

# Industrial Coatings

## Technical Data Sheet

# Joncryl<sup>®</sup> 541



<b>Product Description</b>	Joncryl <sup>®</sup> 541 is an acrylic emulsion for industrial coating applications that can be formulated at low VOC levels.
<b>Key Features &amp; Benefits</b>	<ul style="list-style-type: none"><li>- <b>Low VOC Capability</b></li><li>- <b>Early Hardness Development</b></li><li>- <b>Good Gloss</b></li><li>- <b>Excellent Adhesion</b></li></ul>
<b>Chemical Composition</b>	Acrylic emulsion

### Properties

<b>Typical Properties</b>	Appearance	Milky white emulsion
	Non-volatile at 145°C (2g, 60 minutes)	45.0%
	pH at 25°C	8.0
	Viscosity at 25°C (Brookfield #2LV, 60 rpm, 30 seconds)	100 cps
<b>Typical Characteristics</b>	Density at 20°C	1.04 g/cm <sup>3</sup> (8.70 lbs/gal)
	MFFT	~ 19-21°C
	Freeze-thaw stable	Yes

These typical values should not be interpreted as specifications.

### Applications

Joncryl<sup>®</sup> 541 is a waterborne emulsion for interior / exterior industrial top-coat applications. When formulated at 50 g/l VOC, it forms a durable coating with early hardness development, good gloss (>80 on a 60° meter) and excellent adhesion to primed surfaces.

### Formulation Guidelines

**Coalescing Solvents** – Dipropylene glycol n-butyl ether and diethylene glycol monobutyl ether may be used to coalesce Joncryl<sup>®</sup> 541. Solvent levels of less than 6% on resin solids will result in properly coalesced films and achieve VOC levels at or below 50g/l.

**Dispersants** – Joncryl<sup>®</sup> 541 is not a dispersing resin. Therefore, the dispersant choice is critical in developing optimal performance. Dispex<sup>®</sup> Ultra 4275 has been found to give good gloss development at 5% dispersant on pigment solids

**Amines** – AMP-95<sup>1</sup> (2-amino-2-methyl-1-propanol containing 5% water) or ammonium hydroxide is recommended for pH control.

<sup>1</sup>Trademark of ANGUS Chemical Company.

**Starting Point Formulations**

The following starting point formulations are recommended for an initial evaluation of Joncryl® 541. Additional optimization of the formulation may be required to achieve desired results for specific applications.

**Formula JPX-W007 – INDUSTRIAL GLOSS WHITE COATING, (using Joncryl® 541)**

<u>Materials</u>	<u>Pounds</u>	<u>Gallons</u>
<b>GRIND Add the following under agitation:</b>		
DI Water	34.76	4.19
Dispex® Ultra PX 4275	26.34	2.99
FoamStar® ST 2446	2.01	0.33
AMP-95 <sup>1</sup>	1.14	0.15
TiPure <sup>2</sup> R-706	197.55	5.90
<b>Grind @2500 rpm for 10 min. or Hegman &gt;7</b>		
<b>LETDOWN</b>		
Joncryl® 541	642.93	74.78
<b>Premix the following and add to Joncryl® 541 under agitation</b>		
DI Water	75.82	9.16
Dipropylene glycol n-butyl ether	8.37	1.11
Diethylene glycol n-butyl ether	5.58	0.71
<b>Add GRIND to LETDOWN under agitation and mix</b>		
<b>Add the following under agitation and mix @1000 rpm for 20 minutes:</b>		
AMP-95 <sup>1</sup>	2.38	0.31
Rheovis® PU 1191	3.11	0.37
<b>TOTAL</b>	<b>999.99</b>	<b>100.00</b>

**Formulation Attributes, Formula JPX-W007**

Solids	50.0% by wt, 39.5% by volume
pH	9.4
Stormer Viscosity (KU) at 25°C	63 - 68 KU
Density	10.0 lbs/gal
VOC	50.0 g/l, 0.42 lbs/gal
PVC	15%

**Film Properties (Joncryl® 541 Properties in Formula JPX-W007)**

60° Gloss (1.5 mil DFT over baked primer)	> 80
Image Clarity	Very Good
Early Hardness Development	Very Good
Adhesion	Excellent

**Formula 34196-51A– Joncryl® 541 Clear Formulation for Wood**

<u>Materials</u>	<u>Pounds</u>	<u>Gallons</u>
Joncryl® 541	625.42	71.89
Dipropylene glycol n-butyl ether	9.83	1.29
Diethylene glycol n-butyl ether	4.44	0.56
Hydropalat® WE 3320	3.25	0.37
FoamStar® ST 2436	1.78	0.22
DI Water	168.37	20.21
Joncryl® Wax 26	21.37	2.61
Rheovis® PU 1191	5.05	0.59
Optifilm <sup>3</sup> enhancer 400	16.75	2.08
Hydropalat® WE 3322	1.51	0.18
<b>TOTAL</b>	<b>857.77</b>	<b>100.00</b>

**Formulation Attributes, Formula 34196-51A**

Solids	36.2% by wt, 36.0% by volume
VOC	48 g/l, 0.40 lbs/gal

<sup>2</sup>Trademark of The Chemours Company TT, LLC.

<sup>3</sup>Trademark of Eastman Chemical Company.

## Safety

### General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State, and Local health and safety regulations, thorough ventilation of the workplace, good skin care, and wearing of protective goggles.

### Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Joncryl® 541.

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