

Starting Formulation

SF 1011

White Enamel

EPON™ Resin 1001-CX-75 / EPIKURE™ Curing Agent 3213

- Features
- High performance chemical and solvent resistant topcoat
 - Formulated for spray application
 - Desirable mixing ration of 3 to 1 by volume
 - Formulation contains no ethylene glycol ether solvent

Formula	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Part A				
Pigments				
	Ti-Pure R-960	Du Pont Company	240.2	6.87
	Phthalocyanine Blue		Trace	Trace
	Mistron CF5A	Luzenac America, Inc.	32.5	1.37
Vehicle				
	EPON Resin 1001-CX-75	Hexion	264.4	29.06
	CYMEL U-216-8	Cytec Industries	12.1	1.43
	Methyl isobutyl ketone	Shell Chemical Company	29.8	4.48
		<i>High Speed Disperse to Grind Hegman 7-8</i>		
	Propylene glycol methyl ether		55.4	7.24
	Cyclohexanol		7.5	0.95
	Xylene	Shell Chemical Company	35.8	5.00
	Toluene	Shell Chemical Company	<u>133.3</u>	<u>18.60</u>
	Total Part A		811.0	75.00
Part B				
	EPIKURE Curing Agent 3213	Hexion	98.4	12.00
	Methyl isobutyl ketone	Shell Chemical Company	<u>86.3</u>	<u>13.00</u>
	Total Part B		184.7	25.00
	Total Part A & B		995.7	100.00

Mixing Instructions

Pounds Gallons

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Part A	811.0	75.00
Part B	<u>184.7</u>	<u>25.00</u>
Part A + B	995.7	100.00

Disperse the pigments in a suitable portion of the vehicle using high speed dispersing equipment or a sand mill. Let down the pigment dispersion with the remaining vehicle. Charge the two ingredients of the curing agent component to a separate suitable container and mix thoroughly. Package the base component and the curing agent component separately to be combined just prior to use.

Typical Handling Properties Slowly combine three parts by volume of base component with one part by volume of curing agent component and mix thoroughly. Allow the mixed formulation to "sweat in" for one hour. The system is then ready for spray application. Because of the limited pot life of the mixed formulation, do not mix more material than can be used in a working day. For application of this system in confined or poorly ventilated areas, we recommend the use of a fresh air-supplied hood and other protective clothing sufficient to cover the applicator's entire body.

The application methods for an EPON Resin 1001F/EPIKURE Curing Agent 3213 White Enamel can involve the use of air or airless spray equipment, roller or brush. This system is normally air dried but can be force cured by baking if desired. This operation requires the use of well ventilated facilities (fresh air supply and adequate exhaust) along with the use of OSHA/NIOSH approved respiratory equipment for worker protection. In addition, the worker must wear appropriate protective clothing to avoid skin contact.

Typical Formulation Properties Table 1 / Formulation Properties

	<u>Units</u>	<u>Value</u>
Mix ratio Part A : Part B	By volume	3 : 1
	By weight	4.39:1.0
Curing agent (based on solids)	phr	49.5
Nonvolatile content by weight	%	51.6
Nonvolatile content by volume	%	32.7
Weight per gallon	lb./gal.	9.96
Pigment : Binder Weight Ratio		1.06
Pigment volume concentration (PVC)	%	25.2
Volatile Organic Compound (VOC)	lb/gal	4.76
	g/L	571
Induction Time	hrs	1.0
Pot life	hrs	> 8

Cure Schedules Table 2 / Cure Schedules

At ambient temperatures of 70°F to 80°F, this coating will dry to handle in about six hours. Physical properties will be fully developed in about two days. Chemical and solvent resistance will be fully developed in seven days. At ambient temperatures of 55°F, several weeks may be required to produce full cure, as the adduct curing agent used in the formulation has low volatility and will remain in the film to react with the epoxy resin.

	<u>Units</u>	<u>Value</u>
Force dry, to a sandable stage		

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100°F	hrs	1.5 – 2
110°F	hrs	1 – 1.5
120°F	min.	45
140°F	min.	30

Force dry, to full cure

140°F	hrs	1.5
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High temperature bake, to full cure

200°F	min.	20
250°F	min.	10
300°F	min.	7
350°F	min.	4
400°F	min.	2

Storage Recommendations regarding storage conditions can be obtained by visiting our web site at www.hexion.com

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. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. 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, please contact customer service:

www.hexion.com/Contacts/

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

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