

Technical Data Sheet

EPIKURE™ Curing Agent 3378

Product Description

EPIKURE™ Curing Agent 3378 is a relatively low viscosity, modified amine adduct, light-colored epoxy curing agent which, when combined with epoxy resins, cures to clear, tack-free films under low-temperature and high humidity conditions.

Application Areas/Suggested Uses

- Primers and topcoats for non-potable water containers and related equipment
- Solvent-free marine coatings
- Tough, flexible, fast-setting, high-clarity adhesives

Benefits

- Fast, tack-free cures
- Long pot-life
- Good through- cure at low temperatures
- Good corrosion resistance
- Excellent clarity and low color
- Self-leveling properties

Sales Specifications

| Property | Value | Unit | Test Method |
|-------------------|-------------|---------|-------------|
| Amine Value | 245 - 265 | mg/g | ASTMD2896 |
| Color | 3 | Gardner | ASTMD1544 |
| Viscosity at 25°C | 2200 - 2800 | cP | ASTMD2196 |

Typical Properties

| Property | Value | Unit | Test Method |
|---------------------------|-------|-------------|-------------|
| Density | 8.5 | lbs/gal | ASTMD1475 |
| Equivalent Weight Approx. | 114 | AHEW | |
| Non-volatile materials | 100.0 | % by Weight | |

Performance Properties

Table 1 / Properties of EPON™ Resin 828 cured with EPIKURE Curing Agent 3378.

EPIKURE Curing Agent 3378
<http://www.westlakeepoxy.com/en-US/product/epikure-curing-agent-3378>

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| | Method | Units | Value |
|--|-----------|-------------|--------|
| EPON™ Resin 828 | | pbw | 100 |
| EPIKURE Curing Agent 3378 | | pbw | 61 |
| Handling Properties @ 25°C | | | |
| Gel Time ¹ , 100 gram mass | | min | 27 |
| Cured State Properties | | | |
| Heat Deflection Temperature ² | ASTM D648 | °C | 44 |
| Tensile Strength ³ | ASTM D638 | psi | 8,739 |
| Tensile Elongation | | % | 2.6 |
| Tensile Modulus | | ksi | 496 |
| Compressive Strength ⁴ | | psi | 19,059 |
| Compressive Modulus | | ksi | 804 |
| Hardness ⁵ | | Durometer D | 85 |
| Cure Schedule @ 25°C (77 °F) | | days | 14 |
| Chemical Resistance | | | |
| Water | | % | 0.1 |
| 5% Acetic Acid | | % | 0.2 |
| 50% Xylene/50% Isopropanol | | % | 1.0 |

¹ SHYODU Gel Timer

² HDT ASTM D648 (Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position)

³ ASTM D638 (Tensile Properties of Plastics)

⁴ ASTM D695 (Compressive Properties of Rigid Plastics)

⁵ ASTM D2240 (Standard Test Method for Rubber Property-Durometer Hardness)

⁶ Percent weight gain after immersion for 24 hours @ 25°C - specimen size 1/8" X 1" X 3"

Table 2 / Physical properties of HELOXY™ modified EPON Resin 828 cured with EPIKURE Curing Agent EC3378 at the following temperatures: 4, 10, 25 and 121° C.

| Composition | Unit | 1 | 2 | 3 | 4 |
|------------------------------|-------------|---------------------------------------|----|----|----|
| EPON Resin 828 | pbw | 100 | 88 | 87 | 80 |
| HELOXY Modifier 65 | pbw | | 12 | | |
| HELOXY Modifier 8 | pbw | | | 13 | |
| HELOXY Modifier 62 | pbw | | | | 20 |
| EPIKURE Curing Agent 3378 | pbw | 60 | 60 | 60 | 60 |
| Handling Properties | | | | | |
| Gel time @ 25°C, 1 lb mass | minutes | 23 | 26 | 30 | 25 |
| Cure Conditions | | @ 25° C (77°F), 50% Relative Humidity | | | |
| Hardness ¹ | | | | | |
| 24 hours | Durometer D | 86 | 70 | 53 | 50 |
| 2 days | Durometer D | 86 | 78 | 67 | 61 |
| 7 days | Durometer D | 99 | 95 | 85 | 84 |
| Film Properties | | | | | |
| 1 day | | Clear, Tack-free | | | |
| Cure Conditions | | @ 10° C (50°F), 50% Relative Humidity | | | |
| Hardness | | | | | |
| 24 hours | Durometer D | 54 | 34 | 34 | 34 |

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| Composition | Unit | 1 | 2 | 3 | 4 |
|-------------|-------------|----|----|----|----|
| 2 days | Durometer D | 77 | 63 | 50 | 41 |
| 7 days | Durometer D | 92 | 80 | 61 | 53 |
| 14 days | Durometer D | 92 | 84 | 70 | 53 |
| | | | | | |

Film Properties

| | | | | | |
|-----------------|--|--------------------------------------|--|--|--|
| 1 day | | Clear, Slight tack | | | |
| 7 days | | Clear, Tack-free | | | |
| Cure Conditions | | @ 4 °C (40°F), 50% Relative Humidity | | | |

Hardness

| | | | | | |
|----------|-------------|----|----|----|----|
| 24 hours | Durometer D | 35 | 33 | 33 | 33 |
| 2 days | Durometer D | 85 | 57 | 55 | 47 |
| 7 days | Durometer D | 94 | 89 | 74 | 65 |
| 14 days | Durometer D | 95 | 91 | 86 | 73 |
| | | | | | |

Film Properties

| | | | | | |
|--------|--|--------------------|--|--|--|
| 1 day | | Clear, Slight tack | | | |
| 7 days | | Clear, Tack-free | | | |
| | | | | | |

Hardness @ 121 °C (250 °F)

| | | | | | |
|--------|-------------|-----|----|----|-----|
| 1 hour | Durometer D | 100 | 99 | 93 | 100 |
|--------|-------------|-----|----|----|-----|

Weight Loss, @ 121 °C (250 °F)

| | | | | | |
|----------|---|------|------|------|------|
| 24 hours | % | 3.37 | 3.51 | 3.19 | 3.49 |
|----------|---|------|------|------|------|

¹ ASTM D2240 (Standard Test Method for Rubber Property-Durometer Hardness

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage 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.

Packaging

Available in bulk and drum quantities.

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