	strong	+	+	+	+	Freon F-12	+	+	o	o
Ammonium-					Borax	+	+	+	+	Dextrin	+	+	+	o	Freon F-21	+	+	o	o
carbonate	+	+	+	+	Boric acid	+	+	+	+	Dextrose	+	+	+	o	Freon F-22	+	+	o	o
Ammonium chloride	+	+	+	+	Bromine, liquid	+	+	o	o	Dichlorobenzol	+	-	-	-	Freon F-113	+	+	o	o
Ammonium-					Bromine, vapour 25%	+	+	-	-	Dichloroethylene	+	-	-	-	Freon F-114	+	+	o	o
dichromaet	+	o	o	o	-					Diesel fuel	+	+	+	+	Fruit juices	+	+	o	o
Ammonium fluoride					Bromine, water	+	+	-	o	Diethylamine	+	-	-	-	<b>G</b>				
10%	+	+	+	+	Bromine benzene	+	-	-	-	Diethyl ether	+	o	o	o	Gallic acid	+	+	o	o
Ammonium fluoride					Bromic acid	+	+	+	o	Diethyl cellosolve	+	+	+	+	Gelatine	+	+	+	o
25%	+	+	+	+	Bromine toluol	+	+	-	-	Diglycolic acid	+	o	o	o	Tanning acid	+	+	+	o
Ammonium hydroxide	+	+	+	+	Hydrobromic					Dimethylamine	+	-	-	-	Corn oil	+	+	+	+
Ammonium-					acid 20%	+	+	+	+	Dimethylhydrazine	+	-	-	-	Tapping oil	+	+	+	+
metaphosphate	+	+	+	+	Hydrobromic-					Disodiumphosphate	+	+	+	+	Gin	+	+	+	+
Ammonium nitrate	+	+	+	+	acid 50%	+	+	+	+	Diethyl phthalate	+	-	-	-	Glucose	+	+	+	+
Ammonium persulphate	+	+	o	o	Butadiene	+	+	+	o	Dioxane	+	+	-	-	Glycol	+	+	+	+
Ammonium-					Bulane	+	+	+	o	Dioxane 1,4	+	+	-	-	Glycolic acid	+	+	o	o
phosphate	+	+	+	+	Butanoic acid	+	+	+	o	Divinyl benzoyl	+	-	o	o	Glycerine	+	+	+	+
Ammonium sulphate	+	+	+	+	Butyl acetate	+	+	-	-	jet fuel JP4	+	+	+	+	<b>H</b>				
Ammonium sulfide	+	+	+	+	Butyl alcohol	+	+	+	+	jet fuel JP5	+	+	+	+	Urea	+	+	+	+
Amyl acetate	+	+	-	-	Butyl cellosolve	+	o	o	o	<b>E</b>					Heptane	+	+	+	+
Amyl chloride	+	+	+	+	Butylene	+	+	+	+	Iron acetate	+	+	o	o	Hexane	+	+	+	+
Aniline	+	-	-	-	Butyl phenol	+	+	+	o	Iron chloride II+III	+	+	+	+	Hydroquinone	+	+	+	o
Anthraquinone	+	+	o	o	Butyl stearate	+	o	o	o	Iron nitrate II+III	+	+	+	+	<b>I</b>				
Anthraquinone-					<b>C</b>					Iron sulphate II+III	+	+	+	+	Iso-octane	+	o	o	o
sulfonic acid	+	+	o	o	Cadmium cyanide	+	+	o	o	Vinegar	+	+	+	+	Isopropyl ether	+	o	o	o

Substance	23°C	65°C	120°C	150°C	Substance	23°C	65°C	120°C	150°C	Substance	23°C	65°C	120°C	150°C	Substance	23°C	65°C	120°C	150°C
J					Methylene iodine	+	-	-	-	solutions	+	+	0	0	Stearic acid	+	+	0	0
iodine	+	+	+	0	Milk	+	+	+	0	Picric acid	+	0	0	0	T				
iodine solution 10%	+	+	+	0	Lactic acid 80%	+	0	0	0	Plating solutions:					Tall oil	+	+	+	+
Hydriodic acid	+	+	+	0	Lactic acid 25%	+	+	+	0	Bronze	+	+	0	0	Tar	+	+	+	+
K					Mineral oil	+	+	+	+	Cadmium	+	+	0	0	Terpentine	+	+	+	+
Potassium	+	+	+	+	Motor oil	+	+	+	+	Chrome	+	+	0	0	Tetrahydrodural	-	-	-	-
Potassium-					N					Copper	+	+	0	0	Tetrahydrofuran	-	-	-	-
aluminiumsulphate	+	+	+	+	Naphtha	+	+	+	+	Gold	+	+	0	0	Thionyl chloride	+	+	0	0
Potassiumbichromate	+	+	+	0	Naphthalene	+	+	0	0	Lead	+	+	0	0	Toluol	+	+	-	-
Potassiumbisulphate	+	+	+	0	Sodium acetate	+	+	+	+	Nickel	+	+	0	0	Tomato juice	+	+	+	0
Potassiumborate	+	+	0	0	Sodium alum	+	+	+	+	Rhodium	+	+	0	0	Transformer oil	+	+	+	0
Potassiumbromide	+	+	+	+	Sodium benzoate	+	+	+	+	Silver	+	+	0	0	Transformer oil, DTE/30+	+	+	0	0
Potassiumcarbonate	+	+	+	+	Sodium bicarbonate	+	+	+	+	Tin	+	+	0	0	Tributyl phosphate	+	-	-	-
Potassiumchlorate	+	+	+	+	Sodium bichromate	+	+	0	0	Zinc	+	+	0	0	Trichloroacetic acid	+	+	-	-
Potassiumchlorat, e					Sodium bisulphate	+	+	+	+	Potash	+	+	+	+	Trichlorethylene	+	+	+	+
aqueous	+	+	+	+	Sodium bisulphite	+	+	+	+	Potash,					Triethanolamine	+	-	-	-
Potassiumchloride	+	+	+	+	Sodium bromide	+	+	+	+	caustic	+	+	+	+	Triethylamine	+	+	-	-
Potassiumchromate	+	+	+	+	Sodium carbonate	+	+	+	+	Propane	+	+	+	+	Tri sodium phosphate	+	+	+	+
Potassiumcyanide	+	+	+	+	Sodium chloride	+	+	+	+	Propylene oxide	-	-	-	-	U				
Potassiumdichromate	+	+	+	+	Sodium chlorate	+	+	+	+	Pyridine	-	-	-	-	Hypochlorous acid	+	+	+	+
Potassiumferricyanide	+	+	+	+	Sodium cyanide	+	+	+	+	Pyrogallic acid	+	+	0	0	Urine	+	+	0	0
Potassiumferrocyanide	+	+	+	+	Sodium dichromate	+	0	0	e	O					V				
Potassiumhydroxide	+	+	0	0	Sodium fluoride	+	+	+	+	Quick silver	+	+	+	+	Vaseline	+	+	0	0
Potassiumiodide	+	+	+	0	Sodium hydroxide,					Quick silver cyanide	+	+	+	+	Vinyl acetate	+	+	+	0
Potassiumnitrate	+	+	+	+	15%	+	+	+	+	Quick silver chloride	+	+	+	0	W				
Potassiumperchloride	0	0	0	0	Sodium hydroxide,					Quick silver nitrate	+	+	+	0	Water,				
Potassiumper-					30%	+	+	+	0	Quick silver sulphate	+	+	+	0	acid mine	+	+	+	+
manganate 10%	+	+	+	+	Sodium hydroxide,					R				Water,					
Potassiumper-					50%	+	+	+	0	Coleman fuel	+	+	+	+	demineralized	+	+	+	+
manganate 25%	+	+	+	+	70%	+	+	0	0	Caster oil	+	+	+	+	Water, distilled				
Potassiumpersulphate	+	+	0	0	Sodium hypochlorite	+	+	+	+	Crude oil	+	+	+	+	or fresh	+	+	+	+
Potassiumsulphate	+	+	+	+	Sodium iodine	+	+	0	0	Sugar cane syrup	+	+	0	0	Water, salt	+	+	+	+
kerosene	+	+	+	+	Sodium meta-					S				Water, sea-	+	+	+	+	
Silica	+	0	0	0	phosphate	+	+	+	+	Salicylaldehyde	+	-	-	-	Water, AB-	+	+	+	0
salt	+	+	+	+	Sodium nitrate	+	+	+	+	Salicylic acid	+	+	0	0	Hydrogen	+	+	+	+
Aqua regia					Sodium nitrite	+	+	+	+	Salpeter acid 10%	+	+	+	+	Hydrogen-				
Carbondioxide, moist	+	+	+	+	Sodium nitrite	+	+	+	+	Salpeter acid 30%	+	+	+	0	superoxide	+	0	0	0
Carbondioxide, moist					Sodium perborate	+	0	0	0	Salpeter acid 40%	+	+	+	0	Hydrogen-				
dry	+	+	+	+	Sodium peroxide	+	+	+	+	Salpeter acid 50%	+	+	-	-	superoxide 50%	+	+	0	0
Carbondisulphide	+	0	0	0	Sodium phosphate,					Salpeter acid 70%	+	+	-	-	Hydrogen-				
Carbonmonoxide	+	+	0	0	alkaline	+	+	+	+	Salpeter acid 100%	+	+	-	-	superoxide 90%	+	+	0	0
Carbonic acid	+	+	+	+	Sodium phosphate,					Nitrous acid					Wine	+	+	+	0
Carbon-					acid	+	+	+	+	10%	+	+	+	0	Tartaric acid	+	+	+	0
tetrachloride	+	+	+	+	Sodium phosphate,					Hydrochloric acid, concen.					Whisky	+	+	+	+
Coke oven gas	+	+	+	0	neutral	+	+	+	+	37%	+	+	+	+	Bismuth carbonate	+	0	0	0
Coconut oil	+	+	+	+	Sodium silicate	+	+	+	+	Oxygen, gaseous	+	+	+	+	X				
Cresol	+	+	-	-	Sodium sulphate	+	+	+	+	Lard oil	+	+	+	+	Xylol	+	+	0	0
Cresol acid	+	+	-	-	Sodium sulphide	+	+	+	+	Lubricating oil, ASTM 1+	+	+	+	+	Z				
Crotonaldehyde	+	-	-	-	Sodium sulphite	+	+	+	+	Lubricating oil, ASTM 2+	+	+	+	+	Tin chloride	+	+	+	+
Copper chloride	+	+	+	+	Sodium thiosulphate	+	+	+	+	Lubricating oil, ASTM 3+	+	+	+	+	Zinc chloride	+	+	+	+
Copper cyanide	+	+	+	+	Nickel acetate	+	0	0	0	Black stain	+	+	+	+	Zinc nitrate	+	+	+	+
Copper fluoride	+	+	+	+	Nickel chloride	+	+	+	+	Sulphur	+	+	+	0	Zinc sulphate	+	+	+	+
Copper nitrate	+	+	+	+	Nickel nitrate	+	+	+	+	Sulphur chloride	+	0	0	0	Citric acid	+	+	+	+
Copper sulphate	+	+	+	+	Nickel sulphate	+	+	+	+	Sulphur dioxide,					Citric acid oil	+	+	+	0
L					Nicoline	+	+	0	0	dry	+	+	+	+	Sugar cane	+	+	0	0
Laughing gas	+	0	0	0	Nicotinic acid	+	+	+	0	Sulphur dioxide,					Hydrocyanic acid	+	+	+	+
Lauric acid	+	+	+	0	Nitrobenzene	+	+	-	-	moist	+	+	0	0					
Lauryl chloride	+	+	+	0	Nitrobenzene	+	+	-	-	Sulphureous									
Linseed oil	+	+	+	0	Nitrile acetyl	+	+	0	0	crude oil	+	+	+	+					
Linseed oil	+	+	+	0	O					Lime sulphur	+	+	0	0					
Linolic acid	+	+	+	0	Oils, vegetable	+	+	+	+	Sulphur carbon	+	0	0	0					
Lithium bromide	+	+	0	0	Oleic acid	+	+	+	0	Sulphurous acid	+	+	+	0					
Tanning liquor	+	+	+	0	Olein acid	+	+	+	0	Sulphuric acid 10%	+	+	+	0					
M					Oleum	+	-	-	-	Sulphuric acid 30%	+	+	+	0					
Magnesium-					Oxalic acid	+	+	-	-	Sulphuric acid 50%	+	+	+	0					
carbonate	+	+	+	+	Oxalic acid, 50%	+	+	-	-	Sulphuric acid 60%	+	+	+	0					
Magnesium chloride	+	+	+	+	Ozone	+	+	+	+	Sulphuric acid 70%	+	+	+	0					
Magnesium-					P					Sulphuric acid 80%	+	+	+	0					
hydroxide	+	+	+	+	Palmitic acid	+	+	+	0	Sulphuric acid 90%	+	+	0	0					
Magnesium nitrate	+	+	+	+	Palmitic acid, 10%	+	+	+	0	Sulphuric acid 93%	+	+	0	0					
Magnesium sulphate	+	+	+	+	Paraffin	+	+	0	0	Sulphuric acid 94%	+	+	0	0					
Maleic acid	+	+	+	0	Perchloric acid 10%	+	+	0	0	Sulphuric acid 95%	+	+	0	0					
Molasses	+	+	0	0	Perchloric acid 70%	+	+	0	0	Sulphuric acid 96%	+	+	0	0					
Methane	+	+	+	0	Perphosphate	+	0	0	0	Sulphuric acid 98%	+	+	0	0					
Methoxy ethyl oleate	0	0	0	0	Petroleum oils,					Sulphuric acid,									
Methyl amine	+	-	-	-	sour	+	+	0	0	100%	+	+	+	0					
Methyl bromide	+	+	+	+	Petroleum oils,					Hydrosulphide,-									
Methyl cellosolve	+	+	+	+	refined	+	+	0	0	dry	+	+	+	+					
Methyl chloride	+	+	+	+	vegetable oils	+	+	+	+	Sulphur aqueous solution	+	+	+	+					
Methyl chloroform	+	+	-	-	Phenol	+	+	-	-	Soaps	+	+	0	0					
Methyl ethyl ketone	+	+	-	-	Phenylhydrazene	+	0	0	0	Silver cyanide	+	+	+	+					
Methyl isobutyl ketone	+	+	-	-	Phosphorus, yellow	+	0	0	0	Silver nitrate	+	+	+	+					
Methyl meth crylate	0	0	0	0	Phosphorus pentoxide	+	+	+	+	Silver sulphate	+	+	+	0					
Methyl sulphate	+	+	+	+	Phosphoric acid, 10%+	+	+	+	+	Silicone oil	+	0	0	0					
Methyl sulphuric acid	+	+	0	0	Phosphoric acid, 50%+	+	+	+	0	Stoddard's,									
Methylene bromide	+	-	-	-	Phosphoric acid, 85%+	+	+	+	0	solvent	+	+	+	+					
Methylene chloride	+	-	-	-	Phosphorous trichloride	+	+	+	0	Sulphate leach	+	0	0	0					
					Phosphine	+	+	0	0	Starch	+	+	0	0					