

Starting Formulation

SF 1742

Waterborne Gloss White Enamel – 4:1

EPI-REZ™ Resin 6520-WH-53 / EPIKURE™ Curing Agent 6870-W-53

Introduction This starting point formulation is designed for high gloss applications where customers prefer to prepare a pigment concentrate then that is let-down with the epoxy resin dispersion and other ingredients. This formulation contains less than 100 g/L VOC, which complies with the most stringent regulations in place at this time (i.e., South Coast Air Quality Management District).

- Suggested Uses**
- Topcoat over primed metal surfaces
 - General maintenance

- Features**
- High gloss (60 degree gloss >90 over two hours of pot life)
 - Low VOC¹ (90 g/L as applied)
 - NonHAPS²
 - Good dry times (~12 hours dry-through)

¹ VOC is the acronym for volatile organic compound as defined by the U.S. 40CFR51.100 (s).

² HAP is the acronym for hazardous air pollutant as defined by the U.S. Clean Air Act Amendments of 1990.

Formula	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Part A				
Pigment Concentrate				
	CARDURA™ Glycidyl Ester E10P	Hexion	10.8	1.35
	TAM-20 surfactant	ETHOX Chemical	4.5	0.82
	Dee Fo 215	Münzing Chemical	7.0	0.99
	Modaflow	Cytec	4.5	0.82
	Ti-Pure R-960	Du Pont Chemicals	218.0	6.80
	Optiflo H-600	Southern Clay Products	1.0	0.12
	Water		<u>124.3</u>	<u>14.92</u>
		Pigment Concentrate Total	370.1	25.8
Add the following while mixing				
	EPI-REZ Resin 6520-WH-53	Hexion	380.0	42.22
	Drew Plus L-475 Defoamer	Drew Chemical	1.0	0.14
	Dipropylene glycol n-butyl ether (DPnB)	Dow Chemical	9.0	1.19
	Propylene Glycol Propyl Ether (PnP)	Dow Chemical	10.0	1.36
	BYK 348	BYK Chemie	4.2	0.48
	Anti-Terra U-100	BYK Chemie	15.4	1.83
	Anti-Terra U-250	BYK Chemie	16.0	1.90

Generated: October 21, 2021
 Issue Date:
 Revision:

© and ™ Licensed trademarks of Hexion Inc.

DISCLAIMER

The information provided herein was believed by Hexion Inc. ("Hexion") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Hexion are subject to Hexion's terms and conditions of sale. HEXION MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY HEXION, except that the product shall conform to Hexion's specifications. Nothing contained herein constitutes an offer for the sale of any product.

Deionized Water		<u>41.9</u>	<u>5.03</u>
	Total Part A	847.6	80.00
Part B			
EPIKURE Curing Agent 6870-W-53	Hexion	174.0	19.12
Raybo 60 (flash rust additive)	Raybo Chemical Company	0.8	0.09
Water		4.1	0.49
Texanol	Eastman	<u>2.8</u>	<u>0.32</u>
	Total Part B	181.7	20.00
	Total Part A & B	1029.3	100.00

Mixing Instructions	<u>Pounds</u>	<u>Gallons</u>
Part A	847.6	80.00
Part B	<u>181.7</u>	<u>20.00</u>
Part A + B	1029.3	100.00

Typical Formulation Properties Table 1 / Formulation Properties

	<u>Units</u>	<u>Value</u>
Mix ratio Part A : Part B	By volume	4 : 1
Amine hydrogen eq. to Epoxy eq. ratio (based on solids)		1 : 1
Total weight solids	%	55.3
Total volume solids	%	50.1
Pigment to Binder ratio by weight (P:B)		0.71
PVC	%	17
VOC	lb/gal	0.75
	g/L	90
Induction Time	min.	<5
Viscosity, Part A + Part B, Stormer at 25 °C		
Initial	KU	74
1 hrs	KU	74
2 hrs	KU	74
Gloss pot life	hrs	2-3

Typical Film Properties Table 2 / Film Performance Properties on smooth cold-rolled steel (CRS) panels¹

	<u>ASTM Method</u>	<u>Units</u>	<u>Value</u>
Film thickness (DFT)	D-1186	mils	2-4
Pencil hardness	D-3363		
24 hrs			4B

Generated: October 21, 2021
Issue Date:
Revision:

© and ™ Licensed trademarks of Hexion Inc.

DISCLAIMER

The information provided herein was believed by Hexion Inc. ("Hexion") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Hexion are subject to Hexion's terms and conditions of sale. HEXION MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY HEXION, except that the product shall conform to Hexion's specifications. Nothing contained herein constitutes an offer for the sale of any product.

3 days			B
14 days			HB
Set to touch dry, Stage II	D-5895-B	hrs	4
Cotton free, Stage III	D-5895-B	hrs	6
Through dry, Stage IV	D-5895-B	hrs	12
Gloss 60°/20°, after 24 hour cure	D-522		
0.5 hr			98 / 71
1 hr.			98 / 76
2 hr.			95 / 67
MEK double rubs	D-5402	cycles	
24 hrs			40
3 days			80
7 days			160

¹ Performance data is reported after 7 days at 77°F and 50% RH

Storage Recommendations regarding storage conditions for Hexion epoxy resins, modifiers and curing agents can be obtained by visiting our web site at www.hexion.com/epoxy

General Information

These are starting formulations and are not proven in the user's particular application but are simply meant to demonstrate the efficacy of the products and to assist in the development of the user's own formulation. It is the user's responsibility to fully-test and qualify the formulation, along with the ingredients, methods, applications or equipment identified herein ("Information"), by the user's knowledgeable formulator or scientist, and to determine the appropriate use conditions and legal restrictions, prior to use of any Information.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. The handling precautions and recommendations, as stated in the Material Safety Data Sheet (MSDS), for each product should be reviewed and understood by all persons before these products are used, stored or transported. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Contact Information

For product prices, availability, or order placement, call our toll-free customer service number at:

1-866-443-9466

For literature and technical assistance, visit our website at: www.hexion.com/epoxy

Generated: October 21, 2021
Issue Date:
Revision:

© and ™ Licensed trademarks of Hexion Inc.

DISCLAIMER

The information provided herein was believed by Hexion Inc. ("Hexion") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Hexion are subject to Hexion's terms and conditions of sale. HEXION MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY HEXION, except that the product shall conform to Hexion's specifications. Nothing contained herein constitutes an offer for the sale of any product.