

# Starting Formulation

SF 1038

Aluminum Paint

EPON™ Resin 1001 / EPIKURE™ Curing Agent 3115

- Features
- Low toxicity maintenance primer
  - Desirable mixing ratio of 80/20 by volume

Formula	Material	Supplier	Pounds	Gallons
Part A				
Aluminum paste				
	Aluminum Leafing Paste 565 Al paste™	Alca Inc.	345.7	28.70
	Syloid AL-1	W.R. Grace & Company	3.5	.35
Vehicle				
	EPON Resin 1001-T-75	Hexion	283.5	31.15
	Beetle U 216-8	Cytec Industries	17.8	2.10
	Methyl isobutyl ketone	Shell Chemical Company	61.5	9.26
	Propylene glycol methyl ether	Shell Chemical Company	11.2	1.47
	Toluene	Shell Chemical Company	<u>49.9</u>	<u>6.97</u>
	Total Part A		773.1	80.00
Part B				
	EPIKURE Curing Agent 3115-X-70	Hexion	136.9	17.55
	Propylene glycol methyl ether	Shell Chemical Company	<u>18.7</u>	<u>2.45</u>
	Total Part B		155.6	20.00
	Total Part A & B		928.7	100.00

## Mixing Instructions

	Pounds	Gallons
Part A	773.1	80.00
Part B	<u>155.6</u>	<u>20.00</u>
Part A + B	928.7	100.00

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For the base component, charge the aluminum paste and Syloid AL-1 to a suitable container with a mixer and let down slowly with the solvents, the epoxy resin solution and finally, the flow control agent, Beetle 216-8. Charge the 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 mixed just prior to use.

**Typical Handling Properties** This formulation is designed for spray application only, although other application methods may be considered. A film thickness of 1.5-2.0 mils per coat is recommended, with an interval of one day between coats.

Slowly add the curing agent component to the base component with good agitation. Continue mixing until the curing agent component is thoroughly dispersed. Allow the mixed formulation to stand for 30 to 60 minutes before application. Because of the limited pot life of the mixed formulation, do not mix more material than can be consumed during a working day. For spray application, reduce the formulation to the desired viscosity with a solvent blend of MIBK/ PGME/Toluene, 45/5/50% by weight.

Surfaces to be coated should be cleaned thoroughly. The preferred method for cleaning steel surfaces is sand- or grit-blasting. 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/EPI-CURE Curing Agent 3115 Aluminum Paint can involve the use of air or airless spray equipment. 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	4 :1
	By weight	100/45
Nonvolatile content by weight	%	58.9
Weight per gallon	lb/gal	9.3
Pigment : Binder Weight Ratio		0.72/1.0
Pigment volume concentration (PVC)	%	23
Volatile Organic Compound (VOC)	lb/gal	3.81
	g/L	454
Induction Time	Min	30-60
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		
100°F	hrs	1.5 – 2

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110°F	hrs	1 – 1.5
120°F	min.	45
140°F	min.	30
Force dry, to full cure		
140°F	hrs	1.5
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](http://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/](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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