

1. Chemicals

Acetaldehyde	✗
Acetic acid, up to 10 % solution	✓
Acetone	✗
Acetylene	✓
Acrylonitril	✗
Allyl alcohol	○
Alum	✓
Aluminum chloride, saturated aqueous solution	✓
Aluminum oxalate	✓
Aluminum sulphate, saturated aqueous solution	✓
Ammonia	✗
Ammoniacal liquor	✗
Ammonium chloride, saturated aqueous solution	✓
Ammonium nitrate, saturated aqueous solution	✓
Ammonium sulphate, saturated aqueous solution	✓
Ammonium sulphide, saturated aqueous solution	✗
Amylo acetate	✗
Aniline	✗

Legend:



The results shown in the sections 2 to 10, and especially the commercial products marked with ®, are based on a one-time test. Changes in composition made by the producers of these substances can influence the product properties.

Antimony chloride, saturated aqueous solution	✓
Arsenic acid, 20 % solution	✓
Benzaldehyde	✗
Benzene	✗
Benzoic acid	✗
Benzyl alcohol	✗
Borax, saturated aqueous solution	✓
Boric acid	✓
Bromic benzene	✗
Bromine	✗
Butane (liquid or gaseous)	✓
Butyl acetate	✗
Butanol	✓
Butylene glycol	✓
Butyric acid	✗
Calcium chloride, saturated aqueous solution	✓
Calcium hypochloride	✓
Calcium nitrate, saturated aqueous solution	✓

ANNEX 1: CHEMICAL RESISTANCE OF MAKROLON

Calcium-soap, fat/pure	✓	Cyclo hexanone	✗
Carbon acid, wet	✓	Dekaline	✓
Carbon monoxide	✓	Diamyl phthalate	✗
Chlorine benzene	✗	Dibutyl phthalate (plasticizer)	✗
Chlorine gas, dry	○	Diethylene glykol	✓
Chlorine gas, wet	✗	Diethylether	✗
Chlorine lime slurry	✓	Diglycolic acid, saturated aqueous solution	✓
Chlorine lime, 2 % in water	✓	Dimethyl formamide	✗
Chloroform	✗	Dinonyl phthalate (plasticizer)	○
Chrom alum, saturated aqueous solution	✓	Dioctyl phthalate (plasticizer)	○
Chromic acid, 20 % in water	✓	Dioxane	✗
Citric acid	✓	Diphyl 5.3	○
Copper sulphate, saturated aqueous solution	✓	Ether	✗
Cresol	✗	Ethyl alcohol, 96 % pure	✓
Cupric chloride, saturated aqueous solution	✓	Ethyl amine	✗
Cuprous chloride, saturated aqueous solution	✓	Ethyl bromide	✗
Cyclo hexane	✗	Ethylene chlorhydrine	✗
Cyclo hexanol	○	Ethylene chloride	✗

Ethylene glykol	✓
Ferritrichloride, saturated aqueous solution	✓
Ferro bisulphate	✓
Formaline, 10 %	✓
Formic acid, 30 %	○
Gasoline	✓
Glycerine	○
Glycol	✓
Heptane	✓
Hexane	✓
Hydrochloric acid, 20 %	✓
Hydrochloric acid, conc.	✗
Hydrofluoric acid, 5 %	✓
Hydrofluoric acid, conc.	✗
Hydrofluorosilicic acid, 30 %	✓
Hydrogen peroxide, 30 %	✓
Iodine	✗
Isoamyl alcohol	○

Isopropyl alcohol	✓
Lactic acid, 10 % in water	✓
Lead tetraethylene, 10 % in gasoline	○
Lighting gas	✓
Ligroin (hydrocarbon compound)	✓
Lime milk, 30 % in water	○
Magnesium chloride, saturated aqueous solution	✓
Magnesium sulphate, saturated aqueous solution	✓
Manganous sulphate, saturated aqueous solution	✓
Mercurio chloride, saturated aqueous solution	✓
Mercury	✓
Methacrylic acid-methylester (MMA)	✗
Methane	✓
Methanol	✗
Methyl amine	✗
Methyl ethyl ketone (MEK)	✗
Methylene chloride	✗
Nitric acid, 10 %	✓

Legend:

✓ resistant

○ partially resistant

✗ not resistant

ANNEX 1: CHEMICAL RESISTANCE OF MAKROLON

Phosphoric acid, conc.	✓
Phosphoric oxichloride	✗
Potassium aluminum sulphate, saturated aqueous solution	✓
Potassium bichromate, saturated aqueous solution	✓
Potassium bromide, saturated aqueous solution	✓
Potassium carbonate, saturated aqueous solution	✓
Potassium chloride, saturated aqueous solution	✓
Potassium cyanide	✗
Potassium hydroxide	✗
Potassium metabisulphide, 4 % in water	✓
Potassium nitrate, saturated aqueous solution	✓
Potassium perchlorate, 10 % in water	✓
Potassium permanganate, 10 % in water	✓
Potassium persulphate, 10 % in water	✓
Potassium rhodanide, saturated aqueous solution	✓
Potassium sulphate, saturated aqueous solution	✓
Propane gas	✓

Nitric acid, 10–20 %	○
Nitric acid, 20 %	✗
Nitric gas, dry	✗
Nitrobenzene	✗
Oxalic acid, 10 % in water	✓
Oxygen	✓
Ozone	✓
Pentane	✓
Perchloric acid, 10 % in water	✓
Perchloric acid, concentrated	○
Perchloro ethylene	✗
Perhydrol, 30 %	✓
Petroleum	○
Petroleum ether	○
Petroleum spirit	✓
Phenol	✗
Phenyl ethyl alcohol	✗
Phosphor trichloride	✗

Propargyl alcohol	✓
Propionic acid, 20 %	✓
Propionic acid, conc.	✗
Propyl alcohol	✓
Pyridine	✗
Resorcin oil solution, 1 %	✓
Carbon disulphide	✗
Hydrogen sulphide	✓
Soda	✓
Sodium bicarbonate, saturated aqueous solution	✓
Sodium bisulphate, saturated aqueous solution	✓
Sodium bisulphide, saturated aqueous solution	✓
Sodium carbonate, saturated aqueous solution	✓
Sodium chlorate, saturated aqueous solution	✓
Sodium chloride, saturated aqueous solution	✓
Sodium hydroxide	✗
Sodium hypochloride, 5 % in water	✓
Sodium sulphate, saturated aqueous solution	✓

Sodium sulphide, saturated aqueous solution	○
Styrene	✗
Sublimate, saturated aqueous solution	✓
Sulphur	✓
Sulphur dioxide	○
Sulphuric acid, 50 %	✓
Sulphuric acid, 70 %	○
Sulphuric acid, conc.	✗
Sulphurous acid, 10 %	✗
Sulphuryl chloride	✗
Tartaric acid, 10 %	✓
Tetrachlorocarbon	✗
Tetrachloroethane	✗
Tetrahydrofurane	✗
Tetraline	✗
Thiophene	✗
Toluene	✗
Trichloro acetic acid, 10 %	○

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✗ not resistant

ANNEX 1: CHEMICAL RESISTANCE OF MAKROLON

Trichloroethyl amine	×
Trichloroethyl phosphate (plasticizer)	○
Trichloroethylene	×
Tricresyl phosphate (plasticizer)	×
Urea, saturated aqueous solution	✓
Water	✓
Xylene	×
Zinc chloride, saturated aqueous solution	✓
Zinc oxide	✓
Zinc sulphate, saturated aqueous solution	✓

Dimamin T, 5 %	○
Hydrogen peroxide	✓
Iodine tincture	○
Lysoform, 2 %	✓
Maktol®	✓
Merfen®, 2 %	✓
Oktozon®, 1 %	✓
Perhydrol	✓
Resorcinol solutions, 1 %	✓
Sagrotan®, 5 %	○
Spirit, pure	✓
Sublimate	✓
TB-Lysoform	×
Trosilin G extra®, 1.5 %	✓
Zephirol®	○

2. Disinfectants

Baktol®, 5 %	✓
Carbolic acid	×
Chloroamine	✓
DDT	×
Delegol®, 5 %	✓

3. Pharmaceuticals, cosmetics

Blood plasma	✓
Delial-Sunmilk®	✓
Hydroplex	✓
Iodine tincture	○
Klosterbalsam	✓
Lanoline	✓
Menthol, 90 % in alcohol	○
Nail polish	✗
Nail polish remover	✗
Oddl-mouthwater®	✓
Periston blood substitute®	✓
Vaseline	✓
Vick-Vaporub®	✓

4. Nutrition

All-spice	✗
Apple juice	✓
Beef sebum	✓
Beer	✓
Beets sirup	✓
Brandy, 38 %	✓
Butter	✓
Chocolate	✓
Cinnamon	✓
Clove	✗
Cod-liver oil	✓
Coffee	✓
Common salt	✓
Fish	✓
Fruit juice	✓
Fruit syrup (raspberry)	✓
Gherkins	✓
Grape sugar	✓

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✗ not resistant

ANNEX 1: CHEMICAL RESISTANCE OF MAKROLON

Syrup	✓
Sugar solution, saturated aqueous solution	✓
Tea	✓
Tobacco	✓
Tomato juice	✓
Tomato puree	✓
Vanilla	✓
Vegetable juice	✓
Vegetable oils	✓
Vinegar	✓
Vodka	✓
Water	✓
Wine	✓
Worcester sauce	✓

Grapefruit juice	✓
Juniper berry	✓
Lard	○
Linseed oil	✓
Liquor	✓
Maggi®	✓
Margarine	✓
Meat	✓
Milk	✓
Mineral water	✓
Mustard	✓
Nutmeg	✗
Onion	✓
Orange juice	✓
Paprika	✓
Pepper	✓
Rum	✓
Salad oil	✓

5. Wash and cleaning agents

Ajax®	✓
Bleaching agent	✓
Calgonit® dishwashing	✗
Calgonit® rinsing agent	✓
Calgonit D®, DM, DA, R	✗
Calgonit S®, 1%	✓
Dor®	✓
Fewa®	✓
Green soap	✓
Horolith M®	✓
Household soap	✓
Impact®, 0.2%	○
Into-Fensterklar®	✓
Natril®	✓
Omo®	✓
P3 Asepto®	✗
Pantex®, 2%	✓
Persil®	○

Legend:

✓ resistant

○ partially resistant

✗ not resistant

Prijl®	✓
Rapdosept®	○
Rei®	✓
Riseptin®	✓
Sidolin®	✓
Siliconoil emulsion	✓
Somat W® 731	○
Suwa®	✓
Trosilin F® extra, 2%	✓
Tuba® carpet shampoo, conc.	○
WK 60® (Kron-Chemie)	✓

6. Technical oils and fat

Aral BG® 58	✓
Baysilon® Silicone oil	✓
BP Energol EM 100®	✓
BP Energol HL 100®	✓

ANNEX 1: CHEMICAL RESISTANCE OF MAKROLON

BP H LR 65®	✓	Mobil DTE Oil-Light®	✓
Brake fluid (ATE)	✗	Mobil Special Oil 10 W 30®	✓
Cable isolation oil IG 1402	✓	Molikote®-Paste	✓
Cable isolation oil KH 190	✓	Molikote®-Powder	✓
Calciumsoap fat	✓	Nato-Turbine oil 0-250	✓
Camphor oil	✗	Paraffin oil	✓
Castor oil	✓	Polyran® MM 25 (lubricant)	✓
Cod-liver oil	✓	Rape oil	✓
Contact oil 61	✓	Sewing machine oil	✓
Diesel oil	○	Shell Spirax 90 EP®	✓
Drilling oil	✗	Shell Tellus 11-33®	○
Esso Estic 42-45®	✓	Shell Tellus 33®	○
Fish oil	✓	Silicone oil	✓
Fuel oil	○	Skydrol 500 A®	✗
Hydraulic oil Vac HLP 16	✓	Sodium soap fat	✓
Jet engine fuel JP 4 (Kp 97–209 °C)	○	Tanning oil Brunofix®	✓
Lubricant based on nafta	✓	Texaco Regal Oil BRUO®	✓
Lubricant based on paraffin	✓	Texaco Regal Oil CRUO®	✓

7. Adhesives and joining media

Thenocalor N	✓
Turbo oil 29	✓
Turpentine substitute	✓
Valvoline WA 4-7	○
Varnish	○
Whale fat	✓

All-purpose glue	○
Cellux-sticking foils®	✓
Isolation tape	✓
Perbunan C®	✓
Plaster	✓
Plasticiserfree glazing kit	✓
Putty	✓
Terostat®	✓
Tesafilm®	✓
Tesamoll®	✓

8. Polish paste and anti-statics

Antistatik C, 5 %	✗
Antistatikum 58	○
Arquad 18®, 50 %	○
Delu-Antistatiklösung®	✓
Persoftal®, 2 %	✓

Legend:

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✗ not resistant

10. Miscellaneous

Acid-containing combustion gasses	✓
Basilit® UAK, 20 % in water (wood protection agent)	✓
Battery acid	✓
Blood	✓
Castor oil	✓
Cement	✓
Cleaning gasoline	✓
E 605®, 0.5 % (pesticide)	✓
E 605®, conc.	✗
Final-photo developer (normal use concentration)	✓
Freon® TF (propellant)	✓
Freon® T-WD 602 (propellant)	✓
Frigen® 113, R113 (propellant)	✓
Gasoline, normal	○
Gasoline, super	✗
Green chrome oxide (polish paste)	✓
Isolation tape	✓

Perspex Polish 3®	✓
Plexiklar®	✓
Polifac grinding paste®	✓
Statexan AN®	✓

9. Inks

Ballpoint paste Diplomat	○
Ballpoint paste Othello	○
Ballpoint paste V77 (Linz)	✓
Geha stamping ink	✓
Indian ink S	✗
Indian ink T	✓
Multi-Marker (Faber-Castell)	○
Pelikan Royal Blue 4001	✓
Register-ink DIA type U rot	✓
Visor-Pen 7 blau	✓

Kaltron® 113 MDR (propellant)	✓
Kerosene	✗
Lighting gas	✓
Marlon®, 1% (moisturising agent)	✓
Metasystox®, 0.5% (pesticide)	✗
Natural rubber	✓
Nekal BX®, 2% (moisturising agent)	✓
Neutol® photo developer (normal use concentration)	✓
Oleic acid, conc.	✓
Orthozid® 50, 0.5% (pesticide)	✓
Plaster	✓
PLK 4 (wood protection agent)	✓
Polishing wax	✓
Polyamide	✓
Polyethylene	✓
Polymer plasticizer	○
Polyvinylchloride (plasticizer free)	✓

Polyvinylchloride, (containing plasticizer)	○
Sea water	✓
Shell IP 4 (fuel)	✗
Soap suds	○
Starch	✓
Sweat, acid (pH 4.7)	✓
sweat, alkaline (pH 9.5)	○
Tanigan® CLS, 30%	○
Tanigan® CV	○
Tannic acid	✗
Test fuel	✗

Legend:

✓ resistant

○ partially resistant

✗ not resistant