

Industrial Coatings

Technical Data Sheet

Joncryl® 541



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

Properties

Typical Properties	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
Typical Characteristics	Density at 20°C	1.04 g/cm ³ (8.70 lbs/gal)
	MFFT	~ 19-21°C
	Freeze-thaw stable	Yes

These typical values should not be interpreted as specifications.

Applications

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

Formulation Guidelines

Coalescing Solvents – Dipropylene glycol n-butyl ether and diethylene glycol monobutyl ether may be used to coalesce Joncryl® 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® 541 is shear stable, however, a dispersant is required to stabilize pigment and dispersant choice is critical in developing optimal performance. Dispex® Ultra 4275 has been found to give good gloss development at 5% dispersant on pigment solids.

Amines – AMP-95¹ (2-amino-2-methyl-1-propanol containing 5% water) or ammonium hydroxide is recommended for pH control.

¹Trademark 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.

Joncryl® 541 INDUSTRIAL GLOSS WHITE COATING (Formula JPX-W007)

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

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

Joncryl® 541 Clear Formulation for Wood (Formula 34196-51A)

<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
Hydopalat® 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 ³ enhancer 400	16.75	2.08
Hydopalat® WE 3322	1.51	0.18
TOTAL	857.77	100.00

Formulation Attributes, Formula 34196-51A

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

²Trademark of The Chemours Company TT, LLC.

³Trademark 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.

Important

While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, they are provided for guidance only. Because many factors may affect processing or application/use, BASF recommends that the reader make tests to determine the suitability of a product for a particular purpose prior to use. **NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESCRIPTIONS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS.** In no case shall the descriptions, information, data or designs provided be considered a part of BASF's terms and conditions of sale. Further, the descriptions, designs, data, and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for the descriptions, designs, data or information given or results obtained all such being given and accepted at the reader's risk.

Joncryl, Dispex, FoamStar, Hydropalat and Rheovis and are registered trademarks of BASF Group.

© BASF Corporation, 2017.



BASF Corporation is fully committed to the Responsible Care® initiative in the USA, Canada, and Mexico.

For more information on Responsible Care® go to:

U.S.: www.basf.us/responsiblecare_usa

Canada: www.basf.us/responsiblecare_canada

México: www.basf.us/responsiblecare_mexico

U.S & Canada

BASF Corporation
24710 W Eleven Mile Road
Southfield, MI 48034
ph: 1(800) 231-7868
fax: 1(800) 392-7429
Email: Custserv_charlotte@basf.com
Email: edtech_info@basf.com
www.basf.us/dpsolutions

Mexico

BASF Mexicana, S.A. de C.V.
Av. Insurgentes Sur # 975
Col. Ciudad de los Deportes
C.P. 03710
Mexico, D.F.
Phone: (52-55) 5325-2756
Fax: (52-55) 5723-3011