

**CHEMICAL RESISTANCE GUIDE**

The following Chemical Resistance Guide will aid in determining the effect of various chemicals to Valspar's UR-13 DURACURE HS/VOC MCU. Results are based on ASTM D-1380 procedure. Two samples were prepared based on a Clear and a color base mixed with UR-4 Light Gray Color Add. Each system was mixed and applied to a panel sealed with Valspar's Primer in accordance to Valspar's standard specifications. The coatings were allowed to cure for a minimum of 7 days @ 77 °F prior to testing. A rating system for this guide is as follows:

**Film Integrity**

1. Unaffected
2. Affected but area usable after drying
3. Partially Destroyed in contacted area
4. Contacted area destroyed

**Staining**

<b>A.</b> Unaffected	<b>G.</b> Stained but removed by soap and water
<b>B.</b> Brown Stain	<b>H.</b> Stained but removed with xylene or abrasive cleaner
<b>C.</b> White Stain	<b>I.</b> Loss of Gloss
<b>D.</b> Color Lightened	<b>J.</b> Green or Blue Stain
<b>E.</b> Yellow Stain	<b>K.</b> Gray Stain
<b>F.</b> Red or Orange Stain	

	ORGANIC ACIDS			
	CLEAR		W/ UR-4	
	SPLASH	24 HR.	SPLASH	24 HR.
Acetic Acid 5%	1A	1A	1A	1A
Acetic Acid 10%	1A	1E	1A	2E
Acetic Acid 20%	2E	1E	2E	2E
Glacial Acetic Acid	2E	2E	2E	3E
Butyric Acid 10%	1A	1E	2A	2E
Cresylic 10%	2E	2E	3i	2i
Formic Acid 10%	1A	1F	1A	2i
Lactic Acid 10%	1A	1DE	1A	1A
Lactic Acid 25%	2E	2DE	1A	1A
Maleic Acid 30%	1A	2E	2D	2D
Maleic Acid 60%	2D	2D	2J	2J
Malic Acid 50%	1A	1A	2A	2A
Monoacetic Acid 5%	1A	2F	1A	3i
Monoacetic Acid 10%	2E	3F	1A	3i
Oleic Acid	1A	1A	1A	1A
Oxalic Acid Sat.	1A	1A	1A	1A
Picric Acid Sat.	2E	2E	2E	2E

	INORGANIC ACIDS CONT.			
	CLEAR		W/ UR-4	
	SPLASH	24 HR.	SPLASH	24 HR.
Nitric Acid Conc	4	4	3J	3J
Perchloric Acid 35%	1E	2E	1A	2i
Phosphoric Acid 10%	1A	1A	1A	2i
Phosphoric Acid 35%	1E	1E	2iD	2iD
Phosphoric Acid 75%	1A	1A	2D	2D
Sulfuric Acid 25%	2A	2C	2A	2D
Sulfuric Acid 50%	2E	2E	2Fi	2Fi
Sulfuric Acid 70%	2E	2E	2Fi	2Fi
Sulfuric Acid Conc.	4	4	4	4

	INORGANIC ACIDS			
	CLEAR		W/ UR-4	
	SPLASH	24 HR.	SPLASH	24 HR.
Acetic Acid 50%	1A	1A	1A	1A
Boric Acid Sat.	1A	1A	1A	1A
Chromic Acid 2%	1B	1B	2B	2B
Chromic Acid 10%	2B	1B	2B	2B
Chromic Acid 15%	2B	1B	2B	2B
Hydrochloric Acid 10%	1A	1A	1A	1A
Hydrochloric Acid 37%	1A	1A	1A	1A
Hydrochloric Acid Conc	1A	1A	1A	1A
Hydrofluoric Acid 10%	1A	1A	1A	1A
Hydrofluoric Acid 24%	1A	1A	1A	1A
Nitric Acid 10%	4	2B	1A	1A
Nitric Acid 30%	4	2B	3J	3J
Nitric Acid Over 40%	4	2B	3J	3J

	ALKALIES AND SALTS			
	CLEAR		W/ UR-4	
	SPLASH	24 HR.	SPLASH	24 HR.
Aluminum Chloride 50%	1A	1A	1A	1A
Ammonium Chloride 50%	1A	1A	1A	1A
Ammonium Hydroxide 10%	1A	1A	1A	1A
Ammonium Hydroxide 20%	1A	1A	1A	1A
Ammonium Hydroxide 50%	1A	1A	1A	1A
Ammonium Nitrate Sat.	1A	1A	1A	1A
Ammonium Persulfate Sat.	1C	1E	1E	1E
Ammonium Sulfate Sat.	1A	1A	1A	1A
Calcium Chloride 50%	1A	1A	1A	1A
Calcium Hydroxide Sat	1A	1A	1A	1A
Calcium Hypochlorite 15%	1A	1A	1A	1A
Ferric Chloride	1A	1E	1E	1E
Ferric Sulfate	1A	1A	1A	1A
Potassium Hydroxide 40%	1A	1A	1A	1A
Sodium Bicarbonate Sat.	1A	1A	1A	1A
Sodium Bisulfate Sat.	1A	1A	1A	2i
Sodium Carbonate Sat.	1A	1A	1A	1A
Sodium Chloride 20%	1A	1A	1A	1A
Sodium Hydroxide 10%	1A	1A	1A	1A
Sodium Hydroxide 50%	1A	1A	1A	1A
Sodium Hypochlorite 10%	1A	1A	1A	1A

ALKALIES AND SALTS CONT.				
	CLEAR		W/ UR-4	
	SPLASH	24 HR.	SPLASH	24 HR.
Sodium Sulfate Sat.	1A	1A	1A	1A
Sodium Sulfide Sat.	1A	1A	1A	1A
Trisodium Phosphate 10%	1A	1A	1A	1A

SOLVENTS				
	CLEAR		W/ UR-4	
	SPLASH	24 HR.	SPLASH	24 HR.
Acetone	2A	2iF	1A	1i
Benzene	1A	1A	1A	1A
Butyl Acetate	2A	2E	2i	2i
Carbon Tetrachloride	1A	1A	1A	1A
Chlorobenzene	1A	2i	1A	1A
Cyclohexane	1A	1A	1A	1A
Cyclohexanone	2A	4	2A	3i
Chloroform	2A	3i	2A	3i
Diacetone Alcohol	1A	1A	1A	1A
Ethyl Acetate	1A	2i	1A	1A
Ethyl Alcohol	2A	2i	1A	1A
Ether	1A	2i	1A	1A
Ethylene Dichloride	1A	2i	2A	2i
Methyl Alcohol	2A	2i	2A	2i
Methyl Ethyl Ketone	2A	2i	2A	3i
Methyl Isobutyl Ketone	2A	2A	2i	2i
Methy Salicycate 50% in Toluene	1A	2A	2A	3i
Methylene Chloride	1A	2i	1A	1A
Mineral Spirits	1A	1A	1A	1A
Naphtha	2A	2E	1A	1A
Perchloroethane	1A	1A	1A	1A
Toluene	1A	2A	1A	1A
Trichlorethylene	1A	2i	1A	1A
Xylene	1A	1i	2A	2i
Gasoline	1A	1E	1A	1A
Hexane	1A	1E	1A	1A
SC-100	n/a	n/a	n/a	n/a
PM Acetate	1A	1E	1A	1A

MISCELLANEOUS CHEMICALS				
	CLEAR		W/ UR-4	
	SPLASH	24 HR.	SPLASH	24 HR.
Arcylonitrile	1A	1A	1A	1A
Aniline	2B	4	3B	4
Beer	1A	1A	1A	1A
Bromine	1F	1F	2E	2E
Butyl Lactat	1A	1E	1A	1A
Carbon Disulfide	1A	1A	1A	1A
Corn Oil	1A	1A	1A	1A
Diethyl Phthalate	1A	1A	2A	2i
Dimethyl Phthalate	1A	1A	2A	2i
Ethylene Glycol	1A	1A	1A	1A
Formaldehyde	1A	1A	2A	2A
Glycerine	1A	1A	1A	1A
Hydrogen Peroxide	1A	1E	1A	1A
Fruit Juice	1A	1A	1A	1A
Lanoline	1A	1A	1A	1A
Mustard	1E	1E	1E	1E
Phenol 5%	1Fi	4	4	4
Pyridine	1F	3Fi	3i	3i
Sydrol 500A	1A	1A	2A	2Di
Sugar Soln. Sat	1A	1A	1A	1A
Tiacetin	1A	1A	1A	1A
Triethylene Glycol	2A	2A	1A	2A
Water	1A	1A	1A	1A
Wine	1A	1E	1E	1E
Ketchup	1A	1A	1A	1A
Brake Fluid	2E	2E	2A	2Di
Motor Oil	1A	1A	1A	1A
Grease	1A	1A	1A	1A
Tide Soln.	1A	1A	1A	1A
1,1,1 Trichloroethane	1A	1A	1A	1A
2-Nitro Propane	1A	1A	1A	1A
Turpentine	1A	1A	1A	1A
Jet Fuel A-1	1A	1A	1A	1A
Cola	1A	1A	1A	1A
10% Citric	1A	1A	1A	1A
Isopropyl Alcohol	1A	1A	1A	1A
Transmission Fluid	1A	1A	1A	1A
Amyl Aetane	1A	1A	1A	1A
Triethanolamine	1A	1A	1A	1K
Tannic Acid	1A	1A	1A	1A
Tartanic Acid	1A	1A	1A	1A
Betadine Solution	1A	1E	1E	1E
Urine	N/A	N/A	N/A	N/A

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