

**Chemical
Resistance
List
IM 3000**

Revision-Nr: 11

Date of issue : 05.01.1998

Last change: 26.07.2005

Changes are emphasized by italic type.

This issue supersedes the one dated: 16.05.2002

Table of contents

	Page
- Inorganic Compounds	1
- Acids	1
- Foods	1
- Organic Compounds	2
- Gasoline, Oil, Wax	2
- Refrigerants	3
- Resistance to gas	4
- Judgement criteria	4

Inorganic Compounds

	Judgement
<i>Ammonia solution 25%</i>	2
<i>Ammonia solution 5%</i>	1
<i>Bilge water</i>	1
<i>Bromine</i>	3
<i>Distilled water</i>	1
<i>Hydrogen peroxide 30%</i>	1
<i>Ink</i>	1
<i>Iodine solution</i>	1
<i>Nickel acetate</i>	1
<i>Paper pulp</i>	1
<i>Sea water</i>	1
<i>Soap</i>	1
<i>Sodium bromide</i>	1
<i>Sodium hydroxide solution 33%</i>	2
<i>Sodium hypochlorite</i>	3
<i>Sodium silicate</i>	1
<i>Sodium thiocyanate</i>	1
<i>Water</i>	1

Acids

	Judgement
<i>Chromosulphuric acid, conc.</i>	3
<i>Formic acid from 10%</i>	3
<i>Formic acid up to 10%</i>	2
<i>Glutamic acid</i>	1
<i>Hydrochloric acid 10%</i>	1
<i>Hydrochloric acid, smoking, 36%</i>	2
<i>Nitric acid above 10%</i>	3
<i>Nitric acid up to 10%</i>	2
<i>Perchloric acid 60%</i>	3
<i>Phosphoric acid above 10%</i>	3
<i>Phosphoric acid up to 10%</i>	2
<i>Propionic acid</i>	1
<i>Saline solution</i>	1
<i>Sulphonitric Acid</i>	3

Foods

	Judgement
<i>Butter milk</i>	1
<i>Coca cola</i>	1
<i>Fruit juice</i>	1
<i>Grape juice</i>	1
<i>Juice</i>	1
<i>Lemon juice</i>	1
<i>Milk</i>	1
<i>Orange juice</i>	1
<i>Rum</i>	1
<i>Sorbitol</i>	1

Chemical Resistance List IM 3000

Revision-Nr: 11

Date of issue : 05.01.1998

Last change: 26.07.2005

Changes are emphasized by italic type.

This issue supersedes the one dated: 16.05.2002

Foods

	Judgement
Tomato juice	1
Tooth paste	1
Vitamins	1
Whey	1
Whisky	1
<i>Wine</i>	1

Organic Compounds

	Judgement
2-Ethylhexyldiphenylphosphate	1
1,1,1,2 Tetrafluorethane	1
Acetone	1
<i>Adhesive</i>	1
Antifreeze type D	2
Benzaldehyde	1
<i>Benzene</i>	1
Benzoic acid	1
Brake fluid ATE SL DOT4	2
Butanol	1
Chlorinated hydrocarbons	1
Color paint	1
Coolant 25 R	1
Cyclohexane	1
Di-2-ethylhexylphenylphosphate	1
Diallylphthalic	1
Dimethyl formamide	3
Dioxane	2
<i>Disinfectant</i>	1
Ethanol	2
Ethyl acetate	1
Fat alcohols	1
Formaldehyde	1
<i>Gas condensate</i>	1
Glue	1
Glycerine	1
Heptane	1
Hexane	1
Isooctane	1
Isopropanol	1
Latex	1

Organic Compounds

	Judgement
Melamin resin	1
Methane	1
Methylene chloride	2
<i>Methylisobutylketon</i>	1
Panoline	1
PCB-substitutes	1
Penta-erythritol-ester	1
<i>Perfume</i>	1
Phenol	1
Phosphate esters	1
Polyester resins	1
Propanol	2
Propylene glycols	2
Screw saving glue	1
Styrene	1
<i>Tar</i>	1
tert.-Butyl-2-hexanoat	1
tert.-Butylmethylether	1
Tetrachlorethylene	1
<i>Tetrahydrofurane</i>	3
<i>Toluene</i>	1
Tributylphosphate 79%, 2,9% Cycloaliphatic Epoxydes, 21% Additives	1
Trichlorethylene	1
Trichloroethane	1
Triethyleneglycol	2
Triphenylphosphate	1
Xylene	1

Gasoline / Oil / Wax

	Judgement
ATF Dexron III	1
Biologic fuel	1
<i>Carnauba wax</i>	1
Chevron Hyjet IV-A	1
Diesel	1
<i>Edible Oil</i>	1
<i>Essential oils</i>	1
Fuel oil	1
Gear oil	1

Chemical Resistance List IM 3000

Revision-Nr: 11

Date of issue : 05.01.1998

Last change: 26.07.2005

Changes are emphasized by italic type.

This issue supersedes the one dated: 16.05.2002

Gasoline / Oil / Wax

	Judgement
Hydraulic oil	1
<i>Kern oil</i>	1
<i>Milk fats</i>	1
Mineral oil	1
Normal benzene unleaded	1
EN228	1
Oil	1
<i>Oil of bitter almond</i>	1
<i>Palm Oil</i>	1
Paraffin oil	1
Rapeoilmethylester	1
Skydrol MCS-2361	1
Skyrol B500-4	1
<i>Spirits of turpentine</i>	1
Super benzene leaded DIN	1
51600	1
Super benzene unleaded EN228	1
<i>Wax</i>	1

Refrigerants

	Judgement
R11 Trichlorofluoromethane	1
R12 Dichlorodifluoromethane	1
R12B1 Bromchlorodifluoromethane	1
R13 Trifluorchloromethane	1
R13B1 Bromtrifluoromethane	1
R14 Tetrafluoromethane	1
R21 Dichloromonofluoromethane	1
R22 Chlorodifluoromethane	1
R23 Trifluoromethane	1
R32 Difluoromethane	1
R40 Chloromethane	1
R40B1 Bromomethane	1
R41 Methylfluoride	2
R114 1,2-Dichloro-1,1,2,2-tetrafluoroethane	1
R115 Chloropentafluoroethane	1
R116 Hexafluoroethane	1
R123 C ₂ HCl ₂ F ₃	1

Refrigerants

	Judgement
R124 1-Chloro-1,2,2,2-tetrafluoroethane	1
R125 Pentafluoroethane	1
R116 Hexafluoroethane	1
R133A 1-Chloro-2,2,2-trifluoroethane	1
R134A Tetrafluoroethane	1
R142B 1-Chloro-1,1-difluoroethane	1
R143A 1,1,1-Trifluoroethane	1
R152A 1,1-Difluoroethane	1
R161 Ethylfluoride	1
R170 C ₂ H ₆	1
R218 Octafluoropropane	1
R227 Heptafluoropropane	1
R290 Propane	1
RC318 Octafluorocyclobutane	1
R401A CHClF ₃ 53%	1
C ₂ H ₄ F ₄ 13%	1
R402A CHClF ₂ (R22) 38%	1
C ₂ HF ₅ (R125) 60%	1
C ₃ H ₈ (R290) 2%	1
R403B Mixture	1
R404A C ₂ HF ₅ 44%	1
F ₂ CH-CF ₃ 4%	1
H ₃ C-CF ₃ 52%	1
R407C CH ₂ F ₂ (R32) 23%	1
F ₂ HC-CF ₃ (R125) 25%	1
FH ₂ C-CF ₃ 53%	1
R408A CH ₂ F ₂ 45-49%	1
C ₂ HF ₅ 5-9%	1
H ₃ C-CF ₃ 45-47%	1
R409A CH ₂ F ₂ 58-62%	1
CHClF-CF ₃ 23-27%	1
H ₃ C-CClF ₂ 14-16%	1
R410A Mixture	1
R413A Mixture	1
R500 Dichlorodifluoromethane and 1,1- Difluoroethane, azeotropes Mixture with ≈ 74 % Dichlorodifluoromethane	1

**Chemical
Resistance
List
IM 3000**

Revision-Nr: 11

Date of issue : 05.01.1998

Last change: 26.07.2005

Changes are emphasized by italic type.

This issue supersedes the one dated: 16.05.2002

Refrigerants		Judgement	Resistance to gas		Judgement
R502	Chlorodifluoromethane and Chloropentafluoroethane, Mixture with a constant evaporation point, with \approx 49 % Chlorodifluoromethane	1	Hydrogen		1
			Hydrogen bromide		2
			Hydrogen chloride		3
			<i>Hydrogen sulfide</i>		1
			Methane		1
R503	Chlorotrifluoromethane and Trifluoromethane, azeotropic Mixture, with \approx 60 % Chlorotrifluoromethane	1	Natural gas		1
			Nitrogen		1
			Ozone (150g/m ³)		1
R507	C ₂ HF ₅ 50% CH ₃ -CF ₃ 50%	1	Propane		1
			Propylene		1
R600	n-Butane	1	Sulphur dioxide		1
R600A	Iso-Butane	1	Water steam		1
R717	Ammonia	1			
R1132A	1,1-Difluoroethylene	1			
R1150	C ₂ H ₄	1			
R1216	Hexafluoropropylene	1			
R1270	C ₃ H ₆	1			
R1318	Octafluorobut-2-ene	1			
HFC245	1,1,1,3,3 Pentafluoropropan	1			

Resistance to gas

	Judgement
Acetylene	1
Air	1
Argon	1
Butane	1
Carbon dioxide	1
<i>Carbon monoxide</i>	1
Chlorine	3
Ethane	1
Ethylene	1
Helium	1

Judgement criteria

- 1 very good resistance
- 2 good to satisfying resistance
- 3 bad resistance