

# Starting Formulation

## SF 1705

### Waterborne Gloss White Enamel – 4:1 Ratio

### 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/water slurry concentrate that can be let-down with the epoxy resin dispersion.

**Suggested Uses** Topcoat over primed metal surfaces

General maintenance

**Features** Stable pigmented Part A component

High gloss (greater than 85% at 60 degrees over four hours pot life)

Low VOC<sup>1</sup> (165 g/L as applied)

NonHAPS<sup>2</sup>

Fast dry times (through dry in less than eight hours)

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

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

Formula	Material	Supplier	Pounds	Gallons
Part A				
Pigment Concentrate				
	CARDURA™ Glycidyl Ester E10P	Hexion	10.8	1.35
	TAM-20 surfactant	ETHOX	4.5	0.82
	Deionized Water		124.3	14.89
	OPTIFLO H-600	Süd-Chemie	0.4	0.05
	Ti-Pure R-960	Du Pont Chemicals	198.2	6.14
	BYK 22 Defoamer	BYK-Chemie	<u>0.4</u>	<u>0.05</u>
	Pigment Concentrate Total		338.8	23.30
	EPI-REZ Resin 6520-WH-53	Hexion	387.3	43.03
	Drew Plus L-475 Defoamer	Drew Chemical	1.0	0.13
	Propylene glycol monophenyl ether (PPh)	Lyondell	26.0	2.95
	Dipropylene glycol n-butyl ether (DPnB)	Lyondell	20.6	2.72
	Deionized Water		<u>65.8</u>	<u>7.88</u>
Total Part A			839.3	80.00

Generated: October 19, 2021

Issue Date:

Revision:

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Part B			
EPIKURE Curing Agent 6870-W-53	Hexion	172.4	18.95
EPIKURE Curing Agent 3253	Hexion	5.0	0.61
Raybo 60 (flash rust additive)	Raybo Chemical Company	0.8	0.09
Texanol	Eastman	<u>2.8</u>	<u>0.36</u>
	Total Part B	181.0	20.00
	Total Part A & B	1020.3	100.00

Mixing Instructions	<u>Pounds</u>	<u>Gallons</u>
Part A	839.3	80.00
Part B	<u>181.0</u>	<u>20.00</u>
Part A + B	1020.3	100.00

Typical Formulation Table 1 / Formulation Properties  
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
Epoxy Resin / Curing Agent ratio (solids basis)		
Resin	%wt	70.3
Curing Agent	%wt	29.7
Total weight solids	%	50.2
Total volume solids	%	40.8
Pigment to Binder ratio by weight		0.64
PVC	%	15
VOC	lb/gal	1.38
	g/L	165
Induction Time	min.	0
Viscosity, Part A + Part B, Stormer at 25 °C		
Initial	KU	69
1 hrs	KU	73
4 hrs	KU	87
Gloss pot life	hrs	3 - 4

Typical Film Table 2 / Film Performance Properties <sup>1</sup>  
Properties

	<u>ASTM Method</u>	<u>Units</u>	<u>Value</u>
Film thickness (DFT)	D-1186	mils	1.6

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Pencil hardness	D-3363		
24 hrs			3B-2B
3 days			B
14 days			F
Set to touch dry	D-5895-B	hrs	0.75
Cotton free	D-5895-B	hrs	4.75
Through dry	D-5895-B	hrs	7.5
Gloss 60°/20°, after 24 hour cure	D-522		
0.5 hr		%	99 / 84
3 hr.			95 / 76
4 hr.			86 / 50
MEK double rubs	D-5402		
24 hrs		cycles	40
3 days			80
7 days			160

<sup>1</sup> Cured at 75-79°F and 50-60% R.H.

Storage Recommendations regarding storage conditions can be obtained by visiting our web site at [www.hexion.com/epoxy](http://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.

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#### Contact Information

For product prices, availability, or order placement, please contact customer service:

[www.hexion.com/Contacts/](http://www.hexion.com/Contacts/)

For literature and technical assistance, visit our website at [www.hexion.com](http://www.hexion.com)

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