

Starting Formulation

SF 1040

High Solids, Zinc-Rich Epoxy Primer EPON™ Resin 828 / EPIKURE™ Curing Agent 3164

Suggested Uses • Recommended for shop- or field-applied steel primer

- Features**
- Low toxicity maintenance primer
 - Excellent corrosion resistance; affords galvanic protection to adjacent undercoated areas
 - Low VOC (1.8 lb/gallon or 215 g/L)

Formula	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Part A				
	EPON Resin 828	Hexion	105.8	10.96
	TEXAPHOR™ 963 Dispersant	Cognis	6.0	0.79
	Cab-O-Sil™ TS-720	Cabot Corporation	25.0	1.57
<i>Mix well at moderate agitation, then add</i>				
	UP-4 Zinc Dust	Purity Zinc Metals	2,022.7	34.75
<i>High speed disperse to a texture of 4.5 to 5.5 Hegman., then add</i>				
	BEETLE™ 216-8	Cytec Industries Inc.	20.0	2.30
	MIBK	Shell Chemical Co.	20.0	3.00
	Acetone	Shell Chemical Co.	19.8	3.00
	Aromatic™ 100	Exxon Chemical Co.	<u>135.4</u>	<u>18.63</u>
	Total Part A		2,354.7	75.00
Part B				
	EPIKURE Curing Agent 3164	Hexion	144.1	17.71
	Cab-O-Sil™ TS-7620	Cabot Corporation	2.5	0.16
	NICRON™ 402 talc	Luzenac America	76.0	3.24
<i>High speed disperse to a texture of 4.5 to 5.5 Hegman., then add</i>				
	Acetone	Shell Chemical Co.	13.2	2.00
	n-Butanol	Shell Chemical Co.	<u>12.8</u>	<u>1.89</u>
	Total Part B		248.6	25.00

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Total Part A & B	2,603.3	100.00
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Mixing Instructions

	<u>Pounds</u>	<u>Gallons</u>
Part A	2,354.7	75.00
Part B	<u>248.6</u>	<u>25.00</u>
Part A + B	2,603.3	100.00

Typical Formulation Table 1 / Formulation Properties Properties

	<u>Units</u>	<u>Value</u>
Mix ratio Part A : Part B	By volume	3 : 1
	By weight	9.47: 1.0
Pigment : Binder Weight Ratio		8.7:1
Total weight solids	%	91.9
Total volume solids	%	70.0
Pigment volume concentration (PVC)	%	56.8
Volatile Organic Compound (VOC)	lb/gal	1.79
	g/L	215
Induction Time	min.	30

Performance Data Table 2/ Performance data

	EPIKURE Curing Agent 3164 with EPON Resin 828	EPIKURE Curing Agent 3115 with EPON Resin 1001	Commercial zinc-rich epoxy/polyamide primer
VOC, at 80 KU	2.20	2.9	2.8
7 day cure	5B	5B	5B
4 weeks cure	HB	HB	HB
Impact, in•lb.	30	40	80
Cold-Rolled Steel	2.5 - 3.0 mils DFT	2.5 - 3.0 mils DFT	2.5 - 3.0 mils DFT
1000 hr			
<i>Salt spray</i>	NE in field. < 1 mm creep at scribe with no blisters.	8MD blisters. No creep. No rust.	8MD blisters in field and at scribe. No creep.
<i>Cleveland humidity</i>	NE	NE	NE
<i>DI water immersion</i>	NE	NE	NE
2688 hr			
<i>Salt spray</i>	Very slight whitening	Failed	Failed

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<i>Salt spray</i>	very slight whitening. 1 mm creep at scribe. Slight rust.	1 area.	1 area.
<i>Clevelandhumidity</i>	Moderate whitening. 4M blisters at interface.	6D blisters. Recovers rapidly.	NE
<i>DI water immersion</i>	4M blisters at interface.	NE	NE
2450 hr			
<i>Prohesion wet/dry cyclic exposure</i>	No field blisters with very slight whitening. 0.5mm creep at scribe. Slight rust.	6F field blisters. Severe whitening. 4-8D blisters at scribe with 2 mm creep.	No field blisters with severe whitening. No blisters at scribe with 2 mm creep.
Grit-Blasted Steel	3.0 - 3.5 mils DFT	3.0 - 3.5 mils DFT	3.0 - 3.5 mils DFT
3192 hr			
<i>Salt spray</i>	Very slight whitening. 1 mm creep at scribe. Slight rust.	8M blisters with 2mm creep. Moderate rust.	8F blisters with 3mm creep. Severe rust.
<i>Clevelandhumidity</i>	Moderate whitening.	NE NE	NE NE
<i>DI water immersion</i>	NE	No field blisters.	No field blisters with severe whitening.
3000 hr			
<i>Prohesion wet/dry cyclic exposure</i>	No field blisters with very slight whitening. 0.5 mm creep at scribe. Slight rust.	Moderate whitening. 8M blisters at scribe with 2 mm creep.	6F blisters at scribe with 3 mm creep.

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.

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