Starting Formulation

SF 1012

White Enamel

EPON™ Resin 828 / EPIKURE™ Curing Agent 3061 and 3381

Features

- Provides high film build (4-6 mils) per coat
- Low VOC of <2.1 pounds/gallon
- Outstanding chemical and solvent resistance
- Recommended over rigid substrates where appearance as well as protection is important (tank linings, masonry coatings, marine coatings)

Formula	Material	Supplier	Pounds	Gallons
	Part A			
	EPON™ Resin 828	Hexion	355.0	36.6
	Ti-Pure™ R-960	Du Pont Company	294.0	8.8
	Thixatrol™ ST	Elementis Specialties Inc.	8.0	1.0
	Silicone Resin SR 882M	Momentive Performance Materials	5.0	0.6
	Nuosperse™ 657	Elementis Specialties Inc.	1.0	0.1
		High Speed Disperse to a min. temperature of 150ºF and to Grind Hegman 7-8		
	Xylene	Shell Chemical Company	103.0	14.4
	Methyl isobutyl ketone	Shell Chemical Company	90.0	13.5
		Total Part A	856	75.0
	Part B			
	EPIKURE Curing Agent 3061	Hexion	100.0	12.6
	EPIKURE Curing Agent 3381	Hexion	100.0	11.5
	Methyl isobutyl ketone	Shell Chemical Company	6.0	0.9
		Total Part B	206.0	25.0
		Total Part A & B	1,062.0	100.0

Mixing Instructions

	Pounds	Gallons
Part A	856	75.0

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Part B	206	25.0
Part A + B	1,062	100.0

Disperse the pigment, extenders, Thixatrol ST, and Silicone Resin SR 882M with part of the EPON™ Resin 828 in a high-speed disperser. Continue dispersing the mixture until a temperature of about 150 °F is reached to insure proper development of thixotropy by the Thixatrol ST. The resulting dispersion should then be let down with the remaining EPON Resin 828, MIBK and Xylene. The raw materials of the curing agent component should be thoroughly blended together and packaged, independently. The base component and curing agent component should be packaged separately until ready to use.

Typical Handling Properties

This formulation is designed for spray application only, although other application methods may be considered. A film thickness of 4-5 mils or less per coat is recommended, with an interval of one day between coats. Films exceeding 5 mils may exhibit some sagging.

The formulation may be readily applied with conventional spray equipment, such as a DeVilbiss MBC-510 spray gun equipped with an “E” fluid tip and needle, and a No. 54 air cap and pressure pot set-up. Recommended pot pressure and atomizing pressure are about 10 psi and 60 psi, respectively. The mixed formulation should preferably be allowed to age for approximately 30 minutes before application. This step would leave a usable pot life of 2 1/2 hours out of the total pot life of 3 hours.

Surfaces to be coated should be cleaned thoroughly. The preferred method for steel surfaces is sand- or grit-blasting. Acid etching with dilute hydrochloric acid is usually the most efficient method of cleaning masonry surfaces. Such surfaces should be structurally sound and free of any surface powdering.

The application methods for an EPON Resin 828/EPIKURE Curing Agent 3061/EPIKURE Curing Agent 3381 White Enamel can involve the use of air or airless spray equipment. This system is normally air dried. 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

	Units	Value
Mix ratio Part A : Part B	By volume	3 : 1
	By weight	4.16:1.0
Nonvolatile content by weight	%	81.2
Weight per gallon	lb./gal.	10.7
Pigment : Binder Weight Ratio		0.54/1.0
Pigment volume concentration (PVC)	%	8.8
Volatile Organic Compound (VOC)	lb/gal	2.0
	g/L	241
Induction Time	min.	30
Pot Life	hrs	2.5

Typical Flim Properties

Table 2 / Film Performance Properties

Determined on films applied to MEK-washed Q Panels and cured 7 days

at25 °C and 55% relative humidity.

	Units	Value
Dry film thickness	mils	1.5
Gardner circular dry time		
Set-to-touch	hrs.	4.5
Cotton free	hrs.	12
Thru-dry	hrs.	14
Pencil hardness		F
Impact resistance, direct/reverse		12/2
Flexibility, conical mandrel		1 inch
MIBK resistance, hours to soften		5
Adhesion		5A

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.

	Units	Value
Force dry, to a sandable stage		
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
High temperature bake, to full cure		
200°F	min.	20
250°F	min.	10
300°F	min.	7
350°F	min.	4

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

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