

# Eastman CP 377W

## waterborne chlorinated adhesion promoter

### Features and benefits

- Promotes adhesion to polypropylene and TPO plastics
- Useful for stir-in, one-step system, or primer formulas
- Useful for adhesives, inks, and coatings
- APEO-free formulation

CP 377W is an alkylphenol ethoxylate-free, oil-in-water type emulsion based on Eastman CPO and 2-amino-2-methyl-1-propanol. It is mainly used as an adhesion promoter for polypropylene-based substrates.

**Table 1. CP 377W typical properties<sup>a</sup>**

|                                    |       |
|------------------------------------|-------|
| Solids, wt%                        | 25    |
| Wt/vol, g/L                        | 1,020 |
| Wt/vol, lb/gal                     | 8.5   |
| pH @ 25°C                          | 9.5   |
| Brookfield viscosity, cP           | 10    |
| CPO solids, wt%                    | 20    |
| % Chlorination <sup>b</sup>        | 20.5  |
| Water, wt%                         | 73    |
| Organic solvents, wt% <sup>c</sup> | 2     |
| Amine                              | AMP   |

<sup>a</sup>Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given. <sup>b</sup>Applies to the base CPO polymer solids, not the dispersion itself <sup>c</sup>Contains ethylene glycol to aid in freeze-thaw stability and lower surface tension

### How to use

CP 377W can be used as the main component of a water-reducible adhesion-promoting primer. It may also be used as a stir-in additive in some water-reducible paint systems. Brief descriptions for primer and additive applications follow.

#### Primer applications

Prepare primer by reducing with water to the desired application solids (5%–10%), and spray apply a thin film (5–10 microns) as is or with flow and wetting additives, e.g., *n*-propyl alcohol (50% on solids) or BASF DSX® 1514 polyurethane rheology modifier (10% on solids). Air dry the primer at room temperature or force dry 10 minutes at 74°C (165°F) before applying the topcoat.

#### Stir-in additive applications

Add 10%–20% CP 377W solids based on resin solids to water-reducible paint or ink prior to application. Adjust CP 377W level for optimum performance.

## Performance data

**Table 2. Initial % adhesion<sup>a</sup>**

| Adhesion promoter    | Waterborne base coat<br>2K UHS clear | Solventborne base coat<br>2K UHS clear | 2K PU monocoat |
|----------------------|--------------------------------------|--|----------------|
| CP 377W              | 95                                   | 95                                     | 100            |
| Control <sup>b</sup> | 100                                  | 95                                     | 95             |

<sup>a</sup>ASTM D3359B, 24 hours post-cure. Percent adhesion of paint over adhesion promoter primer left on substrate (polypropylene plaques) after applying and removing tape over scribed area. <sup>b</sup>CP 347W water-based primer (reduced to 10% solids in water) selected as control due to CP 377W being an APEO-free alternative option that exhibits similar performance properties.

**Table 3. Water immersion,<sup>a</sup> 150 hours at 38°C (100°F)**

| Adhesion promoter    | Waterborne base coat<br>2K UHS clear |            | Solventborne base coat<br>2K UHS clear |            | 2K PU monocoat |            |
|----------------------|--------------------------------------|------------|--|------------|----------------|------------|
|                      | 1 hour                               | 24 hours   | 1 hour                                 | 24 hours   | 1 hour         | 24 hours   |
| CP 377W              | Improved                             | Improved   | Improved                               | Improved   | Improved       | Improved   |
| Control <sup>b</sup> | Comparable                           | Comparable | Comparable                             | Comparable | Comparable     | Comparable |

■ Improved  
■ Comparable

<sup>a</sup>ASTM D3359B, 7 day post-cure; comparison of adhesion retained over polypropylene plaques between CP 377W and control at 1 hour and 24 hours after water immersion removal. <sup>b</sup>CP 347W water-based primer (reduced to 10% solids in water) selected as control due to CP 377W being an APEO-free alternative option that exhibits similar performance properties.

## Storage and handling

Water-reducible adhesion promoter dispersions generally exhibit good stability properties. However, if freezing occurs, thaw and mix before using.

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