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Chemical Resistance

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1 General conditions of the resistance tests

The resistance data listed in the following tables is derived from the storage of the test material in the corresponding liquid for 24 hours. These only apply to handling and cleaning at ambient temperature.

The information about the chemical resistance only refers to the used plastics of the instrument. These plastics have been improved to enhance the standard properties of the corresponding plastic. Therefore, the data in the following tables does not necessarily apply to plastics with the same abbreviations that are used in other products.

As only the consumable comes into contact with the liquid if handled properly, aggressive liquids can be used carefully for a limited time. This limited time is reduced for aggressive liquids with a high vapor pressure. For liquids with high vapor pressure, gases enter the instrument during dispensing. The gases or aerosols may condense at various locations. Using aggressive liquids may reduce the service life of the instrument.

2 Materials used

The following materials used in the instrument are important for the user:

Component	Material
O-rings	Ethylene propylene diene rubber (EPDM)
Cylinder	Silicone

3 Evaluation criteria

In this document, the following evaluation criteria for resistance are defined.

Symbol	Resistance	Explanation
■■■	Resistant	The chemical can be used.
■■	Limited resistance	The chemical can be used for a limited period of time. If the liquid is not removed, subsequent damage is possible.
■	Increased wear/risk	The chemical can only be used with utmost caution. If handled improperly, the chemical must be removed immediately because subsequent damage can occur quickly. Wear parts may need to be replaced earlier than normal.

4 Chemical resistance

4.1 Acids and alkalines

Designation	Concentration	EPDM	Silicone
Ammonia solution	25 %	■■■	■■■
Ammonia solution	2 %	■■■	■■■
Acetic acid	96 %	■■■	■■■
Acetic acid	12 %	■■■	■■■
Caustic soda	40 %	■■■	■■■
Caustic soda	20 %	■■■	■■■
Perchloric acid	10 %	■■■	■■■
Phosphoric acid	85 %	■■■	■■■
Nitric acid	65 %	■■■	■[1]
Nitric acid	6 %	■■■	■■
Hydrochloric acid	32 %	■■■	■[1]
Hydrochloric acid	3.6 %	■■■	■■■
Sulfuric acid	96 %	■■■	■[1]
Sulfuric acid	16 %	■■■	■■■
Trichloroacetic acid	40 %	■■■	■[1]
Trichloroacetic acid	10 %	■■■	■■
Trifluoroacetic acid (TFA)	100 %	■■■	■[1]
Trifluoroacetic acid (TFA)	10 %	■■■	■■■

[1] Wear parts have to be replaced at shorter intervals.

4.2 Organic solvents

Designation	Concentration	EPDM	Silicone
Acetone	–	■■■	■■■
Acetonitrile	–	■■■	■■■
Dichloromethane	–	■■	■■■
Diethyl ether	–	■■	■■■
Dimethyl sulfoxide (DMSO)	10 %	■■■	■■■
Dimethyl sulfoxide (DMSO)	50 %	■■■	■■■
Dimethyl sulfoxide (DMSO)	100 %	■■■	■■■
Acetic ether	–	■■	■■■
Ethanol (denatured)	96 %	■■■	■■■
Formaldehyde	37 %	■■■	■■■
Isoamyl alcohol	–	■■■	■■■
Isopropanol	–	■■■	■■
Methanol	–	■■■	■■■
Petroleum ether	–	■■	■■
Phenol (water saturated)	–	■■■	■■■
Carbon tetrachloride	–	■■	■■■
Tulol	–	■■	■■■
Trichloromethane (Chloroform)	–	■■	■■■
Xylol	–	■■	■■

4.3 Cleaning agents and disinfectants

Designation	Concentration	EPDM	Silicone
Biozidal ZF	–	■■■	■■■
CIDEX Activated Dialdehyde Solution	–	■■■	■■■
Dismozon pur (peroxide-based)	4 %	■■■	■■■
DNA *AWAY*	–	■■■	■■■
DNA Erase	–	■■■	■■
Ethanol	70 %	■■■	■■■
Helipur (phenol-based)	6 %	■■■	■■■
Hexaquart S (QAV-based)	5 %	■■■	■■■
Hi-TOR Plus	–	■■■	■■■
Isopropanol	70 %	■■■	■■
Korsolex basic (aldehyde-based)	5 %	■■■	■■■
Meliseptol (alcohol-based)	–	■■■	■■■
Sodium hypochlorite	4 %	■■■	■■■
RNase AWAY	–	■■■	■■■
RNase Exitus plus	–	■■■	■■
Sterillium	–	■■■	■■■
Hydrogen peroxide	35 %	■■■	■■■

4.4 Saline solutions, buffers, wetting agents, oils and other solutions

Designation	Concentration	EPDM	Silicone
Caesium chloride	Saturated	■■■	■■■
Ethylenediaminetetraacetic acid (pH 8)	1.86 g/mL	■■■	■■■
Ficoll (polysaccharide)	1.077 g/mL	■■■	■■■
Formamide	50 %	■■■	■■■
Glutaraldehyde	25 %	■■■	■■■
Glycerol	50 %	■■■	■■■
Guanidinium thiocyanate	4 mol/L	■■■	■■■
Mineral oil	–	■■	■■■
Sodium acetate (pH 5.2)	2 mol/L	■■■	■■■
Parafin oil	–	■■	■■■
Sodium dodecyl sulfate (SDS)	1 %	■■■	■■■
TRIS buffer (pH 5.2)	1 mol/L	■■■	■■■
Triton X-100	1 %	■■■	■■■
Tween 20	1 %	■■■	■■■

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