

# Chemical Resistance List IM4500r

Revision-Nr: 1

Date of issue : 20.09.2010

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Changes are emphasized by italic type.

This issue supersedes the one dated: 20.09.2010

## Table of contents

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

### Inorganic Compounds

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

### Acids

	Judgement
Formic acid from 10%	3
Formic acid up to 10%	2
Glutamic acid	1
Hydrochloric acid 10%	1
Hydrochloric acid, smoking, 36%	2
Nitric acid above 10%	3
Nitric acid up to 10%	2
Perchloric acid 60%	3
Phosphoric acid above 10%	3
Phosphoric acid up to 10%	2
Propionic acid	1
Saline solution	1
Sulphonitric Acid	3

### Foods

	Judgement
Coca cola	1
Fruit juice	1
Grape juice	1
Juice	1
Lemon juice	1
Orange juice	1

### Acids

	Judgement
Acetic acid above 10%	3
Acetic acid anhydrite	3
Acetic acid up to 10%	1
Acrylic acid	2
Boric Acid	1
Butyric acid	1

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## Foods

	Judgement
Tooth paste	1
Vitamins	1
Whey	1
Whisky	1
Wine	1

## Organic Compounds

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

## Organic Compounds

	Judgement
Melamin resin	1
Methane	1
Methanol	1
Methylene chloride	3
Methylisobutylketon	1
Panoline	1
PCB-substitutes	1
Penta-erythritol-ester	1
Perfume	1
Phenol	1
Phosphate esters	1
Polyester resins	1
Propanol	2
Propylene glycols	2
Screw saving glue	1
Styrene	1
Tar	1
tert.-Butyl-2-hexanoat	1
tert.-Butylmethylether	1
Tetrachlorethylene	1
Tetrahydrofurane	3
Toluene	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 VI	1
Biologic fuel	1
Chevron Hyjet IV-A	1
Diesel	1
Essential oils	1
Fuel oil	1
Gear oil	1

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Gasoline / Oil / Wax		Judgement	Refrigerants		Judgement
Hydraulic oil		1	R115	Chloropentafluoroethane	1
Kern oil		1	R116	Hexafluoroethane	1
Mineral oil		1	R123	C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub>	1
Normal benzene unleaded EN228		1	R124	1-Chloro-1,2,2,2- tetrafluoroethane	1
Oil		1	R125	Pentafluoroethane	1
Oil of bitter almond		1	R133A	1-Chloro-2,2,2- trifluoroethane	1
Palm Oil		1	R134A	Tetrafluoroethane	1
Paraffin oil		1	R142B	1-Chloro-1,1- difluoroethane	1
Rapeoilmethylester		1	R143A	1,1,1-Trifluoroethane	1
Refrigerator Oil BSE 32		1	R152A	1,1-Difluoroethane	1
Refrigerator Oil BSE 55		1	R161	Ethylfluoride	1
Refrigerator Oil Bitzer Oil Type 5.2		1	R170	C <sub>2</sub> H <sub>6</sub>	1
Skydrol MCS-2361		1	R218	Octafluoropropane	1
Skyrol B500-4		1	R227	Heptafluoropropane	1
Spirits of turpentine		1	R290	Propane	1
Super benzene leaded DIN 51600		1	RC318	Octafluorocyclobutane	1
Super benzene unleaded EN228		1	R401A	CHClF <sub>3</sub> 53%	1
Wax		1		C <sub>2</sub> H <sub>4</sub> F <sub>4</sub> 13%	1
			R402A	CHClF <sub>2</sub> (R22) 38%	1
				C <sub>2</sub> HF <sub>5</sub> (R125) 60%	1
				C <sub>3</sub> H <sub>8</sub> (R290) 2%	1
			R403B	Mixture	1
			R404A	C <sub>2</sub> HF <sub>5</sub> 44%	1
				F <sub>2</sub> CH-CF <sub>3</sub> 4%	1
				H <sub>3</sub> C-CF <sub>3</sub> 52%	1
			R407C	CH <sub>2</sub> F <sub>2</sub> (R32) 23%	1
				F <sub>2</sub> HC-CF <sub>3</sub> (R125) 25%	1
				FH <sub>2</sub> C-CF <sub>3</sub> 53%	1
			R408A	CH <sub>2</sub> F <sub>2</sub> 45-49%	1
				C <sub>2</sub> HF <sub>5</sub> 5-9%	1
				H <sub>3</sub> C-CF <sub>3</sub> 45-47%	1
			R409A	CH <sub>2</sub> F <sub>2</sub> 58-62%	1
				CHClF-CF <sub>3</sub> 23-27%	1
				H <sub>3</sub> C-CClF <sub>2</sub> 14-16%	1
			R410A	Mixture	1
			R413A	Mixture	1
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	1			
R114	1,2-Dichloro-1,1,2,2- tetrafluoroethane	1			

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Refrigerants		Judgement	Resistance to gas		Judgement
R500	Dichlorodifluoromethane and 1,1- Difluoroethane, azeotropes Mixture with ≈ 74 % Dichlorodifluoromethane	1	Ethane		1
R502	Chlorodifluoromethane and Chloropentafluoroethane, Mixture with a constant evaporation point, with ≈ 49 % Chlorodifluoromethane	1	Ethylene		1
R503	Chlorotrifluoromethane and Trifluoromethane, azeotropic Mixture, with ≈ 60 % Chlorotrifluoromethane	1	Helium		1
R507	C <sub>2</sub> HF <sub>5</sub> 50% CH <sub>3</sub> -CF <sub>3</sub> 50%	1	Hydrogen		1
R600	n-Butane	1	Hydrogen bromide		2
R600A	Iso-Butane	1	Hydrogen chloride		3
R717	Ammonia	1	Hydrogen sulfide		1
R1132A	1,1-Difluoroethylene	1	Methane		1
R1150	C <sub>2</sub> H <sub>4</sub>	1	Natural gas		1
R1216	Hexafluoropropylene	1	Nitrogen		1
R1270	C <sub>3</sub> H <sub>6</sub>	1	Ozone (150g/m <sup>3</sup> )		1
R1318	Octafluorobut-2-ene	1	Propane		1
HFC245	1,1,1,3,3 Pentafluoropropan	1	Propylene		1
			Sulphur dioxide		1
			Water steam		1

## Resistance to gas

	Judgement
Acetylene	1
Air	1
Argon	1
Butane	1
Carbon dioxide	1
Carbon monoxide	1
Chlorine	3

## Judgement criteria

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