

# CHEMICAL RESISTANCE GUIDE

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## OVERVIEW

The data on this chart is based on short-term (30–60 day) laboratory immersion tests in a controlled environment (72–77°F). It is to be used only as a guide in selecting the proper coating, lining or sealant for a particular chemical environment. Many factors must be considered when choosing the correct product for an application, including:

- Chemical Exposure (Single or Combinations)
- Operating Temperature
- Temperature Fluctuations
- Type of Substrate and its Condition
- Mechanical Abuse
- Degree of Protection Required

### KEY TO GUIDE CODES

1. Product is suitable for use in immersion and/or splash and spillage conditions
2. Product is suitable for occasional and inter-mittent contact for periods up to 72 hours in duration
3. Product is suitable for occasional and inter-mittent contact for short time periods with frequent washing

**NR** Not recommended for this application

**S** Product may be stained by this chemical

**P** Postcuring recommended; contact

ITW Polymers Sealants North America for details

**C** Non-silica grade recommended for this application

*It's always best to test a product in the specific chemical environment prior to use. Test coupons will be furnished upon request.*

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**SUBSTANCE**

SUBSTANCE	TuffRez® Floor Coatings			FlakeRez® Flake-Filled Coatings				NovoRez® Epoxy Novolac Coatings			PermaRez® Reinforced Linings				THIOKOL® Flexible Sealants, Coatings & Linings						
	200CR	201, 203, 205, 206	211	PE-8109	PE-8202	VE-8360	VE-8304	351	353	360+, 370	333	335	345	348	2235M / SL	2282	FEC 2233	FEC 2234	FNEC 2515	RLP 2378+	
Calcium Bisulfite						1				1				1							
Calcium Chloride	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Calcium Hydroxide	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Calcium Hypochlorite	2	2	1	3C	2C	NR	3C	2	2	2	1C	2C	2	2	1	1	1	1	1	1	1
Calcium Nitrate				1		1	1			1	1			1							
Calcium Sulfate				1	1	1	1			1	1	1		1							
Calcium Sulfite										1	1			1							
Caprylic Acid				1	1	1	1			2	1	1		1							
Carbon Dioxide, Gas					1	1				1	1	1		1	1						
Carbon Disulfide	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Carbon Tetrachloride	1	NR	2	NR	2	1	NR	1	1	1	1	2	1	1	3	2	2	2	2	3	3
Carbitol Acetate			3																		
Castor Oil						1				1	1			1							
Chlorinated Water, 100 ppm	1		1					1	1												
Chlorine Dioxide					1	1				2	1	1		1	1						
Chlorine, Gas (Dry & Wet)					1	1				3	1	1		1	1						
Chloride, Water (Sat'd)					2	1	1	2		1	1	1		1	1						
Chloroacetic Acid				NR	NR	NR	NR			2	NR	NR		NR	NR						
Chlorobenzene	NR	NR	NR	NR	NR	3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chloroform					NR	NR				1P	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chloropyridine (Tetra)							1			2	1			1							
Chlorosulfonic Acid					NR	NR					NR	NR		NR	NR						
Chlorotoluene					NR	2				1	2	NR		2	NR						
Chromic Acid, 10%	1	1	1	NR	1	1	NR	1	1	1	1	1	1	1	1	1	1	1	1	NR	NR
Chromic Acid, 15%	1	3	3	NR	1	2	NR	1	1	1	2	1	3	1	NR	NR	3	1	1	NR	NR
Chromic Acid, 30%	2	NR	NR	NR	1	NR	NR	2	2	2	NR	1	3	2	NR	NR	NR	1	1	NR	NR
Chromic Acid, 35%	2	NR	NR	1	NR	1	1	2	2	2	1	2	NR	2	NR	NR	NR	1	1	NR	NR
Citric Acid	1	1	1	NR	1	1	NR	1	1	1	1	1	1	1	1	1	1	1	1	2	2
Copper Chloride				1	1	1	1			1	1	1		1	1						
Copper Cyanide				NR	1	1	NR			1	1	1		1	1						
Copper Nitrate				1	1	1	1			1	1	1		1	1						
Copper Sulfate	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Corn Oil						1				1	1			1							
Cottonseed Oil					2	1				1	1	2		1	2						
Creosote	1		1					1	1												
Cresylic Acid	3	3	3	NR			NR	3	3	2				3	3						
Crude Oil, Sour				1	1	1	1			1	1	1		1	1						
Crude Oil, Sweet				1	1	1	1			1	1	1		1	1						
Cumene						2				1	2			2							
Cumene Hydroperoxide	2		3					2	2					2							
Cyclohexane	1	2	1	NR	1	1	NR	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Decanol						1					1			1							
Dibutyl Phthalate				NR	1	1	NR			1	1	1		1	1						
Dichlorobenzene					NR	2				1	2	NR		2	NR						
Diesel Fuel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Diethylbenzene					2	1				1	1	2		1	2						
Diethylene Glycol	1		1					1	1	1				1							
Diethyl Ketone						3				1	3			3							
Dimethyl Formamide					NR	NR				2	NR	NR		NR	NR						
Divinylbenzene					2	2				1	2	2		2	2						
Epichlorohydrin	1		NR			3		1	1	1	2			1							
Ethoxylated Nonyl Phenol					2					1		2									
Ethyl Acetate	3	NR	NR		NR	3		3	3	1	3	NR	3	3	2	2	NR	NR	NR	NR	2
Ethyl Acrylate	1		3			NR		1	1	1	NR			1							
Ethyl Alcohol	1		2		3	2	1	3	1	1	1	2		1							
2-Ethyl Hexyl Acrylate	1		1					1	1					1							
Ethylbenzene					NR	2				1	2	NR									





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	TuffRez® Floor Coatings			FlakeRez® Flake-Filled Coatings				NovoRez® Epoxy Novolac Coatings			PermaRez® Reinforced Linings				THIOKOL® Flexible Sealants, Coatings & Linings					
	200CR	201, 203, 205, 206	211	PE-8109	PE-8202	VE-8360	VE-8304	351	353	360+, 370	333	335	345	348	2235 M / SL	2282	FEC 2233	FEC 2234	FNEC 2515	RLP 2378+
Picric Acid, 10% (Alcoholic)				1	1	1	1													
Potassium Bicarbonate				1	1	1	1													
Potassium Carbonate, 1%	1	2	1	NR	NR	2	NR	1	1	1	1	1	1	1	1	1	1	1	1	1
Potassium Carbonate, 25%	2	2	2			1		2	2	1	2	2	1	2	2	2	2	2	2	2
Potassium Chloride				1	1	1	1			1										
Potassium Dichromate				1	1	1	1			1										
Potassium Fluoride					1	1				1C										
Potassium Hydroxide, 10%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Potassium Hydroxide, 45%	1	1	1					1	1	1	1	1	1	1	1	1	1	1	1	1
Potassium Nitrate				1	1	1	1			1										
Potassium Permanganate	2		3	2	1	1	2	2	2	2	2	2	2	2	NR	NR	3	3	3	NR
Potassium Persulfate									1											
Potassium Sulfate				NR	2	1	NR			1										
Propionic Acid, 50%				NR	NR	3S	NR			2										
Propionic Acid, 100%				3	1	1	3			3										
Propylene Glycol	1		1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pyridine		NR			1	1				3										
Salicylic Acid						2				1										
Salt Brine				NR	2	2	NR			1										
Sea Water										1										
Selenious Acid																				
Silver Nitrate						1				1S										
Skydrol 500B	1	1	1	NR	3	2	NR	1	1	1	1	1	1	2	2	1	2	2	2	2
Soap Solutions			1			1								3	3	1	1	1	3	
Sodium Acetate					1	1				1										
Sodium Bicarbonate	1	1	1		NR			1	1	1	1	1	1	1	1	1	1	1	1	1
Sodium Bisulfate		1		NR	NR	NR	NR			1										
Sodium Bromate						2				1										
Sodium Carbonate		1				2				1										
Sodium Chlorate					1	1				2										
Sodium Chloride	1	1	1					1	1	1	1	1	1	1	1	1	1	1	1	1
Sodium Chlorite				1	2	1	1			2										
Sodium Cyanide	1		1	2	1	1	2	1	1	1	1	1	1	2	2	1	1	1	2	2
Sodium Dichromate										1										
Sodium Fluoride										1C										
Sodium Hydrosulfide				1	1	1	1			2										
Sodium Hydroxide, 10%	1	2	1					1	1	1	1	1	1	2	2	1	1	1	2	2
Sodium Hydroxide, 25%	1	2	1					1	1	1	1	1	1	2	2	1	1	1	2	2
Sodium Hydroxide, 50%	1	2	1			NR		1	1	1	1	1	1	2	2	1	1	1	2	2
Sodium Hypochlorite, 5%	2		2		1	1		2	2		2	2		NR	NR	2	2	2	NR	NR
Sodium Hypochlorite, 8%	2		2		1	1	1	2	2		2	2		NR	NR	2	2	2	NR	NR
Sodium Hypochlorite, 10%		2		1	1	1	1													
Sodium Hypochlorite, 18%																				
Sodium Lauryl Sulfate					1	1				1										
Sodium Oxalate						1				1										
Sodium Phosphate				3	2	2	3			1										
Sodium Phosphate (Tri)				NR	2	1	NR			1	1	2								
Sodium Sulfate		1		1	2	1	1			1	1	2	1	1	1	1	1	1	1	1
Sodium Sulfide	1	1	1	2	NR	1	2	1	1	1	1	NR	1	1	1	1	1	1	1	1
Sodium Sulfite				2	1	1	2			1										
Sodium Tartrate						1				1										
Sodium Thiosulfate				2		1	2			1										
Sorbitol Solutions				1		1	1													
Soybean Oil				1	1	1	1			1										
Stannic Chloride				1	2	1	1			1										
Stannous Chloride				1	1	1	1			1										
Stearic Acid	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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Styrene	3		NR	NR	NR	2	NR	3	3	1	2	NR		3	NR	NR	NR	NR	NR	NR
Sugar/Sucrose						1				1	1			1						
Sulfamic Acid				1	1	1	1			2	1	1								
Sulfite Liquor (Pulp)				1	1	1	1			1	1	1								
Sulfur Dioxide (Dry or Wet)					1	1				1	1	1								
Sulfuric Acid, 10%				1	1	1	1			1	1	1								
Sulfuric Acid, 20%	2		1					2	2	1				2						
Sulfuric Acid, 25%	2	1		1	1	1	1	2	2	1	1	1	1S	2						
Sulfuric Acid, 50%	2S		1	2	1	1	2	2S	2S	1S	1	1	1S	2S	3	3	1	1	1	3
Sulfuric Acid, 66%	2S	3	1					2S	2S	1S			1S	2S	NR	NR	1	1	1	NR
Sulfuric Acid, 75%	2S	NR		NR	2	1	NR	2S	2S	1S	1	2	1S	2S						
Sulfuric Acid, 98%	2S	NR		NR	NR	3S	NR	2S	2S	2S	3S	NR	NR	2S						
Sulfurous Acid, 10%				3	1	1	3				1	1								
Sulfur Trioxide				1	2	1	1			1	1	2								
Tall Oil					1	1				1	1	1								
Tetrachloroethane						2				1	2									
Tetrachloroethylene				NR	2	2	NR			1	2	2								
Tetrahydrofuran	NR		NR					NR	NR					NR	NR	NR	NR	NR	NR	NR
Tetrahydrofurfuryl Alcohol			2																	
Tobias Acid						1				1	1									
Toluene	1	3	3	NR	3	2	NR	1	1	1	2	3	1	1	3	3	3	3	3	3
Toluene Sulfonic Acid						1				1	1									
Trichloroacetic Acid					1	1				2	1	1	2							
1,1,1, Trichloroethane	1	2	2		NR			1	1	1		NR	2	1	3	3	2	2	2	3
Trichloroethylene	2	3	2	NR	NR	NR	NR	2	2	1P	NR	NR	3	2	NR	NR	2	2	2	NR
Tricresyl Phosphate						2				1	2									
Triethylamine						2				2	2									
Trisodium Phosphate		1			1	1				1	1	1	1							
Triton X100	1		1					1	1					1	2	2	1	1	1	2
Turpentine				1	2	1	1			1	1	2								
Urea		1		2	1	1	2			1	1	1	1							
Urea, 10%	1		1					1	1					1	1	1	1	1	1	1
Urea Ammonium Nitrate, 32%	1		1					1	1					1	1	1	1	1	1	1
Vinegar		1		1	1	1	1			1	1	1	1							
Vinylidene Chloride			NR							2										3
Vinyl Acetate			NR																	3
Vinyl Chloride						NR				2	NR									2
Water, Deionized					1	1				1	1	1								
Water, Demineralized				1	1	1	1			1	1	1								
Water, Distilled				1	1	1	1			1	1	1								
Water Tap	1		1					1	1				1	1	1	1	1	1	1	2
White Liquor (Pulp)					1	1				1	1									
Wine		1				1				1	1	1								
Xylene	1	2	2	3	2	2	3	1	1	1	2	2	1	1	3	3	2	2	2	3
Zinc Chloride	1		1	1	1	1	1	1	1	1	1	1	1							1
Zinc Nitrate, 17%	1	2	1					1	1				1	1						1
Zinc Sulfate				1	1	1	1			1	1									1