

· *Chemical-Resistance of Volta Belts*

The data tabulated in the following pages summarize the effects of a broad variety of fluids on Volta products.

We emphasize that the data contained herein should be used as a guideline only.

The tabulation is based on laboratory tests, performed on an immersed specimen at room temp. (Unless otherwise specified), it does not take into account all variables that can be encountered in actual use.

Chemical resistance depends on the period of exposure, temperature, and concentration.

Volta products are resistant in contact for a short time with diluted acids or bases at room temperature.

According to a general rule resistance may be improved when reducing:

- Temperature.
- Exposure time between cleaning.
- Concentration.

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Rating key: G-Good resistance, F-Fair, P-Poor resistance

Reagents Type	Volta L & M Family	Volta H Family
0. Water		
Tap Water	G	G
Sea Water	G	G
Steam (100°C)	P	F
1.Acids		
1.1 Organic Acids		
Formic Acid (20%)	P	F
Acetic Acid (glacial)	P	F-G
Acetic Acid (20%)	P	G
Acetic Acid (3%)	P-F	G
Lactic Acid (3%)	P-F	G
Citric Acid (3%)	F	G
Tanic Acid (10%)	----	G
Palmitic acid	P-F	G
Oleic acid	P-F	G
Phenolic Solution (3%)	F-G	----
1.2 Anorganic Acids		
Hydrochloric Acid (37%)	P	P
Hydrochloric Acid (20%)	P	F
Hydrochloric Acid (3%)	P	F
Nitric Acid (20%)	P	P
Nitric Acid (3%)	P	F
Sulfuric Acid Conc. (Battery Acid)	P	P
Sulfuric Acid (20%)	P	F
Sulfuric Acid (3%)	P	G
Oleum (20%)	P	P
Hydrogen Sulfide	----	G
Sodium Bisulfate (3%)	F-G	G
Phosphoric Acid (3%)	F	G
Boric Acid (3%)	F-G	G
Hydrofluoric acid (48%)	P	P
2. Basic Solution		
2.1 Alkaline		
Sodium Hydroxide (Caustic Soda) (46%)	P-F	F
Sodium Hydroxide (Caustic Soda) (3%)	F	G
Calcium Hydroxide (dilute)	G	G
Potassium Hydroxide (dilute)	F	G
2.2 Other		
Ammonium Hydroxide (3%)	P-F	F
Urea Solution (3%)	F-G	----
Triethanolamine Solution (3%)	F-G	----

Reagents Type	Volta L & M Family	Volta H Family
3. Salt Solution		
Aluminium Chloride (25%)	G	G
Aluminium Sulfate (25%)	G	G
Ammonium Nitrate (25%)	G	----
Ammonium Sulfate (25%)	G	F
Ammonium Chloride	G	G
Calcium Chloride (25%)	F-G	G

Sodium Chloride (25%)	F-G	G
Sodium Nitrate (25%)	F-G	----
Sodium Nitrate (3 %)	G	----
Sodium Sulfite (3 %)	G	----
Sodium Citrate	P-F	F
Sodium Propionate	P-F	F
4. Oxidizing		
Hydrogen Peroxide (30%)	F	P
Ozone	F	F
Sodium Hypochlorite (3%) (Javelle water)	P-F	G
Javelle water (0.5%)	F	G
Chlorine gas	P	P
Bromine (anhydrous Liquid)	P	P
Sodium dichromate (20%)	----	F
5. Alcohols		
Methanol	P-F	G
Ethanol	F	G
2-Propanol	F	G
(iso)Butanol	F	G
Amyl alcohol	F	G
Hexanol	F	G
Cyclohexanol	F	G
Benzyl alcohol	P	----
Ethylenglycol	G	G
Glycerine	G	G
Phenol	----	P
6. Hydrocarbon		
6.1 Aliphatic		
Butane	G	G
Pentane	G	G
Hexane	G	G
Cyclohexane	G	G
(iso)Octane	G	G
6.2 Aromatic		
Toluene	F	F
Benzene	F	F
Xylene	F	F

Reagents Type	Volta L & M Family	Volta H Family
7. Halogenated Hydrocarbon		
7.1 Aliphatic Halogenated Hydrocarbon		
Methylene Chloride	P	P
Ethyl Chloride	P	P
Ethylene Dichloride	P	P
Chloroform	P	P
Carbon Tetrachloride	P	F
Tetrachloroethylene	F	P
Trichloroethane	F	P
Perchloroethylene	----	P
Freon (11 ⁶ , 12, 113, 114)	----	G
7.2 Aromatic Halogenated Hydrocarbon		
Chlorobenzene	P-F	P
7.3 Other Halogenated Hydrocarbon		
Epichlorohydrin	----	P

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8. Aldehydes & Ketones		
Methylethylketone	P	F
Acetone	P-F	F
Formaldehyde (40%)	----	F
Cyclo hexanone	P	----
9. Esters		
Ethyl Acetate	P-F	F
Butyl Acetate	P-F	F
Amyl Acetate	P-F	F
Dibuthyl Phthalate	G	G
Diethyl Sebacate	G	G
Dioctyl Phthalate	G	G
10. Oils		
10.1 ASTM Oils		
ASTM - Oil 1 (>100°C)	G	G
ASTM - Oil 2 (>100°C)	G	G
ASTM - Oil 3 (>100°C)	G	G
10.2 Others		
Mineral Oil	----	G
Lubricating Oil	----	G
10.3 Edible Oils		
Cottonseed Oil	G	G
Castor Oil	F	F
Olive Oil	G	G
Corn Oil	G	G
Peanut Oil	G	G
Nut Oil	G	G

Reagents Type	Volta L & M Family	Volta H Family
11. Fuels		
Test Fluid A	G	----
Test Fluid B	F	----
Test Fluid C	P-F	----
Diesel Fuel	G	F
ASTM Reference Fuel A	G	G
ASTM Reference Fuel B	F	G
ASTM Reference Fuel C	F	G
ASTM Reference Fuel D	F	G
Super Gasoline Leaded	G	F
Super Gasoline Unleaded	G	F
Kerosine	G	G
JP-4 Jet Fuel	G	G
12. Other Solvents		
Anti Freeze (Glycantine)	F-G	P
Silicone Fluid	G	G
Brake Fluid	P	P
Aniline	P	P
Tetrahydrofurane	P	F
Dimethyl Formamide	P	G
Dimethyl Acetamide	P	----
Pyridine	P	P

N-Methyl Pyrrolidone	P	----
Dimethyl Sulphoxide	P	P
Nitrobenzen	----	F
Diethyl Ether	F	F
Petrolether	F	P
Hydrazine	----	P
Triethanol amine	P	P
Styrene	----	

Legend: ASTM Fuel A - Iso Octane
 ASTM Fuel B - Iso Octane 70% Toluene 30%
 ASTM Fuel C - Iso Octane 50%, Toluene 50%
 ASTM Fuel D - Iso Octane 60%, Toluene 40%

Test Fluid A - Toluene 50%, Iso Octane 30%, Di Iso Butylene 15%, Ethanol 5%

Test Fluid B - Toluene 42%, Iso Octane 25.5%, Di Iso Butylene 13%,
 Methanol 15%, Ethanol 4.5%, Water 0.5%

Test Fluid C - Toluene 20%, Iso Octane 12%, Di Iso Butylene 6%.
 Methanol 58%, Ethanol 2%, Water 2%

Freon 11 - Trichlorofluoromethane
 Freon 12 - Dichlorodifluoromethane
 Freon 113 - Trichlorotrifluoroethane
 Freon 114 - Dichlorotetrafluoroethane