

## Raw materials

LDPE, HDPE, PP, hard PVC and PETG are physiologically inert and are suitable for the appropriate packaging and storage of foodstuffs. They fulfil the valid German regulations and the EG-Directive 90/ 128 together with the corresponding supplements EEC 92/ 39, 93/ 9 and 95/ 3.

### **Polyolefins (PE): LDPE, HDPE, PP**

- physiologically inert
- flexible and inherently stable
- good chemical resistance
- shatter-proof
- PP is autoclavable

### **Polypropylen (PP)**

- rigid and inherently stable
- very good chemical resistance
- features a very good resistance against tension cracking
- in thin layers almost transparent, thicker layers are translucent up to opaque white

### **Low-density Polyethylene (LDPE)**

- flexible, tough and shatter-proof
- in thin layers almost transparent, thicker layers are translucent up to opaque white
- resistant to water, aqueous solutions and most chemicals
- excellent water vapour resistance

### **High-density Polyethylen (HDPE)**

- rigid and shatter-proof
- slightly transparent in thin layers, in thicker layers weakly translucent to opaque white
- resistant to water, aqueous solutions and most chemicals
- excellent water vapour resistance

### **Polyvinyle chloride (PVC hard)**

- physiologically inert
- crystal-clear or transparent brown
- good chemical resistance
- extremely rigid, high breaking resistance
- high transparency
- resistant to water, aqueous solutions, alcohols and oils
- slight gas permeability, e.g. to oxygen
- adequate water vapour resistance in most cases

### **Co- Polyester (PETG) (Polyethylen Terphthalat Glycole)**

- physiologically inert
- flexible and inherently stable
- high transparency (glass-clear), optically brilliant
- shatter-proof
- resistant to water, aqueous solutions, salts, aliphatic mediums, hydrocarbons und oils

	Low density Polyethylene LDPE	High density Polyethylene HDPE	Polypropylene PP	PVC rigid	Co-Polyester PETG	Polyamide	Polycarbonate
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Physical properties of thermoplastics	natural colour	transparent	translucent white	transparent	crystal clear	crystal clear	up to 0,5 mm wall thickness crystal clear
	state at 20 °C	flexible	flexible/rigid	flexible/rigid	brittle/ impact resistant	brittle/ impact resistant	flexible/tough vulnerable to folding
	specific weight at 20 °C	approx. 0,92	approx. 0,95	approx. 0,905	approx. 1,38	approx. 1,25	approx. 1,12
	shore hardness 20 °C	approx. 90	approx. 95	approx. 100	approx. 100	approx. 100	approx. 100
	tear strength at 20 °C	approx. 10 N/mm <sup>2</sup>	approx. 20 N/mm <sup>2</sup>	approx. 30 N/mm <sup>2</sup>	approx. 50 N/mm <sup>2</sup>	approx. 50 N/mm <sup>2</sup>	approx. 45 N/mm <sup>2</sup>
	elongation at 20 °C	approx. 500 %	approx. 500 %	approx. 650 %	approx. 30 %	approx. 15 %	approx. 200 %
	water absorption	traces	traces	traces	traces	traces	high
	diffusion	hydrocarbons	hydrocarbons	hydrocarbons	hydrocarbons	hydrocarbons	water, hydrocarbons

This information only provides a general indication.

Chemical properties of thermoplastics	resistant against	non oxidising alkalis, organic solvents, excl. chlorinated hydrocarbons; it is advisable to carry out storage tests for testing diffusion	sh. Polyethylen see LDPE/HDPE weich	acids, alkalis, petrol, oil, fats, terpentine, alcohol	petrol, oils, fats, terpentine	petrol, benzene, chlorinated hydrocarbons, oils, fats	weak acids
	not resistant against	oxidising acids, oils, fats, chlorinated hydrocarbons	oxidising acids, sh. Polyethylen oils, fats, chlorinated weich	esters, ketone, benzene, chlorinatid hydrocarbons, hydrogene sulphide	esters, ketone, benzene, chlorinated hydrocarbons	acids, alkalis, alcohol, water	alkalis, strong acids, esters, ketone, benzene, chlorinated hydrocarbons

This information only provides a general indication, storage tests are recommended.

Applications	container size	0,001 to 1000 l	0,001 to 3000 l	0,01 to 120 l	0,01 to 5 l	0,01 to 1 l	0,01 to 60 l	0,01 to 30 l
	type of contents	cosmetic preparations, food-stuffs and chemicals	see LDPE, aromatic hydrocarbons, oils, fats	cosmetic preparations, foodstuffs and chemicals	wash polish, petrol, oils, fats, shoecream, cosmetic preparations, foodstuffs	cosmetic preparations, foodstuffs	petrol, oils, fats, stain remover (tri, tetra)	cosmetic preparations, foodstuffs
	transformation of contents	none caused by the material itself, possibly due to diffusion			-	-	drying out without becoming moist due to diffusion of water	none caused by material itself, possibly due to diffusion
	printing options	Screen printing	Screen printing	Screen printing	Screen printing	Screen printing	Screen printing	Screen printing
	engraving suitability	good	good	very good	vulnerable to cracking around sharp edges	vulnerable to cracking around sharp edges	vulnerable to cracking around sharp edges	vulnerable to cracking around sharp edges
	operational temperature	-40 °C to 95 °C	-40 °C to 110 °C	0 °C to 130 °C	-30 °C to 70 °C	0 °C to 65 °C	0 °C to 80 °C	-40 °C to 115 °C

Resistance: 1 = stable, 2 = conditionally stable, 3 = unstable

MEDIUM	CONC.	HDPE		LDPE		PETG		PP		PVC HARD	
		20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C
Acetaldehyde	40%	2	2	1	3	3	3	1	-	3	3
Acetaldehyde + acetic acid	90/10%	-	-	-	-	-	-	1	-	-	-
Acetic acid	10 %	1	1	1	1	1	1	1	1	1	2
Acetic acid	50 %	1	1	1	1	-	-	1	1	1	1
Acetic acid	5 %	1	1	1	2	1	1	1	1	1	1
Acetic acid (glacial acetic acid)	90%	1	1	1	1	3	3	1	1	1	1
Acetic acid ester	100 %	-	-	1	3	3	3	1	2	3	3
Acetone		1	1	2	2	3	3	1	2	3	3
Acetonitrile		1	1	1	1	-	3	2	3	3	3
Acid, battery	38 %	1	1	1	1	3	3	1	1	1	2
Acrylic acid ethyl ester	100%	-	-	-	-	-	-	-	-	3	3
Adipic acid	saturated	1	1	1	1	-	-	1	1	1	2
Allyl alcohol	96 %	1	2	2	2	1	-	1	1	1	2
Alum		1	1	-	-	1	1	1	1	-	-
Aluminium chloride	10 %	1	1	1	1	1	1	1	1	1	1
Aluminium chloride	solid	1	1	1	1	-	-	1	1	-	-
Aluminium chloride	saturated	1	1	1	1	-	-	1	1	1	1
Aluminium chloride	aqueous	1	1	1	1	1	1	1	1	1	1
Aluminium nitrate	aqueous	1	1	1	-	1	1	1	1	1	-
Aluminium sulfate	10 %	1	1	1	1	1	1	1	1	1	1
Aluminium sulfate	saturated	1	1	1	1	-	-	1	1	1	1
Ammonia	25 %	1	1	1	1	1	3	1	1	1	1
Ammonia liquor	any	1	1	1	1	1	3	1	1	-	-
Ammonium chloride	aqueous	1	1	1	1	1	1	1	1	1	2
Ammonium fluoride	saturated	1	1	1	1	1	1	1	1	1	-
Ammonium fluoride	aqueous	1	1	1	1	1	1	1	1	-	-
Ammonium nitrate	10 %	1	2	-	-	1	1	1	1	1	2
Ammonium nitrate	saturated	1	2	1	1	1	1	1	1	1	1
Ammonium nitrate	aqueous	1	1	1	1	1	1	1	1	-	-
Ammonium sulfate	10 %	1	1	1	1	1	1	1	1	1	2
Ammonium sulfate	saturated	1	1	1	1	1	1	1	1	1	1
Ammonium sulfate	aqueous	1	1	1	1	1	1	1	1	-	-
Ammonium sulfide	any	1	1	1	1	-	-	1	1	1	2
Ammonium sulfide	aqueous	1	1	1	1	-	-	1	1	-	-
Amyl acetate (Pentylacetate)		1	1	1	2	1	2	2	3	3	3
Amyl alcohol		1	1	1	1	1	-	1	1	1	2
Aniline		1	1	1	2	-	-	1	2	3	3
Aniline chlorohydrate	saturated	1	2	-	-	-	-	1	2	1	-
Antifreeze (Ethyleneglycol)		1	1	1	1	1	-	1	1	-	-
Antimony trichloride	90 %	1	1	1	1	-	-	1	1	1	-
Aqua regia		3	3	3	3	3	3	3	3	3	3
Aromatic acid		1	1	-	-	-	-	-	-	-	-
Aromatic acids	0,5	1	1	1	1	-	-	-	-	-	-
Arsenic acid		1	1	-	1	-	-	1	1	1	2
Arsenic acid	aqueous	1	1	-	-	-	-	1	1	-	-
Arsenic acid hydride		1	1	1	1	-	-	1	1	-	-
Beer		1	1	1	1	1	-	1	1	1	1
Benzene		2	3	2	3	3	3	2	3	3	3
Benzoic acid	saturated	1	1	1	1	1	-	1	2	1	1
Benzoic acid	aqueous	1	1	1	1	1	-	1	2	-	-
Benzyl benzoate		-	-	-	-	-	-	2	3	-	-
Borax	any	1	1	1	1	1	1	1	1	1	2
Boric acid	10 %	1	1	1	1	1	-	1	1	1	2
Boric acid	aqueous	1	1	1	1	1	-	1	1	-	-
Brake fluid		1	1	1	-	-	-	1	1	1	-
Brake fluid DOT 3		-	-	-	-	1	1	-	-	-	-
Brandy		1	1	1	-	1	-	1	1	1	1
Brandy		-	-	-	-	-	-	-	-	1	-
Bromic vapours		3	3	3	3	3	3	3	3	-	-
Bromine		3	3	3	3	3	3	3	3	1	3
Butane	techn. pure	1	-	1	1	1	-	1	1	1	-
Butanol	techn. pure	1	1	1	2	1	-	1	1	1	2
Butenediol	10 %	1	1	1	1	1	-	1	1	1	-
Butyl acetate		1	1	1	2	2	-	2	3	3	3
Butyric acid		2	3	3	3	-	-	3	3	1	3
Calcium chloride	aqueous	1	1	1	1	1	-	1	1	1	2
Calcium hypochlorite	aqueous	-	-	-	-	2	-	-	1	1	-
Calcium hypochlorite	saturated	1	-	1	1	1	2	-	1	1	12
Calcium nitrate	50 %	1	1	1	-	1	1	1	1	1	1-
Calcium nitrate	aqueous	1	1	1	1	1	1	1	1	-	-
Carbon dioxide, dry	techn. pure	1	1	1	1	1	1	1	1	1	2
Carbon dioxide, umid	techn. pure	1	1	1	1	1	1	1	1	1	1
Carbon disulfide		3	3	3	3	-	-	3	3	3	3
Carbon tetrachloride		2	3	3	3	1	3	3	3	1	2
Carbonic acid	saturated	1	2	1	1	1	1	1	1	1	2
Caustic potash	30 %	1	1	1	1	3	3	1	1	1	2
Caustic potash	50 %	1	1	1	1	3	3	1	1	1	1
Caustic potash	aqueous	1	1	1	1	3	3	1	1	-	-
Caustic potash	10 %	1	1	1	1	3	3	1	1	-	-
Caustic potash	50 %	1	1	1	1	3	3	1	1	1	1
Caustic soda		1	1	1	1	3	3	1	1	-	-
Chloramine	diluted	1	-	1	-	-	-	2	3	-	-
Chloric methyl		-	-	-	-	-	-	3	3	-	-
Chlorinated water		2	-	-	3	3	3	1	3	2	2
Chlorine	10 % wet	2	3	2	3	3	3	3	3	1	1
Chlorine	97 %	3	3	3	3	3	3	3	3	3	3
Chlorine gas		-	-	-	-	3	3	3	3	-	-
Chloroacetic acid		-	-	-	-	3	3	1	1	-	-
Chloroacetic acid (mono)	50 %	1	2	1	2	3	3	1	1	1	-
Chloroacetic acid (mono)	techn. pure	1	1	1	1	3	3	1	1	2	3
Chlorobenzene		3	3	2	3	1	3	2	3	3	3
Chlorsulphonic acid	techn. pure	3	3	3	3	3	3	3	3	2	-
Chromic acid	10 %	1	1	1	1	2	-	1	1	1	1
Chromic acid	20 %	-	-	1	2	3	3	2	2	1	-
Chromic acid	50 %	2	3	2	3	3	2	1	2	-	-
Chromic acid	aqueous	-	-	-	-	3	3	1	2	-	-

MEDIUM	CONC.	HDPE		LDPE		PETG		PP		PVC HARD	
		20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C
Chromic alum	saturated	1	1	-	-	1	1	1	1	1	1
Chromic sulphuric acid	pur	3	3	3	3	3	3	3	3	2	-
Citric acid	10 %	1	1	1	1	1	2	1	1	1	1
Citric acid	10 %	1	1	1	1	1	2	1	1	1	2
Citric acid	50 %	1	1	1	1	-	-	1	1	-	-
Citric acid	saturated	1	1	1	1	-	-	1	1	1	1
Citric acid	aqueous	1	1	1	1	-	-	1	1	-	-
Common salt		1	1	1	1	1	1	1	1	1	1
Common salt	aqueous	1	1	1	1	1	1	1	1	1	1
Copper sulphate	aqueous	1	1	1	1	1	1	1	1	-	-
Crude oil	100 %	-	-	1	2	1	-	1	2	1	-
Cyanogen potash	saturated	1	1	1	1	-	-	1	1	1	2
Cyclanone		1	1	1	1	1	1	1	1	-	-
Cyclohexane		2	2	2	3	1	-	2	3	1	2
Cyclohexanol	techn. pure	1	1	1	1	-	-	1	2	1	1
Cyclohexanone	techn. pure	1	2	2	3	3	3	1	3	3	3
Dekalin (Decahydronaphtalin)	100 %	1	2	2	3	2	-	2	3	1	1
Detergent solution		-	-	-	-	1	1	1	1	-	-
Dextrine		1	1	1	1	1	1	1	1	1	1
Dextrine	aqueous	1	1	1	1	1	1	1	1	1	1
Diethyl ether		1	-	-	-	-	-	-	-	-	-
Dibutyl phthalate (DBP)		1	2	2	2	1	-	1	1	3	3
Dichloroethylene	techn. pure	3	3	3	3	3	3	2	-	3	3
Diesel fuel		1	2	-	-	1	1	1	2	1	-
Diesel oil	100 %	1	2	1	3	1	1	1	2	1	2
Diglycolic acid	30 %	1	1	1	1	-	-	1	1	1	2
Diglycolic acid	aqueous	1	1	1	1	-	-	1	1	-	-
Dimethyl formamide		1	1	1	2	1	-	1	1	2	3
Dioxane		-	-	-	-	1	-	2	2	-	-
Drinking water		-	-	-	-	-	-	-	-	1	1 (40°)
Emissions, carbon dioxide	low	1	1	-	-	1	1	1	1	1	1
Emissions, hydrochloric	any	1	1	-	-	-	-	1	1	1	1
Emissions, hydrofluoric	low	1	1	-	-	-	-	1	1	1	1
Emissions, nitrous	low	1	1	-	-	-	-	1	2	1	1
Emissions, sulfurdioxide	low	1	1	-	-	-	-	1	1	1	1
Emissions, sulfuric acid	any	1	1	-	-	-	-	1	2	1	1
Engine oil		-	-	-	-	1	1	1	1	-	-
Ethanol	50 %	1	1	1	1	1	1	1	1	1	-
Ethanol	96 %	1	-	1	-	1	1	1	1	1	-
Ethyl acetate		-	-	-	-	2	3	-	-	-	-
Ethyl alcohol	40 %	1	1	1	1	1	1	1	1	1	1
Ethyl alcohol	96 %	1	1	1	2	1	1	1	1	1	2
Ethyl chloride		2	2	1	3	3	3	2	3	3	3
Ethylene glycol		1	1	1	1	1	-	1	1	1	1
Fat, vegetable		-	-	-	-	1	-	1	2	-	-
Fatty acid	techn. pure	1	2	1	1	1	-	-	1	1	11
Fertilizer salts	saturated	1	1	1	1	1	-	1	1	1	1
Fluorhydric acid	40%	1	-	-	-	-	-	-	-	-	-
Fluorhydric acid	70%	1	-	-	-	-	-	-	-	-	-
Fluorhydric acid	100 %	-	-	-	-	3	3	1	1	-	-
Fluorhydric acid	4 %	1	1	1	1	3	3	1	1	1	2
Fluorhydric acid	50 %	1	1	1	1	3	3	1	1	1	2
Fluorine		3	3	3	3	3	3	3	3	1	1
Fluorine	dry	3	3	3	3	3	3	3	3	-	-
Fuosilicic acid		1	1	-	-	-	-	-	-	-	-
Formaldehyde	10 %	1	1	1	1	1	-	1	1	1	2
Formaldehyde	40 %	1	1	1	2	1	-	1	1	1	2
Formic acid	3 %	1	1	1	1	1	-	1	1	1	2
Formic acid	50 %	1	1	1	1	-	-	1	1	1	2
Formic acid	98-100 %	1	1	1	1	-	-	1	2	2	3
Freon 11		-	-	-	-	-	-	2	2	-	-
Fruit juices		1	1	1	1	1	-	1	1	1	1
Fruit tree carbolineum	aqueous	-	-	-	-	-	-	-	-	-	-
Fruit wine		1	1	1	1	1	1	1	-	1	-
Gelatine	any	1	1	1	1	1	1	1	1	1	-
Gelatine	aqueous	1	1	1	1	1	1	1	1	-	-
Glacial acetic acid		-	-	-	-	3	3	1	2	-	-
Glucose	any	1	1	1	1	1	1	1	1	1	2
Glue (animal glue, gelatine)	any	1	-	1	1	1	1	1	1	1	2
Glycerin	any	1	1	1	1	1	-	1	1	1	1
Glykol		1	1	1	1	1	-	1	1	-	-
Grape sugar	any	1	1	1	1	1	1	1	1	1	2
Grape sugar	aqueous	1	1	1	1	1	1	1	1	-	-
Hexane		1	2	3	3	1	-	1	2	1	3
Hexane, -n		1	2	3	3	1	-	1	2	1	3
Hydorcyanic acid	aqueous	1	1	1	1	-	-	1	1	1	-
Hydrazine	10 %	-	-	1	-	-	-	1	1	1	-
Hydrazine hydrate		1	1	-	-	-	-	-	-	-	-
Hydrobromic acid	40%	1	-	1	1	3	3	1	1	1	1
Hydrobromic acid	50 %	1	1	1	1	3	3	1	1	1	1
Hydrobromic acid	diluted	1	1	1	1	2	-	1	1	1	2
Hydrochloric acid	1-5 %	1	1	1	1	1	1	1	1	1	1
Hydrochloric acid	20 %	1	1	1	1	2	-	1	1	1	2
Hydrochloric acid	35 %	1	1	1	1	3	3	1	1	1	2
Hydrochloric acid	conc.	1	1	1	1	3	3	1	1	1	2
Hydrocyanic acid	techn. pure	1	1	1	1	-	-	1	1	1	2
Hydrofluosilicic acid	32 %	1	1	1	1	3	3	1	1	1	1
Hydrogen fluoride	anhydrous	-	-	-	-	3	3	1	1	-	-
Hydrogene chloride gas		-	-	-	-	3	3	1	1	-	-
Hydrogene peroxide	3 %	1	1	1	1	-	-	1	1	-	-
Hydrogene peroxide	30 %	1	1	1	1	-	-	1	1	-	-
Hydrosulphide	saturated	1	1	1	1	1	-	1	1	1	2
Hydroxylamine sulfate	any	1	1	-	-	-	-	1	1	1	-
Iodine tincture		1	2	1	2	-	-	1	1	3	3
Iron chloride	aqueous	1	1	1	1	-	-	1	1	-	-
Isooctane	techn. pure	1	2	1	2	1	-	1	2	1	-

MEDIUM	CONC.	HDPE		LDPE		PETG		PP		PVC HARD	
		20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C
Isopropyl alcohol	techn. pure	1	1	1	1	-	-	1	1	1	1
Kerosene		-	-	-	-	1	-	1	-	-	-
Kerosene		1	1	2	3	1	1	2	2	1	1
Ketone		1	1	-	-	-	-	-	-	-	-
Lactic acid	3 %	1	1	1	1	1	-	1	1	1	2
Lactic acid	80 %	1	1	1	1	-	-	1	1	1	2
Lactic acid	85 %	1	1	1	1	-	-	1	1	1	2
Lactic acid	aqueous	1	1	1	1	1	-	1	1	-	-
Lead acetate	aqueous	1	1	1	1	1	1	1	1	1	1
Lead-(II)-acetate		1	1	1	1	1	1	1	1	-	-
Linseed oil	techn. pure	1	1	1	2	1	-	1	1	1	2
Liqueurs		1	-	-	-	1	-	1	-	1	-
Lubricating oil		1	2	1	2	1	1	2	-	1	1
Magnesium sulphate	saturated	1	1	1	1	1	1	1	1	1	1
Magnesium sulphate	aqueous	1	1	1	1	1	-	1	1	-	-
Magnesiumchloride	aqueous	1	1	1	1	1	-	1	1	1	1
Maleic acid	saturated	1	1	1	1	-	-	1	1	1	2
Maleic acid	aqueous	1	1	1	1	-	-	1	1	-	-
Mercury	pur	1	1	1	1	1	1	1	1	1	1
Mercury chloride	aqueous	1	1	1	1	1	1	1	1	-	-
Methanol		1	1	1	1	1	-	1	1	1	2
Methoxybutanol	100 %	-	-	1	2	-	-	1	2	-	-
Methyl acetate	techn. pure	1	-	1	1	2	-	1	2	3	3
Methyl alcohol (methanole)		1	1	1	1	1	-	1	1	1	2
Methyl ethyl ketone		1	2	2	3	3	3	1	2	3	3
Methylen chloride		3	3	3	3	3	3	2	3	3	3
Milk		1	1	1	1	1	1	1	1	1	1
Molasses		1	1	1	1	1	-	1	1	1	2
Molasses wort		1	1	1	1	1	1	1	1	1	1
Mowilith D		1	-	-	-	1	1	1	-	1	-
Naphthaline	techn. pure	1	2	-	-	-	-	1	2	3	3
Naphthaline	100 %	-	-	1	2	-	-	1	2	3	3
Nitric acid	100 %	3	3	3	3	3	3	3	3	3	3
Nitric acid	1-10 %	1	1	1	1	1	1	1	1	1	1
Nitric acid	50 %	1	3	2	3	1	1	2	3	1	2
Nitric acid	66 %	1	3	2	3	3	3	3	3	3	3
Nitric acid	70 %	1	3	2	3	3	3	3	3	3	3
Nitrous dilution		-	-	-	-	-	-	2	2	-	-
Nitrous gases	diluted	1	1	-	-	-	-	1	3	1	2
Oil (vegetable) and animal fats		1	2	1	2	1	-	1	2	1	1
Oil, essential		3	3	2	3	-	-	2	3	-	-
Oleic acid	techn. pure	1	2	1	2	1	-	1	2	1	1
Oleum	10 % SO3	3	3	3	3	3	3	3	3	3	3
Oleum vapours	low	3	3	-	-	-	-	3	3	1	-
Olive oil		1	2	-	-	1	-	1	1	1	1
Oxalic acid		1	1	1	1	-	-	1	1	1	1
Oxalic acid	aqueous	1	1	1	1	1	1	1	1	-	-
Ozone		2	3	2	3	-	-	2	3	1	1
Palm kernel oil acid	100%	-	-	-	-	-	-	-	-	1	1
Palm-oil		1	2	-	-	1	-	1	2	1	-
Perchloric acid		1	3	1	3	3	3	1	3	1	3
Petrol		1	2	2	3	1	1	2	3	1	3
Petrol 10% ethyl alcohol		-	-	-	-	2	-	-	-	-	-
Petrol 10% methanol		-	-	-	-	2	-	-	-	-	-
Petrol ether		1	-	-	-	-	-	-	-	-	-
Petrol normal		-	-	-	-	2	-	-	-	-	-
Petrol normal unleaded		-	-	-	-	2	-	-	-	-	-
Petrol Super unleaded		-	-	-	-	2	-	-	-	-	-
Petroleum		1	1	1	3	1	1	1	2	1	1
Phenol	100 %	1	2	2	2	3	3	1	1	3	3
Phenol	10 %	1	1	1	1	3	3	1	1	1	2
Phosgene	techn. pure	-	-	2	-	-	-	2	3	3	3
Phosgene	liquid	-	-	-	-	-	-	-	-	-	-
Phosgene	gaseous	-	-	-	-	-	-	2	3	-	-
Phoshoric acid	1-5 %	1	1	1	1	1	-	1	1	1	1
Phoshoric acid	aqueous 20%	1	1	1	1	-	-	1	1	-	-
Phoshoric acid	30 %	1	1	1	1	-	-	1	1	-	-
Phoshoric acid	85 %	1	1	1	1	-	-	1	1	1	1
Phosphorus pentoxide	techn. pure	1	-	-	-	-	-	1	-	1	-
Photographic developers		1	2	1	1	1	-	1	1	1	2
Photographic developers		-	-	-	-	-	-	-	-	1	1 (40°C)
Photographic emulsion		-	-	-	-	-	-	-	-	1	1 (40°C)
Photographic fixing bath		-	-	-	-	-	-	-	-	1	1 (40°C)
Phthalilic acid	saturated	1	1	1	1	1	-	1	1	1	3
Plasticiser, DBS		-	-	-	-	1	1	-	-	-	-
Plasticiser, DOP		-	-	-	-	1	1	-	-	-	-
Polish remover		-	-	-	-	-	-	1	2	-	-
Potash	saturated	1	1	1	1	1	1	1	1	1	-
Potash	aqueous	1	1	-	-	1	1	1	1	-	-
Pottassium bichromate	saturated	1	1	1	-	2	-	1	1	1	2
Pottassium borate	10 %	1	1	1	1	1	1	1	1	1	2
Pottassium borate	aqueous	1	1	1	1	1	1	1	1	-	-
Pottassium bromate	saturated	1	2	1	2	-	-	1	1	1	2
Pottassium bromate	aqueous	-	-	-	-	-	-	1	1	-	-
Pottassium bromide	any	1	1	1	1	1	1	1	1	1	2
Pottassium chloride	aqueous	1	1	1	1	1	-	1	1	1	1
Pottassium chromate	saturated	1	-	1	1	-	-	1	1	1	1
Pottassium chromate	aqueous	-	-	-	-	-	-	1	1	-	-
Pottassium hydroxide	50 %	1	1	1	1	3	3	1	1	1	2
Pottassium hydroxide	conc.	1	1	1	1	3	3	1	1	1	1
Pottassium hydroxide	aqueous	1	1	1	1	3	3	1	1	-	-
Pottassium hydroxide	10 %	1	1	1	1	3	3	1	1	-	-
Pottassium hydroxide (Caustic pottash)	1 %	1	1	1	1	3	3	1	1	1	1
Pottassium nitrate	50 %	1	1	1	1	1	1	1	1	1	1
Pottassium nitrate	aqueous	1	1	1	1	1	1	1	1	-	-
Pottassium permanganate		1	2	1	1	1	1	1	1	1	2
Pottassium permanganate	aqueous	-	-	-	-	1	1	1	1	-	-
Pottassium sulphate	any	1	1	1	1	-	-	1	1	1	2

MEDIUM	CONC.	HDPE		LDPE		PETG		PP		PVC HARD	
		20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C
Propane	liquid	1	-	1	-	1	-	1	-	1	-
Propane	gaseous	2	3	3	3	1	-	1	3	1	1
Propanoic acid	50 %	1	2	1	2	-	-	1	1	1	2
Propanoic acid	techn. pure	1	2	1	2	-	-	1	2	1	-
Propyl alcohol		1	1	1	1	1	-	1	1	1	1
Propyl alcohol	100 %	1	1	1	1	1	-	1	1	1	1
Pyridine		1	2	-	1	-	-	2	2	3	3
Roasting gases	any	-	-	-	-	-	-	1	1	-	-
Sea water		1	1	1	1	1	1	1	1	1	2
Silicic acid	any	1	1	1	1	1	1	1	1	1	1
Silicone oil		1	1	1	1	1	-	1	1	1	3
Silver nitrate		1	1	1	1	1	1	1	1	1	1
Silver nitrate	aqueous	1	1	-	-	1	1	1	1	-	-
Silver salt	saturated	1	1	-	-	1	1	1	1	1	2
Soap solution	any	1	1	-	-	1	1	1	1	1	2
Sodium carbonate		1	1	1	1	-	-	1	1	-	-
Sodium carbonate		1	1	1	1	-	-	1	1	1	1
Sodium carbonate	saturated	1	1	1	1	-	-	1	1	1	1
Sodium carbonate	aqueous	1	1	1	1	1	-	1	1	-	-
Sodium carbonate	saturated	1	1	1	1	-	-	1	1	1	-
Sodium carbonate	aqueous	1	1	1	1	1	-	1	1	-	-
Sodium chloride	any	1	1	1	1	1	1	1	1	1	2
Sodium chloride	aqueous	1	1	1	1	1	1	1	1	-	-
Sodium fluoride	saturated	1	1	1	1	1	1	1	1	1	-
Sodium hydroxide	1 %	1	1	1	1	2	2	1	1	1	1
Sodium hydroxide	50 %	1	1	1	1	3	3	1	1	1	1
Sodium hydroxide	30 %	1	1	1	1	3	3	1	1	1	2
Sodium hydroxide	45 %	1	1	1	1	3	3	1	1	1	2
Sodium hydroxide	60 %	1	1	1	1	3	3	1	1	-	-
Sodium hydroxide	aqueous	1	1	1	1	3	3	1	1	-	-
Sodium hypochlorite		-	-	-	-	2	2	2	2	-	-
Sodium hypochlorite	12 % Cl	-	-	-	-	2	2	1	1	-	-
Sodium hypochlorite	15 %	1	1	1	1	2	2	1	1	1	1
Sodium hypochlorite	50 %	2	2	2	2	3	3	2	2	-	-
Sodium hypochlorite	saturated	1	2	1	2	3	3	1	2	1	2
Sodium hypochlorite	diluted	1	2	1	2	2	2	1	2	1	2
Sodium hypochlorite	aqueous	-	-	-	-	2	2	2	2	-	-
Sodium hypochlorite solution	20 %	1	2	1	2	3	3	1	2	1	2
Sodium hypochlorite solution	50 %	2	2	2	2	3	3	2	2	1	-
Sodium hypochlorite solution	diluted	1	2	1	2	2	-	1	2	1	2
Sodium nitrate	saturated	1	1	1	1	1	1	1	1	1	2
Sodium nitrate	aqueous	1	1	1	1	1	-	1	1	-	-
Sodium silicate	aqueous	1	1	1	1	1	-	1	1	-	-
Sodium silicate	any	1	1	1	1	1	-	1	1	1	2
Sodium sulfide	aqueous	1	1	1	1	1	-	1	1	-	-
Spindle oil		2	2	1	2	1	-	1	3	2	-
Starch dilution	any	1	1	1	1	1	1	1	1	1	1
Starch sirup		1	1	1	1	1	1	1	1	1	1
Stearic acid	crystals	1	2	1	2	1	-	1	2	1	1
Styrene	100 %	3	3	2	3	1	1	2	3	3	3
Succinic acid	50 %	1	1	1	1	-	-	1	1	1	-
Succinic acid	saturated	1	1	1	1	-	-	1	1	1	2
Succinic acid	any	1	1	1	1	-	-	1	1	1	1
Sugar sirup		1	1	1	1	1	1	1	1	1	2
Sulphur	techn. pure	1	1	1	1	1	1	1	1	2	-
Sulphur dioxide	humid	1	1	1	1	-	-	1	2	1	1
Sulphur dioxide	liquid	2	3	3	3	-	-	3	3	2	3
Sulphur trioxid		3	3	3	3	3	3	3	3	3	3
Sulphuric acid	1-6 %	1	1	1	1	-	-	1	1	1	1
Sulphuric acid	20 %	1	1	1	1	-	-	1	1	1	1
Sulphuric acid	40 %	1	1	1	1	3	3	1	1	1	2
Sulphuric acid	60 %	1	2	1	2	3	3	1	2	1	1
Sulphuric acid	80 %	1	1	1	1	3	3	1	1	1	1
Sulphuric acid	95 %	2	3	2	3	3	3	2	3	1	3
Sulphuric acid	smoking	3	3	3	3	3	3	3	3	3	3
Tallow	techn. pure	1	1	1	1	1	-	1	1	1	1
Tannic acid		1	1	1	1	-	-	1	1	-	-
Tanning extracts	usual	1	1	1	1	-	-	1	2	-	-
Tanning extracts, vegetable	usual	1	1	1	1	-	-	1	1	1	-
Terpentine		-	-	-	-	1	1	-	-	-	-
Terpentine oil		1	1	2	3	1	-	3	3	1	2
Tetralin		2	3	2	3	1	-	3	3	-	-
Thionyl chloride	techn. pure	3	3	3	3	-	-	3	3	3	3
Thionyl chloride		3	3	3	3	-	-	3	3	3	3
Toluene		2	3	2	3	1	-	2	3	3	3
Transformer oil	100 %	1	2	2	2	1	1	1	2	1	-
Trichlorethylene	100 %	2	3	3	3	3	3	3	3	3	3
Triethanol amine	techn. pure	1	1	1	1	1	-	1	1	2	-
Urea	aqueous	1	1	1	1	1	-	1	1	-	-
Urea (carbamide)		1	1	1	1	1	-	1	1	1	3
Urine		1	1	1	1	1	-	1	1	1	2
Waste water each kind (also strongly sour, however without organic solvents)		-	-	-	-	-	-	-	-	1	1(40° C)
Water		1	1	1	1	1	1	1	1	1	2
Water, distilled/desalted		1	1	1	1	1	1	1	1	1	2
Wax alcohol	techn. pure	2	3	2	3	1	-	2	3	1	1
Wine vinegar		1	1	1	1	1	1	1	1	1	-
Wine vinegar		1	1	1	1	1	1	1	1	1	1
Wine vinegar		1	1	1	1	-	-	1	1	1	1
Wine vinegar	aqueous	1	1	1	1	-	-	1	1	-	-
Wines		1	1	1	1	1	1	1	1	1	1
Xylene		2	3	2	3	-	-	3	3	3	3
Yeast	any	1	12	1	1	1	-	1	1	1	-
Zinc chloride	10 %	1	1	1	1	-	-	1	1	1	2
Zinc chloride	aqueous	1	1	1	1	-	-	1	1	-	-
Zinc sulphate	10 %	1	1	1	1	1	1	1	1	1	1
Zinc sulphate	aqueous	1	1	1	1	1	1	1	1	-	-