

CHEMICAL RESISTANCE GUIDE

The information contained in the Chemical Resistance Guide has been compiled from various literature references and sources. It may be considered as a basis for chemical resistance but not as a guarantee. It is strongly advised that specific Liquid-Tuff™ products be tested under actual service conditions to determine suitability. Liquid-Tuff samples for chemical resistance testing available upon request.



Chemical Resistance Guide

Jacket Material Key

PVC = POLYVINYL CHLORIDE
TPR = THERMOPLASTIC ELASTOMER
TPU = THERMOPLASTIC POLYURETHANE

Rating Key

E = RESISTANT: GOOD FOR CONTINUOUS EXPOSURE
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Chemical	Jacket Material			
	%	PVC	TPR	TPU
A				
ASTM® Fuel A		F	G	G
ASTM® Fuel B		X	F	F
ASTM® Fuel C			F	F
ASTM® Oil No. 1		G	G	G
ASTM® Oil No. 2				G
ASTM® Oil No. 3		F		G
Acetaldehyde				
Acetamide				
Acetate Solvents		X		
Acetic Acid (Glacial)		F		G
Acetic Acid	40	G	E	G
Acetic Acid	10	G	E	G
Acetic Anhydride		X		
Acetone		X		X
Acetyl Bromide				
Acetyl Chloride				
Acetylene				
Acrylonitrile		E	E	
Adipic Acid				
Alcohols				
Alcohols (Aliphatic)		F		
Alkalies		E		
Allyl Alcohol				
Aluminum Salts		E		
Aluminum Chloride		E		G
Aluminum Sulfate (Alums)		E		
Aluminum Sulfide				
Alums				
Ammonia				G
Ammonia (Dry Gas)		E		G
Ammonia (Anhydrous Liquids)		X		
Ammonia (Aqueous)		E		
Ammoniated Latex		E		
Ammonium Acetate				
Ammonium Carbonate				
Ammonium Chloride				G
Ammonium Chloride	10	E		
Ammonium Hydroxide		E		
Ammonium Nitrate				
Ammonium Persulfate				
Ammonium Salts				
Ammonium Sulfate				
Ammonium Sulfide				
Ammonium Thiocyanide				
Amyl Acetate		X		
Amyl Alcohol				

Chemical	Jacket Material			
	%	PVC	TPR	TPU
A				
Amyl Chloride				
Aniline			E	X
Aniline Hydrochloride				
Aniline Oils		X		
Animal Fats & Oils		E		
Aniseed Oil				
Anthracene		X		
Antifreeze Compounds	50/50		E	
Antimony Salts				
Aqua Regia				
Aromatic Fuels		X		
Aromatic Hydrocarbons		X		
Arsenic Salts				
Asphalt		X		
Attar of Roses				
B				
Banana Oil		X		
Barium Carbonate				
Barium Chloride		E		
Barium Hydroxide		E		
Barium Salts				
Barium Sulfide		E		
Battery Acid				
Benzaldehyde				
Benzaldehyde				
Benzene		X	X	X
Benzine (Petroleum Ether)		F		
Benzoic Acid				
Benzole				
Benzyl				X
Bitumen				
Borax		E		
Bordeaux Mixture		E		
Boric Acid		E		G
Brake Fluid			E	
Brake Fluid A				X
Brine		E		
Bromine		X	X	
Bromobenzene			X	
Bunker Oil				
Butane				G
Butanol				
Butyl Acetate		X	E	X
Butyl Alcohol		G		X
Butylene Glycol				
Butyric Acid				

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Chemical	%	Jacket Material		
		PVC	TPR	TPU
C				
Calcium Carbonate				
Calcium Chloride	20	E	E	G
Calcium Chloride	10	E	E	G
Calcium Hydroxide		E		
Calcium Hypochlorite		E		
Calcium Nitrate				
Calcium Sulfate				
Camphor				
Carbolic Acid (Phenol)		G		
Carbon Dioxide		E		
Carbon Disulfide		X		
Carbon Tetrachloride		X		X
Carbonic Acid		E		
Casein		E		
Castor Oil		E		
Catechol				
Caustic Soda		E		E
Cello-Solv		X		
Chlorinated Hydrocarbons		X		
Chlorinated Lime				
Chlorine				X
Chlorine (water solution)	40	F		G
Chlorine Gas (dry & wet)		X		
Chloroacetic Acid				
Chlorobenzene		X		X
Chlorobromomethane				
Chloroform		X		X
Chrome Baths				
Chromic Acid	40	F		X
Chromic Acid	10	G		
Chromic Acid	1	E		
Chromium Potassium Sulfate				
Chromium Salts				
Citric Acid		E		
Coal Tar		X		
Coconut Oil		F		
Copper Salts				
Corn Oil		E		
Cottonseed Oil		F		
Creosote		X		
Cresol		F		
Cresylic Acid		X		
Cupric Chloride				
Cupric Nitrate				
Cupric Sulfate				
Cyclohexane		G	X	X

Chemical	%	Jacket Material		
		PVC	TPR	TPU
C				
Cyclohexanol				
Cyclohexanone		G		
D				
DDT Weed Killer		E		
DOP				
DTE Oil				
Decalin				
Degreasing Fluids		X		
Detergents (dish washing)		E	E	
Di Iso Cyante		F		
Di Methyl Formamide		X		
Di Methyl Hydrazine		X		
Di-isodecyl Phthalate		X		
Dibutyl Ether				
Dibutyl Phthalate		X		
Dichlorobenzene				
Dichloroethylene		X		
Diesel Fuel		X		G
Diesel Oils		F		
Diester Oil				
Diethyl Ether		E	E	
Diethylene Glycol		G		
Dimethyl Acetamide				
Dimethyl Formamide			E	
Diocyl Phthalate (DOP)		X	E	E
Dioxane			E	
Dodecyl Mercaptan				
Dow General Weed Killer (H2O)		G		
Dow General Weed Killer (Phenol)		X		
Dowtherm				
E				
Edible Fats and Oils				
Esters		X		
Ether		X		X
Ethyl Acetate		X		X
Ethyl Alcohol (Ethanol)		F	E	X
Ethyl Bromide				
Ethyl Chloride				
Ethylene Chloride				G
Ethylene Dichloride		X		
Ethylene Glycol	50	G		G
Ethylene Oxide		X		
F				
Fatty Acids		E		
Ferric Chloride		E		G
Ferric Nitrate				





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Chemical	%	Jacket Material		
		PVC	TPR	TPU
F				
Ferric Sulfate		E		
Ferrous Chloride		E		
Ferrous Sulfate		E		
Flourochlorohydrocarbons				
Formaldehyde	40	X		
Formalin				
Formamide				
Formic Acid	85			X
Formic Acid	40			X
Formic Acid	10	E		X
Freon			F	X
Freon 12				X
Freons		X		
Fuel Oil		G		
Furfurol		F		
G				
Gallic Acid		E		
Gasoline - 100 Octane		F		X
Glycerine		E	E	E
Glycol				E
Glycolic Acid				
Grease		E	G	E
Green Sulfate Liquor		E		
H				
Heptachlor in Petroleum Solvents		E		
Heptane		F		G
Hexane		F	G	G
Hydraulic Fluids - Ester Base		X		
Hydraulic Fluids - Petroleum Base		F		
Hdrazine				
Hydrobromic Acid		E		
Hydrocarbon Oil				
Hydrochloric Acid (Muriatic)	40	F		
Hydrochloric Acid	10	G	E	
Hydrochloric Acid	1	E	E	
Hydrocyanic Acid				
Hydrofluoric Acid	70	X		
Hydrofluoric Acid	10			
Hydrofluoroboric Acid	40	F		
Hydrofluoroboric Acid	10	G		
Hydrogen				
Hydrogen Chloride				G
Hydrogen Chloride				G
Hydrogen Fluoride				
Hydrogen Peroxide	30	G		
Hydrogen Peroxide	10	E		

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		PVC	TPR	TPU
H				
Hydrogen Peroxide	2	E		E
Hydrogen Sulfide				
Hydrolic Fluid				G
Hydroiodic Acid				
I				
Ink				
Iodine Solution				X
Iron Salts - Acid Soln.				
Iron Salts - Neut. Soln.				
Isooctane		F		
Isopropanal				
Isopropyl Acetate		X		
Isopropyl Alcohol		G		X
J				
JP-4 Oil				
Jet Fuels (JP-3,4, and 5)		F		
K				
Kerosene		F		G
Ketones		X		
L				
Lacquer Thinners		X		
Lactic Acid	90			F
Lactic Acid	50			F
Lactic Acid	5			F
Lanolin				
Lead Acetate				
Lead Salts				
Linseed Oil		E		
Lox				
Lubricating Oils, Greases, Soaps		E		
M				
MIL-D-5606 Oil				
MIL-L-7808 Oil				
Magnesium Chloride		E		G
Magnesium Hydroxide	10	E		
Magnesium Salts				
Magnesium Sulfate		E		
Malathion 50 in Aromatics		X		
Malic Acid		E		
Mercury				
Mercury Salts				
Methanol	10			X
Methyl Acetate		X		X
Methyl Alcohol		F		
Methyl Bromide		X		
Methylene Chloride		X		X

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		PVC	TPR	TPU
M				
Methyl Ethyl Ketone		X	E	X
Methyl Glycol				X
Methyl Isobutyl Ketone		X		
Mineral Oil		E		G
Monochlorobenzene		X		
Motor Fuels				
Motor Oil 20W				G
Muriatic Acid (See Hydrochloric Acid)				
N				
Naphtha		F		E
Naphthalene		X		
Natural Gas				
Nickel Salts				
Nitric Acid		X		X
Nitric Acid	70	F		X
Nitric Acid	35	G		X
Nitric Acid	10	E		X
Nitrobenzene		X	E	
Nitrogen				
Nitromethane				
Nitropropane		X		
N-Methyl Pyrrolidone				X
O				
Octane				
Oil of Turpentine				
Oleic Acid		E		
Oleum		X		
Oxalic Acid		E		
Oxygen				
Oxygen - Liquid				
Ozone				
P				
Paint		X		
Paint Thinners		X		
Palmitic Acid		E		
Paper Chemicals				
Paraffin Oil				G
Pentachlorophenol Oil		G		
Pentane		F		
Perchloric Acid	70	X		
Perchloric Acid	10	E		
Perchloroethylene		X		X
Petroleum				G
Petroleum Ether		F		
Petroleum Spirits				
Phenol		G		

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		PVC	TPR	TPU
P				
Phenyl Ethyl Alcohol				
Phosphoric Acid	85	E		X
Phosphoric Acid	50	E		X
Phosphoric Acid	10	E		X
Photographic Developer		E		
Phthalates		X		
Pitch		G		
Plasticizers (Phthalates, Phosphates)				
Polyester Resin with Styrene				
Potash				
Potassium Bromide				
Potassium Chlorate				
Potassium Chloride	40			G
Potassium Cyanide				
Potassium Hydroxide	50	E		G
Potassium Hydroxide	10	E	E	G
Potassium Iodide				
Potassium Nitrate				
Potassium Permanganate	5			X
Potassium Salts				
Potassium Sulfate				
Power Steering Fluid		X		
Propane		E		
Propanol			E	
Propyl Alcohol		G		
Propylene Glycol		E		
Pydraul		X		
Pydraul Oil			G	
Pyridine			E	X
R				
Resorcinol				
Ritchfield "A" Weed Killer		F		
S				
SEA No. 10 Oil				
Salicylic Acid				
Salt				
Seawater		E	E	E
Silicic Acid				
Silicone Oil		E		
Silver Nitrate		F		
Silver Salts				
Skydrol Oil - Type B		X	E	X
Soap				
Soap Solution				
Sodium Acetate				
Sodium Bicarbonate				



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	%	PVC	TPR	TPU
S				
Sodium Bisulfite				
Sodium Borate				
Sodium Bromide				
Sodium Carbonate				
Sodium Chlorate				
Sodium Chloride	15		E	G
Sodium Chlorite				
Sodium Cyanide		E		
Sodium Dichromate				
Sodium Ferrocyanide				
Sodium Fluoride				
Sodium Hydrosulfite				
Sodium Hydroxide		G		X
Sodium Hydroxide	50	E	E	X
Sodium Hydroxide	10	E	E	G
Sodium Hypochlorite	PH13	G		E
Sodium Nitrate				
Sodium Nitrite				
Sodium Perborate				
Sodium Phosphate				
Sodium Silicate				
Sodium Sulfate				
Sodium Sulfide				
Sodium Sulfite				
Sodium Thiosulfite				
Solvent Naphtha				
Solvesso		X		
Soybean Oil		F		
Stoddard Solvent		X		
Styrene		X		
Sulfur				
Sulfur Dioxide				
Sulfur Dioxide (Liquid)		X		
Sulfuric Acid		X	E	X
Sulfuric Acid	75	F	E	X
Sulfuric Acid	60	G	E	X
Sulfuric Acid	40	E	E	X
Sulfuric Acid	25	E	E	F
Sulfuric Acid	10	E	E	G
Sulfurous Acid	40	G		
T				
Tall Oil		X		
Tallow				
Tannic Acid		E		

Chemical	Jacket Material			
	%	PVC	TPR	TPU
T				
Tar				
Tartaric Acid				
Tea				
Tetra Ethyl Lead		X		
Tetra Hydro Furan		X		X
Tetrachloroethylene				X
Tetraline				
Thionyl Chloride				
Tin Salts				
Titanium Salts				
Toluene		X		X
Toluol		X		
Transformer Oil				
Transmission Oil			F	
Trichlorethane		X		
Trichlorethylene		X	X	X
Trichloroacetic Acid				
Tricresyl Phosphate				
Tricresyl Phosphate (Skydrol)		X		X
Triethanol Amine		F		
Trisodium Phosphate		E		
Tung Oil		F		
Turpentine		F	F	G
U				
Urea				
V				
Varnish				
Varsol		X		
Vaseline				
Vegetable Oils and Juices		E		
Vinegar		E		
Vinyl Chloride		X		
W				
Water		E	E	
Water 23° C				
Water 70° C				
Wax				
Wood Preservatives		X		
X				
Xylene		X	F	X
Xylols		X		
Z				
Zinc Chloride		E	E	
Zinc Sulfate		E		