

Chemical Resistance of Styrene Copolymers

BASF Plastics key to your success



The Chemical Company

Chemical Resistance of Luran® (SAN), Terluran® (ABS), Luran® S (ASA and ASA+PC), Terlux® (MABS)

The following table gives an overview of the chemical resistance of styrene copolymers:

The resistance to specific chemicals is given in the table below.

Assessment	SAN, ABS, MABS, ASA	ASA+PC
Good resistance	Water, aqueous salt solutions, detergent solutions, dilute acids and alkalis	Water and aqueous salt solutions up to about 60 °C, dilute acids
Limited resistance	Alcohols, aliphatic hydrocarbons, oils and fats	Alcohols, aliphatic hydrocarbons, dilute alkalis
Not resistant	Concentrated mineral acids, aromatic and/or halogenated hydrocarbons, esters, ethers, ketones	Concentrated mineral acids and alkalis, ammonia, amines, aromatic and/or halogenated hydrocarbons, esters, ethers, ketones
Solvents	Examples are methyl ethyl ketone, tetrahydrofuran, toluene, dimethylformamide	Examples are methyl ethyl ketone, tetrahydrofuran, toluene, dimethylformamide

The symbols and abbreviations used have the following meanings:

- = resistant over a period of months to years
- 0 = limited resistance: some swelling, solvation or environmental stress cracking is possible
- = not resistant: severe swelling, decomposition, solvation or environmental stress cracking

soln. = saturated aqueous solution

Percentages given in brackets are the concentrations (% by weight) of aqueous solutions unless otherwise stated.

It should be noted that the values in the table generally relate to the pure chemicals. Industrial grade chemicals, foodstuffs and other preparations frequently contain auxiliaries or impurities which may significantly affect performance.

Another significant factor determining chemical resistance is the existence of internal stresses within a molding. Chemicals to which stress-free styrene copolymers are resistant, for example pentane, hexane and heptane, can cause cracking when combined with mechanical stress.

It should be noted that some

chemicals (e.g. sodium hypochlorite) may cause color changes in colored plastics.

Therefore, these tables can only give guidelines for the expected performance of moldings made from the plastics mentioned. Practical tests are essential to give definitive results.

Test substance	Lui (S <i>A</i>	ran AN)		uran BS)		ran S Luran S ASA) (ASA+PC)		Ter (MA		
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
A cetamide	+	+	+	+	+	+			+	+
Acetic acid (100 %)	-	-	-	-	-	-	-	-	-	-
Acetic acid (25 %)	+	+	+	+	+	+	0	-	+	+
Acetic acid (50 %)	+	0	+	0	+	0	-	-	+	0
Acetone	-	-	-	-	-	-	-	-	-	-
Acetophenone	-	-	-	-	-	-	-	-	-	-
Acetylsalicylic acid (soln.)	+	+	+	+	+	+			+	+
Allyl alcohol	-	-	-	-	-	-	-	-	-	-
Allyl mustard oil	-	-	-	-	-	-	-	-	-	-
Almond, bitter, oil of	+	0	+	0	+	0			0	0
Almond, oil of	+	+	+	+	+	+			+	+
Alum (soln.)	+	+	+	+	+	+	+	+	+	+
Aluminium chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Aluminium sulfate (soln.)	+	+	+	+	+	+	+	+	+	+
Ammonia, aqueous (25 %)	+	+	+	+	+	+	-	-	+	+
Ammonium carbonate (soln.)	+	+	+	+	+	+	+	0	+	+
Ammonium chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Ammonium molybdate	+	+	+	+	+	+			+	+
(soln.)										
Ammonium nitrate (soln.)	+	+	+	+	+	+	+	0	+	+
Ammonium rhodanide	+	+	+	+	+	+			+	+
(soln.) Ammonium sulfate (soln.)							,			
	+	+	+	+	+	+	+	+	+	+
Amyl acetate Amyl acetate		<u> </u>	-	<u> </u>	-	<u> </u>	-			
Amyl alcohol	+	0	+	0	+	0	0	0	+	0
Amyl cinnamaldehyde	-	-	-	-	-	-	-	-		-
Amyl mercaptan	_		-	_	-		-	_	_	_
Aniline	_	_	-	_	_	_	_	_	_	_
Anise, oil of	_	-	-	_	_	-	-	_	-	_
Aniseed	+	+	+	+	+	+			+	+
Apple juice	+	+	+	+	+	+	+	+	+	+
Aqua regia	0	-	0	-	0	-	-	-	-	-
Atropine sulfate	+	+	+	+	+	+			+	+
,										
Barium bromide (soln.)	+	+	+	+	+	+	+	+	+	+
Barium carbonate (soln.)	+	+	+	+	+	+	+	+	+	+
Barium chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Beef tallow	+	+	+	+	+	+	+	+	+	+
Benzaldehyde	-	-	-	-	-	-	-	-	-	-
Benzene	-	-	-	-	-	-	-	-	-	-
Benzoic acid	+	+	+	+	+	+	-	-	+	+
Benzyl acetate	-	-	-	-	-	-	-	-	-	-
Benzyl acetate	-	-	-	-	-	-	-	-	-	-
Benzyl alcohol	-	-	-	-	-	-	-	-	-	-
Bismuth chloride (soln.)	+	+	+	+	+	+			+	+
Bismuth subnitrate (soln.)	+	+	+	+	+	+			+	
Bone oil	+	+	+	+	+	+			+	+
Borax (soln.)	+	+	+	+	+	+	+	+	+	+
Boric acid (soln.)	+	+	+	+	+	+	+	+	+	+
Brake fluid (ATE)	-	-	-	-	-	-	-	-	-	-
Brandy Broming (liquid)	+		+	_	+		+	_	+	
Bromine (liquid) Butane	-	-		-	-	-		-		-
Butter	+ +		+	+	+	1	+	+	+	
Butyl acetate	-	+	-	-	-	+	-	-	-	_
Butyl acetate		-	-	<u> </u>	-	<u> </u>	-		-	-
Butyric acid			-		_					
Daty 110 dold										

Test substance		ran AN)		uran BS)		an S SA)		an S +PC)	Ter (MA	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Cadmium bromide (soln.)	+	+	+	+	+	+	+		+	+
Caffeine (soln.)	+	+	+	+	+	+			+	+
Calcium bromide (soln.)	+	+	+	+	+	+	+		+	+
Calcium chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Calcium hypochlorite (solid)	+	+	+	+	+	+			+	+
Calcium hypochlorite (soln.)	+	+	+	+	+	+	+	+	+	+
Calcium oxide	+	+	+	+	+	+	0	0	+	+
Camphor	+	+	+	+	+	+	-	-	0	0
Caraway seed (ground)	+	+	+	+	+	+			+	+
Carbazole	+	+	+	+	+	+			+	+
Carbon dioxide Carbon sulfide	+	+	+	+	+	+	+	+	+	+
Cardamom	+	+	+	+	+	+	-	-	0	0
Carnauba wax	+	+	+	+	+	+	+	+	+	+
Carrot juice	+	т	+	Т	+	Т	Т	Т	+	Т
Castor oil	+	+	+	+	+	+	+	+	+	+
Cellosolve (methyl-, ethyl-,	-	<u>'</u>	-	-	-				-	
propyl-, butyl-)										
Cesium bromide (soln.)	+	+	+	+	+	+	+		+	+
Cetyl alcohol	+	+	+	+	+	+			+	+
Chamomile extrakt	+		+		+				+	
Chlorinated lime	+	+	+	+	+	+	+	+	+	+
Chlorine (liquid or gaseous)	-	-	-	-	-	-	-	-	-	-
Chlorine water	0		0		0		0		0	
Chloroacetic acid	0	-	0	-	0	-	0	-	0	-
Chlorobenzene	-	-	-	-	-	-	-	-	-	-
Chloroform	-	-	-	-	-	-	-	-	-	-
Chlorosulfonic acid	-	-	-	-	-	-	-	-	-	-
Chromic acid (soln.)	0	0	0	0	0	0	0	0	0	0
Chromosulfuric acid	0	0	0	0	0	0			0	0
Cider (apple)	+		+				+	+	+	+
Cinnamic aldehyde	-	-	-	-	-	-	-	-	-	-
Cinnamon (ground)	+	+	+	+	+	+	+	+	+	+
Cinammon (sticks)	+	+	+	+	+	+	+	+	+	+
Citric acid (soln.)	+	+	+	+	+	+	+	+	+	+
Citronella, oil of Cloves	-	-	-	-	-	-	-	-	-	-
Cloves, oil of		-	-	-	-	-	-	-	-	-
Cocoa butter	+	+	+	+	+	+	-		+	+
Coconut oil	+	+	+	+	+	+			+	+
Cod-liver oil	+	+	+	+	+	+	+	+	+	+
Coffee (ground)	+	+	+	+	+	+	+	+	+	+
Coffee extract	+	+	+	+	+	+	+	+	+	+
Copper sulfate (soln.)	+	+	+	+	+	+	+	+	+	+
Corn oil			+	+	+	+	+	+		
Cottonseed oil	+	+	+	+	+	+	+	+	+	+
Cresol (para)	0	-	0	-	0	-	-	-	-	-
Curry	+	+	+	+	+	+			+	+
Cyclohexane	+	0	+	0	+	0	0	0	+	-
Cyclohexanol	+	0	+	0	+	0	0	0	+	0
Cyclohexanone	-	-	-	-	-	-	-	-	-	-
Dairy products	+	+	+	+	+	+	+	+	+	+
Dehydroacetic acid	+	+	+	+	+	+	_		+	+
Dekalin (R)	+	+	0	0	0	0	0	0	0	0
Diacetone alcohol	-	-	-	-	-	-	-	-	-	-
Dibutyl phthalate	-	-	-	-	-	-	-	-	0	0
Dichlorobenzene	-	-	-	-	-	-	-	-	-	-

Test substance		ran AN)		uran BS)		an S SA)		an S .+PC)	Ter (MA	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Diesel oil	+	+	+	+	+	+	0	0	+	+
Diethanolamine	+	+	+	+	+	+	-	-	+	+
Diethyl ether	-	-	-	-	-	-	-	-	-	-
Diethyl hexyl phthalate	+	0	+	0	+	0	0	0	0	0
Diethyl ketone	+	+	+	+	+	+				
Diethyl phthalate	-	-	-	-	-	-	-	-	0	0
Diethylene glycol	+	+	+	+	+	+	+	+	+	+
Diisodecyl phthalate	0	0	0	0	0	0	0	-	0	0
Dimethyl diglycol phthalate	0	0	0	0	0	0	0	0	0	0
Dimethyl phthalate	-		-	-	-	-	-	_	0	0
Dimethylformamide	_	_	-	-	-	_	_	_	-	-
Dinonyl phthalate	0	0	0	0	0	0	0	_	0	0
Dioxane (1,4 dioxane)	-	-	-	-	-	-	_	_	-	-
Diphenyl ether	_	_	-	_	-	_	_	_	_	_
Diphenylamine	_		_	_	-		_	_	_	
ырпопушнию	-	-	_	-		-	_	-		
E thanol (40 %)				0	+	+		+	+	
Ethanol (95 %)	+	+ 0	+	0		0	+	0		+ 0
	+		+	-	+		+	-	+	
Ether (Diethyl ether)	-	-	_		-	-	-			-
Ethyl acetate	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	-	-	-	-	-	-	-	-	-	-
Ethyl benzoate	-	-	-	-	-	-	-	-	-	-
Ethyl chloride	-	-	-	-	-	-	-	-	-	-
Ethylene chloride	-	-	-	-	-	-	-	-	-	-
Ethylene glycol	+	+	+	+	+	+	+	+		
Eucalyptus, oil of	+	+	0	0	0	0			0	0
Fertilizer salts	+	+	+	+	+	+			+	+
Formaldehyde (30 %)	+	0	+	0	+	0	+	0	+	0
Formic acid (40 %)	+	0	+	0	+	0	0	-	0	0
Formic acid (85 %)	0	0	0	0	0	0	-	-	0	0
Frigen/Freon 11	0	0	0	0	0	0	0	0	0	0
(Monofluoro-										
trichloromethane)										
Frigen/Freon 113	0	0	0	0	0	0	0	0	0	0
(Trifluoro-trichloroethane)										
Frigen/Freon 114	0	0	0	0	0	0	0	0	0	0
(Tetrafluoro-dichloroethane)										
Frigen/Freon 12	0	0	0	0	0	0	0	0	0	0
(Difluoro-dichloromethane)										
Frigen/Freon 21	-	-	-	-	-	-	-	-	-	-
(Monofluoro-										
dichloromethane)										
Frigen/Freon 22	_	_	_	_	_	_	_	_	_	_
(Difluoro-monochloro-										
methane)										
Furfural	_		-	_	_		-	_	-	_
Furfuryl alcohol	0		0		0				0	
Fulldryi alcollol			U	<u>-</u>	U		_		U	-
Gallic acid										
	+	+	+	+	+	+			+	+
Garlic (powder)	+	+	+	+	+	+			+	+
Gasoline (Premium unleaded)	0	-	0	-	0	-	0	-	0	-
Gasoline (Standard unleaded)	0	0	0	-	0	0	0	0	0	0
Ginger (ground)	0	0	0	0	0	0			0	0
Glucose (30 %)	+	+	+	+	+	+	+	+	+	+
Glycerin	+	+	+	+	+	+	0	0	+	+
Grapefruit juice	+	+	+	+	+	+	+	+	+	+
Gravy	+	+	+	+	+			+	+	+

Test substance		ran AN)		uran 3S)		an S SA)		an S +PC)	Ter (MA	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Heating oil	+	+	+	+	+	+	0	0	+	+
Heptane	0		0		0		0	0	0	0
Heptyl alcohol	+	0	+	0	+	0	0	0	+	0
Hexachlorobenzene	+	+	+	+	+	+			+	+
Hexane	0		0		0		0	0	0	0
Hexanetriol	+	+	+	+	+	+			+	+
Hexanol	+	0	+	0	+	0			+	0
Honey	+	+	+	+	+	+	+	+	+	+
Horse radish	+		+		+				+	
Household detergent (soln.)	+		+		+		0	0	+	
Hydrochloric acid (15 %)	+	0	+	0	+	0	+	0	+	0
Hydrochloric acid (conc.)	+	0	+	0	+	0	-	-	-	-
Hydrofluoric acid (40 %)	0	0	0	0	0	0	-	-	0	0
Hydrogen peroxide (3 %)	+	+	+	+	+	+	+	+	+	+
Hydrogen peroxide (30 %)	+		+		+		0	0	0	0
Hydrogen sulfide	+		+		+		+	0	+	
Hydroquinone (soln.)	+	0	+	0	+	0			+	0
Hydroxyacetone	0		0		0				0	0
Ink, writing	+	+	+	+	+	+	+	+	+	+
lodine, tincture of	0		0		0	-	0	-	0	
Iron (II) chloride (solid)	+	+	+	+	+	+	+	+	+	+
Iron (II) chloride (soln.)	+	+	+	+	+	+	+	0	+	+
Iron (II) sulfate (solid)	+	+	+	+	+	+	+	+	+	+
Iron (III) chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Iron ammonium sulfate	+	+	+	+	+	+	+	+	+	+
Iron nitrate (soln.)	+	+	+	+	+	+	+	+	+	+
Isoamyl alcohol	+	0	+	0	+	0	0	0	+	0
Isobutanol	0	-	0	-	0	-	0	0	0	0
Isooctane	+	+	+	+	+	+	+	+	+	+
Isooctane	+	+	+	+	+	+	+	+	+	+
Isopropanol	0	-	0	-	+	-	0	-	0	-
Isopropyl acetate	-	-	-	-	-	-	-	-	-	-
Lactic acid (10 %)	+	+	+	+	+	+	+	+	+	+
Lactic acid (80 %)	+	+	+	+	+	+			+	+
Lactose (soln.)	+	+	+	+	+	+	+	+	+	+
Lanolin +	+	+	+	+	+	+	+	+	+	
Laurel (ground)	+	+	+	+	+	+			+	+
Lauryl alcohol	+	+	+	+	+	+	0	0	+	+
Lead acetate (soln.)	+	+	+	+	+	+	+		+	+
Lead nitrate (soln.)	+	+	+	+	+	+	+		+	+
Lead stearate	+	+	+	+	+	+	+		+	+
Lead sulfate (soln.)	+	+	+	+	+	+	+		+	+
Lemon grass, oil of	-	-	-	-	-		-	-	-	-
Lemon juice	+	+	+	+	+	+			+	+
Lemon, oil of	0	0	0	0	0	0			0	0
Ligroin	+	+	+	+	+	+	+	+	+	+
Lime water	+	+	+	+	+	+	0	0	0	0
Linseed oil	+	+	+	+	+	+	+	+	+	+
Mace (ground)	+	0	+	0	+	0			+	0
Magnesium bromide	+	+	+	+	+	+	+	+	+	+
Magnesium carbonate	+	+	+	+	+	+			+	+
Magnesium chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Magnesium sulfate (soln.)	+	+	+	+	+	+	+	+	+	+
Maize oil	+	+	+	+	+	+			+	+

Test substance	Lui (S <i>A</i>	ran AN)		uran BS)		an S SA)		an S .+PC)	Ter (MA	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Malic acid (10 %)	+	+	+	+	+	+			+	+
Mandarin orange, oil of	0	0	0	0	0	0			0	0
Margarine	+	+	+	+	+	+	+	+	+	+
Marjoram (ground)	+	+	+	+	+	+	+	+	+	+
Marmelade	+	+	+	+	+	+			+	+
Mayonnaise	+		+		+				+	
Menthol (10 % in ethanol)	0	0	0	0	0	0			0	0
Mercury	+		+		+		+		+	
Mercury chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Mesityl oxide	-	-	-	-	-	-	-	-	-	-
Methanol	0	-	0	-	0	-	0	-	0	-
Methyl acetate	-	-	-	-	-	-	-	-	-	-
Methyl butanol	+	0	+	0	+	0	0	0	+	0
Methyl chloride	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	+	+	+	+	+	+			+	+
Methyl ethyl ketone	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone	-	-	-	-	-	-	-	-	-	-
Methyl isopropyl ketone	-	-	-	-	-	-	-	-	-	-
Methyl propyl ketone	-	-	-	-	-	-	-	-	-	-
Methyl salicylate	-	-	-	-	-	-			-	-
Methylene chloride	-	-	-	-	-	-	-	-	-	-
Methylene chlorobromide	-	-	-	-	-	-	-	-	-	-
Milk	+	+	+	+	+	+	+	+	+	+
Milk powder	+	+	+	+	+	+	+	+	+	+
Milk powder (moist)	+	+	+	+	+	+	+	+	+	+
Monoamyl phthalate	-	-	-	-	-	-	-	-	-	-
Motor oil (automotive)	+	+	+	+	+	+	+	+	+	+
Mustard	+	+	+	+	+	+	+	+	+	+
n -Butanol	+	0	+	0	+	0	0	0	+	0
n-Nonanol	+	+	+	+	+	+	0	0	-	-
n-Octanol	+	+	+	+	+	+	0	0	+	+
n-Propanol	+	0	+	0	+	0	0	-	0	-
Naphthalene (solid)	+	-	+	-	+	-			+	-
Naphthalene	0	-	0	-	0	-			0	-
(soln. in ethanol)	-				•					
Naphthol (beta)	0	-	0	-	0	-			0	-
(soln. in ethanol)										
Nickel sulfate (soln.)	+	+	+	+	+	+	+	+	+	+
Nitric acid (30 %)	+	0	+	0	+	0	0	0	0	0
Nitric acid (conc.)	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	-	-	-	-	-	-	-	-	-	-
Nutmeg, dark (ground)	0	0	0	0	0	0	-	-	0	0
Nutmeg, light (ground)	+	0	+	0 -	+	0	-	-	+	0
Nutmeg, oil of	0	-	0	-	0	-	-	-	0	-
Oleic acid	+	0	+	0	+	0	+	0	+	0
Olive oil	+	+	+	+	+	+	+		+	+
Onion (powder)	+	+	+	+	+	+	+	+	+	+
Orange juice	+	+	+	+	+	+	+	+	+	+
Orange, oil of	0	0	0	0	0	0	'	1	0	0
Oxalic acid (soln.)	+	+	+	+	+	+	+	+	+	+
Oxymethylfurfurol	-	-	-	-	-	-	-	-	-	-
Ozone (<0,5 ppm)	+	+	+	+	+	+	+	+	+	+
220110 (20,0 ppi11)			'	1			'	1		
Palamoll 644 und 646 (polyesters based on adipic acid, BASF)	-	-	-	-	-	-	-	-	-	-
adipio dold, Di lol j										

Test substance		ran AN)		uran 3S)		an S SA)		an S +PC)	Ter (MA	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Palm oil	+	+	+	+	+	+			+	+
Palmitic acid	+	+	+	+	+	+	+	+	+	+
Paprika (ground)	+	+	+	+	+	+	+	+	+	+
Paraffin oil	+	+	+	+	+	+	+	+	+	+
Peanut oil	+	+	+	+	+	+			+	+
Peanut oil	+	+	+	+	+	+			+	+
Pectin (soln.)	+	+	+	+	+	+			+	+
Penicillin	+	+	+	+	+	+	+	+	+	+
Pentane	0		0		0		0	0	-	
Pepper (black or white,	+	0	+	0	+	0	+	0	0	-
ground)										
Peppermint, oil of	_	_	-	-	-	_	-	-	-	_
Perchloroethylene	0	0	0	0	0	0	-	-	0	0
(Tetrachloroethylene)			-							
Petroleum ether	0	0	0	0	0	0	0	0	0	0
Petroleum jelly	0	-	0	-	0	-	0	-	0	-
Petroleum jelly	+	+	+	+	+	+	+	+	+	+
Phenacetin	+	+	+	+	+	+	· ·	· · ·	+	+
Phenol	-	-	-	-	-	_	-	-	_	_
Phenylethanol	_	_	-	_	_	_	-	-	-	_
Phosphoric acid (1 %)	+	+	+	+	+	+	+	+	+	+
Phosphoric acid (30 %)	+	+	+	+	+	+	+	0	+	0
Phosphoric acid (85 %)	+	+	+	+	+	+	+	0	0	0
Phthalic acid (soln.)	+	+	+	+	+	+	0	0	+	0
Pimento (ground)	0	0	0	0	0	0	_	-	0	0
Pine needles, oil of	0	-	0	-	0	-			0	
Pineapple juice	+	+	+	+	+	+	+	+	+	+
Plastomoll DOA	0	0	0	0	0	0	0	0	0	0
(di-(2-ethyl-hexyl)	O	O	O	O	O	O		O	O	-
adipate, BASF)										
Pork lard	+	+	+	+	+	+	0	0	+	+
Potassium aluminium	+	+	+	+	+	+	+		+	+
sulfate (soln.)	'		'	'	'	'	· ·			'
Potassium bisulfate	+	+	+	+	+	+	+	+	+	+
Potassium bromate (soln.)	+	+	+	+	+	+	+	'	+	+
Potassium bromide (soln.)	+	+	+	+	+	+	+	+	+	+
Potassium chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Potassium chromate (soln.)	+	+	+	+	+	+	+	+	+	+
Potassium dichromate	+	0	+	0	+	0	+	0	+	0
(soln.)	'	O	'	O	'	O	'	O	'	O
Potassium ferricyanide	+	+	+	+	+	+	+	+	+	+
Potassium fluoride (soln.)	+	+	+	+	+	+	+	+	+	+
Potassium hydroxide (10 %)	+	+	+	0	+	+	-	-	0	-
Potassium hydroxide (50 %)	+	+	+	0	+	+	_	_	-	
Potassium hydroxide	+	0	+	-	+	0				_
(concentrated soln.)	т	O	Т.		т	O				
Potassium iodate (soln.)	+	+	+		+	+	+	+		+
Potassium iodide (soln.)				+					+	
Potassium nitrate (soln.)	+	+ +	+	+ +	+ +	+ +	+	+	+	+ +
Potassium permanganate	+	0	+	0	+	0	+	0	+	0
(soln.)	т	O	_	O	т	O		O	т	O
Potassium persulfate (soln.)	+	+	+	+	+	+	+	+	+	+
Potassium sulfate (soln.)	+	+	+	+	+	+	+	+	+	+
Potassium sulfide (soln.)	+	+	+	+	+	+			+	+
Prontosil	+		+		+		+		+	
Propane (liquid)	+		+		+		+		+	
Propane (liquid) chloride	-	_	-	-	-	-	-	-	-	-
Propane glycol	+	+	+	+	+	+			+	+
. 3,										

Test substance	Lui (S <i>F</i>	ran AN)		uran BS)		an S SA)	_	an S +PC)	Ter (MA	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Propylene glycol	-	-	-	-	-	-	-	-	-	-
methyl ether										
Propylene oxide	-	-	-	-	-	-	-	-	-	-
Pyridine	-	-	-	-	-	-	-	-	-	-
Pyrogallol (soln.)	+	0	+	0	+	0			+	0
Resorcin (soln.)	0	0	0	0	0	0	0	0	0	0
Rongalite (soln.)	+	+	+	+	+	+			+	+
Roses, oil of	0		0		0				-	
Rum	+		+		+		+		+	
Rum essence	+		+		+				+	
Salicylic acid (soln.)	+	+	+	+	+	+	+	+	+	+
Salt, common (dry)	+	+	+	+	+	+	+	+	+	+
Sandalwood, oil of	-	-	-	-	-	-	- '	-	-	-
Sassafras oil	-	_	-	_	_	-	-	_	_	-
Sea water	+	+	+	+	+	+	+	+	+	+
Sebacic acid dibutyl ester	-		-	-	-	- '	<u>'</u>	-	- '-	-
Silicone fluid	+	+	+	+	+	+	+	+	+	+
Silver nitrate (soln.)	+	+	+	+	+	+	+	'	+	+
Sodium acetate (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium benzoate (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium bicarbonate (soln.)	+	+	+	+	+	+	+	0	+	+
Sodium bisulfite (soln.)	+	+	+	+	+	+	+		+	+
Sodium borate (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium bromate (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium bromide (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium carbonate (soln.)	+	+	+	+	+	+	+	0	+	+
Sodium chloride (dry)	+	+	+	+	+	+	+	+	+	+
Sodium chloride (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium chromate (soln.)	+	+	+	+	+	+	+	'	+	+
Sodium fluoride (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium hydrogen sulfite	+	+	+	+	+	+	т	т	+	+
Sodium hydroxide (50 %)	+	+	+	+	+	+	-	_	+	+
Sodium hypochlorite	+	+	+	+	+	+			+	+
(soln. with 12 % Cl)	т	т		Ŧ	T	т			т	Т
Sodium hypochlorite	+	+	+	+	+	+	+	0	+	+
(soln., 12 % chlorine)	т	т		Ŧ	T	т	т .	O	т	Т
Sodium nitrate	+	+	+	+	+	+	+	+	+	+
Sodium nitrite	+	+	+	+	+	+	+	+	+	+
Sodium perborate (soln.)	+	+	+	+	+	+	+	<u>'</u>	+	+
Sodium phosphate	+	+	+	+	+	+	+	+	+	+
(sec.) (soln.)	'	'	'	'	'	'	'	'	'	'
Sodium phosphate	+	+	+	+	+	+	+	+	+	+
(tert.) (soln.)	'	'	'	'	'	'	'	'	'	'
Sodium sulfate (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium sulfide (soln.)	+	+	+	+	+	+	+	0	+	+
Sodium sulfite (soln.)	+	+	+	+	+	+	+	+	+	+
Sodium thiosulfate (soln.)	+	+	+	+	+	+	+	0	+	+
Soy oil	+		+	+	+	+	Т		+	+
Sperm oil	+	+	+		+				+	
Stearic acid								1		
Strontium bromide	+	+	+	+	+	+	+	+	+	+
Strychnine Strychnine	+	+	+	+	+	+	+		+	+
Strycnnine Sugar (soln, 30 %)	+	+	+	+	+	+			+	+
Sugar (soin, 30 %) Sulfur	+	+	+	+	+	+	+	+	+	+
Sulfur hexafluoride	+	+	+	+	+	+	+	+	+	+
Sulfuric acid (10 %)	+	1	+		+			0	+	
ouliulio aciu (10 %)	+	+	+	+	+	+	+	U	+	+

Test substance		ran AN)		uran BS)		an S SA)		an S +PC)	Ter (MA	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Sulfuric acid (38 %,	+	+	+	+	+	+	+	0	+	0
battery acid)										
Sulfuric acid (50 %)	+	+	+	+	+	+	+	0	0	0
Sulfuric acid (conc.)	-	-	-	-	-	-	-	-	-	-
T annic acid	+	+	+	+	+	+	-		+	+
Tartaric acid (soln.)	+	+	+	+	+	+	+	+	+	+
Tea leaves (moist)	+	+	+	+	+	+	+	+	+	+
Tea, instant	+	+	+	+	+	+	+	+	+	+
Tetrachlorethane	-	<u> </u>	-		-	<u> </u>	-	<u> </u>		
Tetrachloromethane	_		-	-	_	-	-	-	_	-
Tetrahydrofuran	-	-	-	-	-	-	-	-	_	-
Tetrahydrofurfurol	-	-	-	-	-	-	-	-	_	_
Tetralin (R)	-	-	-	-	-	-	-	-	_	-
Thionyl chloride	-	-	-	-	-	-	-	-	_	-
Thiophene	-	-	-	-	-	-	-	-	_	-
Thymol	-	-	-	-	-	-	-	-	_	_
Tin (II) chloride (soln.)	+	+	+	+	+	+			+	+
Tin (IV) chloride (soln.)	-	-	-	_	-	-	-	-	-	-
Titanium tetrachloride	-	-	-	-	-	-	-	-	-	-
Toluene	-	-	-	_	-	-	-	-	-	_
Tomato juice	+	+	+	+	+	+	+	+	+	+
Tragacanth (gum	+	+	+	+	+	+			+	+
tragacanth)										
Transformer oil	+	0	+	0	+	0			+	0
Trichlorobenzene	-	-	-	-	-	-	-	-	-	-
Trichloroethane	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	-	-	-	-	-	-	-	-	-	-
Trichlorophenol	-	-	-	-	-	-	-	-	-	-
Tricresyl phosphate	-	-	-	-	-	-	-	-	-	-
Triethanolamine	+	+	+	+	+	+	-	-	+	+
Triethylene glycol	+	+	+	+	+	+	+		+	0
Triglycol acetate	-	-	-	-	-	-	-	-	-	-
Trypaflavin (R)	+		+		+				+	
Tryptophane (d or l)	+	+	+	+	+	+			+	+
Turpentine	0	0	0	0	0	0	0	0	0	0
Turpentine substitute	+	0	+	0	+	0	+	+	0	0
Tyrosine (d or I)	+	+	+	+	+	+			+	+
U ndecanol	+	+	+	+	+	+	0	0	+	+
Urea (soln.)	+	+	+	+	+	+	+	+	+	+
Urotropin (soln.)	+	+	+	+	+	+	<u>'</u>		+	+
V alerian drops	+		+		+				+	
Verbena oil	-		-		-		-	-	-	-
Vinegar	+	+	+	+	+	+	+	+	+	+
W ater	+	+	+	+	+	+	+	0	+	+
Water colors	+	+	+	+	+	+	+	+	+	+
Water glass	+	+	+	+	+	+	+	<u> </u>	+	+
Wax (bleached)	+	+	+	+	+	+	+	+	+	+
White oil	+	+	+	+	+	+	+	+	+	+
X ylene	-	-	-	-	-	-	-	-	-	-

Test substance	Lui (S <i>A</i>		Terli (Al	uran 3S)	Lura (AS	an S SA)		an S .+PC)	Ter (MA	_
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Z inc bromide	+	+	+	+	+	+	+		+	+
Zinc carbonate	+	+	+	+	+	+	+		+	+
Zinc chloride (soln.)	+	+	+	+	+	+	+	0	+	+
Zinc nitrate	+	+	+	+	+	+			+	+
Zinc ointment	+	+	+	+	+	+			+	+
Zinc oxide	+	+	+	+	+	+	+	+	+	+
Zinc stearate	+	+	+	+	+	+			+	+
Zinc sulfate (soln.)	+	+	+	+	+	+	+	+	+	+

Note

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