



Chemical-Resistance Guide



2025

Statement of Expectations

The data tabulated in the following pages summarize the effects of a broad variety of Chemicals on Volta products. Most of the data are based on the information given by the raw material manufacturers and suppliers and some on laboratory tests performed on an immersed specimen at room temp unless otherwise specified. The data does not consider all variables that can be encountered in actual use.

We emphasize that the data contained herein should be used as a guideline only. We recommend testing chemical resistance under your operating conditions using the actual media in contact with the belt.

Generally chemical resistance depends on the chemical properties, period of exposure, temperature and concentration.

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

- Temperature.
- Exposure time between cleanings.
- Concentration.

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<u>Reagents</u>	<u>Code</u>	<u>Reagents</u>	<u>Code</u>
Acetic Acid (glacial)	1.1	Cyclohexane	6.1
Acetic Acid (20%)	1.1	Cyclohexanol	5
Acetic Acid (3%)	1.1	Dibutyl Phthalate	9
Acetone	8	Diesel Fuel	11
Aluminum Chloride (25%)	3	Diethyl Ether	12
Aluminum Sulfate (25%)	3	Diethyl Sebacate	9
Ammonium Chloride	3	Dimethyl Acetamide	12
Ammonium Hydroxide (3%)	2	Dimethyl Formamide	12
Ammonium Nitrate (25%)	3	Dimethyl Sulfoxide	12
Ammonium Sulfate (25%)	3	Dioctyl Phthalate	9
Amyl Acetate	9	Epichlorohydrin	7.3
Amyl alcohol	5	Ethanol	5
Aniline	12	Ethyl Acetate	9
Anti-Freeze (Glysantine)	12	Ethyl Chloride	7.1
ASTM - Oil 1 (>100°C)	10.1	Ethylene Dichloride	7.1
ASTM - Oil 2 (>100°C)	10.1	Ethylene Glycol	5
ASTM - Oil 3 (>100°C)	10.1	Fish Oil	10.3
ASTM Reference Fuel A	11	Formaldehyde (40%)	8
ASTM Reference Fuel B	11	Formic Acid (20%)	1.1
ASTM Reference Fuel C	11	Freon (116 , 12, 113, 114)	7.1
ASTM Reference Fuel D	11	Glycerin	5
Benzene	6.2	Hexane	6.1
Benzyl Alcohol	5	Hexanol	5
Boric Acid (3%)	1.2	Hydrazine	12
Brake Fluid	12	Hydrochloric Acid (20%)	1.2
Bromine (anhydrous Liquid)	4	Hydrochloric Acid (3%)	1.2
Butane	6.1	Hydrochloric Acid (37%)	1.2
Butyl Acetate	9	Hydrofluoric acid (48%)	1.2
Calcium Chloride (25%)	3	Hydrogen Peroxide (30%)	4
Calcium Hydroxide (dilute)	2.1	Hydrogen Sulfide	1.2
Carbon Tetrachloride	7.1	iso Butanol	5
Castor Oil	10.3	Iso Octane	6.1
Chlorine gas	4	Isopropanol	5
Chlorobenzene	7.2	Javelle water (0.5%)	4
Chloroform	7.1	JP-4 Jet Fuel	11
Citric Acid (3%)	1.1	Kerosene	11
Coconut Oil	10.3	Lactic Acid (3%)	1.1
Corn Oil	10.3	Lubricating Oil	10.2
Cottonseed Oil	10.3	Methanol	5
Cyclohexanone	8	Methyl ethyl ketone	8

<u>Reagents</u>	<u>Code</u>	<u>Reagents</u>	<u>Code</u>
Methylene Chloride	7.1	Sodium Hydroxide (Caustic Soda) (3%)	2.1
Mineral Oil	10.2	Sodium Hydroxide (Caustic Soda) (46%)	2.1
Nitric Acid (20%)	1.2	Sodium Hypochlorite (3%) (Javelle water)	4
Nitric Acid (3%)	1.2	Sodium Nitrate (25%)	3
Nitrobenzene	12	Sodium Nitrate (3%)	3
N-Methyl Pyrrolidone	12	Sodium Propionate	3
Nut Oil	10.3	Sodium Sulfite (3%)	3
Oleic acid	1.1	Steam (100°C)	0
Oleum (20%)	1.1	Styrene	12
Olive Oil	10.3	Sulfuric Acid (20%)	1.2
Ozone	4	Sulfuric Acid (3%)	1.2
Palmitic acid	1.1	Sulfuric Acid (Battery Acid)	1.2
Peanut Oil	10.3	Sunflower oil	10.3
Pentane	6.1	Super Gasoline Leaded	11
Perchloroethylene	7.1	Super Gasoline Unleaded	11
Petrol ether	12	Tanic Acid (10%)	1.1
Phenol	5	Tap Water	0
Phenolic Solution (3%)	1.1	Test Fluid A	11
Phosphoric Acid (3%)	1.2	Test Fluid B	11
Potassium Hydroxide (dilute)	2.1	Test Fluid C	11
Pyridine	12	Tetrachloroethylene	7.1
Sea Water	0	Tetrahydrofuran	12
Silicone Fluid	12	Toluene	6.2
Sodium Bisulfate (3%)	1.2	Trichloroethane	7.1
Sodium Chloride (25%)	3	Triethanolamine Solution (3%)	2.2
Sodium Citrate	3	Urea Solution (3%)	2.2
Sodium dichromate (20%)	4	Xylene	6.2

Chemical-Resistance chart of Volta Belts

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

Reagents Type	L & M Family	H & J Family	LT & DR Family
0. <u>Water</u>			
Tap Water	G	G	G
Sea Water	G	G	G
Steam (100°C)	P	F	F
1. <u>Acids</u>			
1.1 <u>Organic Acids</u>			
Formic Acid (20%)	P	F	P
Acetic Acid (glacial)	P	F-G	G
Acetic Acid (20%)	P	G	P
Acetic Acid (3%)	P-F	G	G
Lactic Acid (3%)	P-F	G	G
Citric Acid (3%)	F	G	G
Tanic Acid (10%)	G	G	G
Palmitic acid	P-F	G	G
Oleic acid	P-F	G	G
Phenolic Solution (3%)	F-G	F-G	F-G
1.2 <u>Inorganic Acids</u>			
Hydrochloric Acid (37%)	P	P	P
Hydrochloric Acid (20%)	P	F	F
Hydrochloric Acid (3%)	P	F	G
Nitric Acid (20%)	P	P	P
Nitric Acid (3%)	P	F	P
Sulfuric Acid (Battery Acid)	P	P	P
Sulfuric Acid (20%)	P	F	P
Sulfuric Acid (3%)	P	G	G
Oleum (20%)	P	P	P
Hydrogen Sulfide	--	G	--
Sodium Bisulfate (3%)	F-G	G	G
Phosphoric Acid (3%)	F	G	G
Boric Acid (3%)	F-G	G	G
Hydrofluoric acid (48%)	P	P	P

Reagents Type	L & M Family	H & J Family	LT & DR Family
2. <u>Basic Solution</u>			
2.1 <u>Alkaline</u>			
Sodium Hydroxide (Caustic Soda) (46%)	P-F	F	F
Sodium Hydroxide (Caustic Soda) (3%)	F	G	G
Calcium Hydroxide (dilute)	G	G	G
Potassium Hydroxide (dilute)	F	G	G
2.2 <u>Other</u>			
Ammonium Hydroxide (3%)	P-F	F	G
Urea Solution (3%)	F-G	--	G
Triethanolamine Solution (3%)	F-G	--	G
3. <u>Salt Solution</u>			
Aluminum Chloride (25%)	G	G	G
Aluminum Sulfate (25%)	G	G	G
Ammonium Nitrate (25%)	G	--	G
Ammonium Sulfate (25%)	G	F	G
Ammonium Chloride	G	G	G
Calcium Chloride (25%)	F-G	G	G
Sodium Chloride (25%)	F-G	G	--
Sodium Nitrate (25%)	F-G	--	--
Sodium Nitrate (3%)	G	--	G
Sodium Sulfite (3%)	G	--	G
Sodium Citrate	P-F	F	--
Sodium Propionate	P-F	F	--
4. <u>Oxidizing</u>			
Hydrogen Peroxide (30%)	F	P	F
Ozone	F	F	F
Sodium Hypochlorite (3%) (Javelle water)	P-F	G	F
Javelle water (0.5%)	F	G	G
Chlorine gas	P	P	P
Bromine (anhydrous Liquid)	P	P	F
Sodium dichromate (20%)	--	F	--

Reagents Type	L & M Family	H & J Family	LT & DR Family
5. <u>Alcohols</u>			
Methanol	P-F	G	F
Ethanol	F	G	G
Iso-Propanol	F	G	G
Iso Butanol	F	G	F
Amyl alcohol	F	G	G
Hexanol	F	G	G
Cyclohexanol	F	G	F
Benzyl Alcohol	P	--	P
Ethylene Glycol	G	G	G
Glycerin	G	G	G
Phenol	--	P	P
6. <u>Hydrocarbon</u>			
6.1 <u>Aliphatic</u>			
Butane	G	G	G
Pentane	G	G	G
Hexane	G	G	G
Cyclohexane	G	G	G
Iso Octane	G	G	G
6.2 <u>Aromatic</u>			
Toluene	F	F	F
Benzene	F	F	F
Xylene	F	F	F
7. <u>Halogenated Hydrocarbon</u>			
7.1 <u>Aliphatic Halogenated Hydrocarbon</u>			
Methylene Chloride	P	P	P
Ethyl Chloride	P	P	P
Ethylene Dichloride	P	P	P
Chloroform	P	P	P
Carbon Tetrachloride	P	F	F
Tetrachloroethylene	F	P	F
Trichloroethane	F	P	F
Perchloroethylene	--	P	--
Freon (11 ⁶ , 12, 113, 114)	--	G	--

Reagents Type	L & M Family	H & J Family	LT & DR Family
7.2 Aromatic Halogenated Hydrocarbon			
Chlorobenzene	P-F	P	P
7.3 Other Halogenated Hydrocarbon			
Epichlorohydrin	--	P	P
8. Aldehydes & Ketones			
Methyl ethyl ketone	P	F	P
Acetone	P-F	F	P-F
Formaldehyde (40%)	--	F	F
Cyclohexanone	P	--	P
9. Aliphatic Esters			
Ethyl Acetate	P-F	F	F
Butyl Acetate	P-F	F	P-F
Amyl Acetate	P-F	F	P-F
Dibutyl Phthalate	G	G	--
Diethyl Sebacate	G	G	--
Dioctyl Phthalate	G	G	G
10. Oils			
10.1 ASTM Oils			
ASTM - Oil 1 (2100°C)	G	G	G
ASTM - Oil 2 (2100°C)	G	G	G
ASTM - Oil 3 (2100°C)	G	G	G
10.2 Others			
Mineral Oil	G	G	G
Lubricating Oil	G	G	G
10.3 Edible Oils			
Cottonseed Oil	G	G	F
Castor Oil	F	F	G
Olive Oil	G	G	G
Corn Oil	G	G	G
Coconut Oil	G	G	G
Fish Oil	G	G	G
Peanut Oil	G	G	G
Nut Oil	G	G	G
Palm Oil	G	G	G
Soya Oil	G	G	G
Sunflower oil	G	G	G

Reagents Type	L & M Family	H & J Family	LT & DR Family
11. Fuels			
Test Fluid A	G	--	F
Test Fluid B	F	--	F
Test Fluid C	P-F	--	F
Diesel Fuel	G	F	G
ASTM Reference Fuel A	G	G	G
ASTM Reference Fuel B	F	G	F
ASTM Reference Fuel C	F	G	F
ASTM Reference Fuel D	F	G	F
Super Gasoline Leaded	G	F	--
Super Gasoline Unleaded	G	F	--
Kerosene	G	G	G
JP-4 Jet Fuel	G	G	--
12. Other Solvents			
Anti-Freeze (Glysantine)	F-G	P	G
Silicone Fluid	G	G	G
Brake Fluid	P	P	P
Aniline	P	P	F
Tetrahydrofuran	P	F	P
Dimethyl Formamide	P	G	P
Dimethyl Acetamide	P	--	P
Pyridine	P	P	P
N-Methyl Pyrrolidone	P	--	P
Dimethyl Sulphoxide	P	--	P
Nitrobenzene	--	P	--
Diethyl Ether	F	F	F
Petrol ether	G	G	G
Hydrazine	P	P	P
Styrene	--	P	P