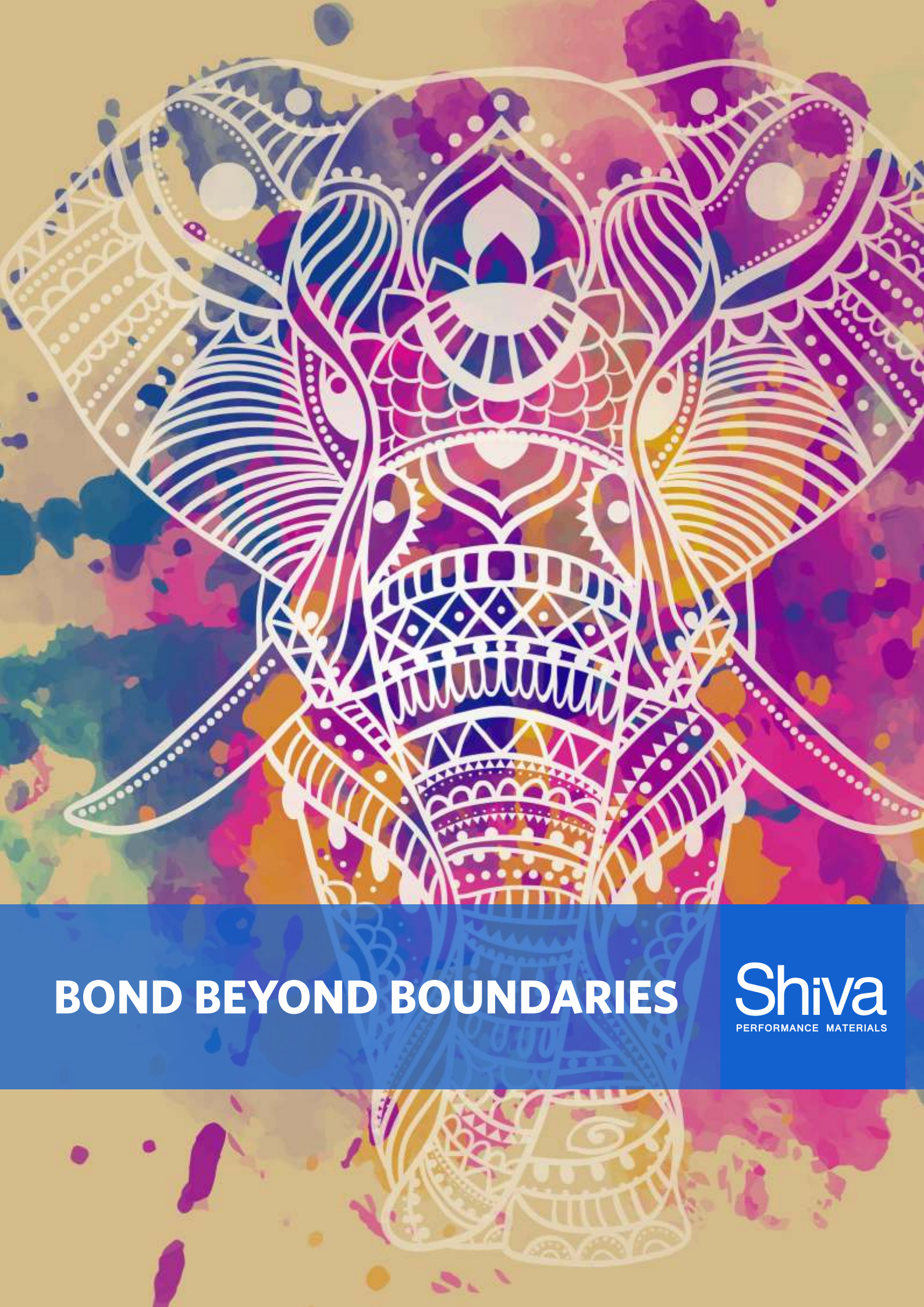
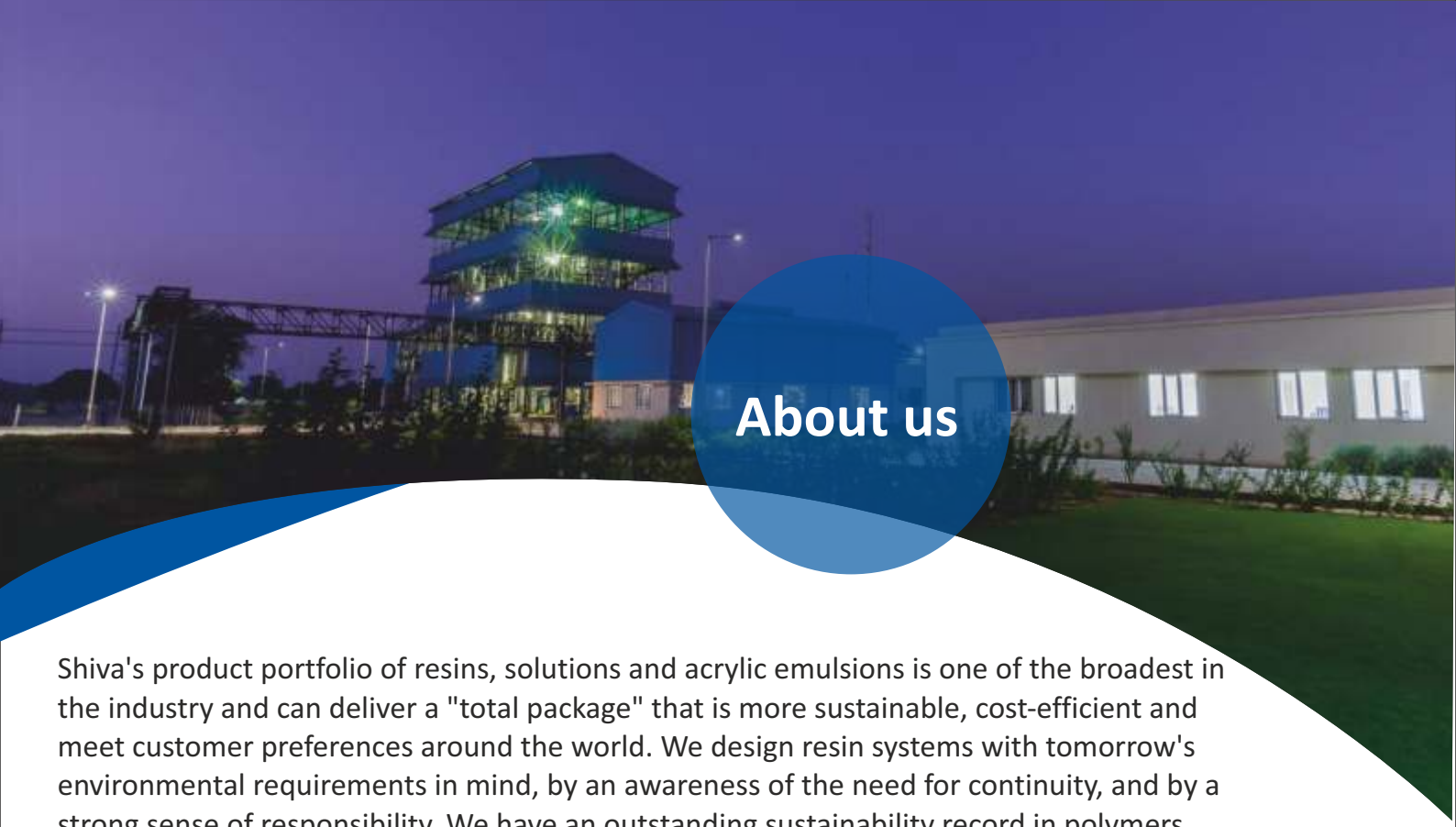


BOND BEYOND BOUNDARIES

Shiva
PERFORMANCE MATERIALS



About us

Shiva's product portfolio of resins, solutions and acrylic emulsions is one of the broadest in the industry and can deliver a "total package" that is more sustainable, cost-efficient and meet customer preferences around the world. We design resin systems with tomorrow's environmental requirements in mind, by an awareness of the need for continuity, and by a strong sense of responsibility. We have an outstanding sustainability record in polymers that we continue to improve each day.

Shiva Performance Materials is a part of Shiva Pharmachem Limited and to learn more about, please visit www.shivapharmachem.com

SPCRYL PRODUCT LINE

Solid Resins

Resin Solutions & High Performance Resin Solutions

RC Emulsions (Rheology Controlled)

- Film Forming
- Non-Film Forming

Colloidal Emulsions

Wax Emulsion & Zinc Oxide Solution

Plant Location | INDIA

SHIVA PERFORMANCE MATERIALS

Plant at
Kharkhadi
Located 25kms from Vadodara, Gujarat

PRODUCTION SITE

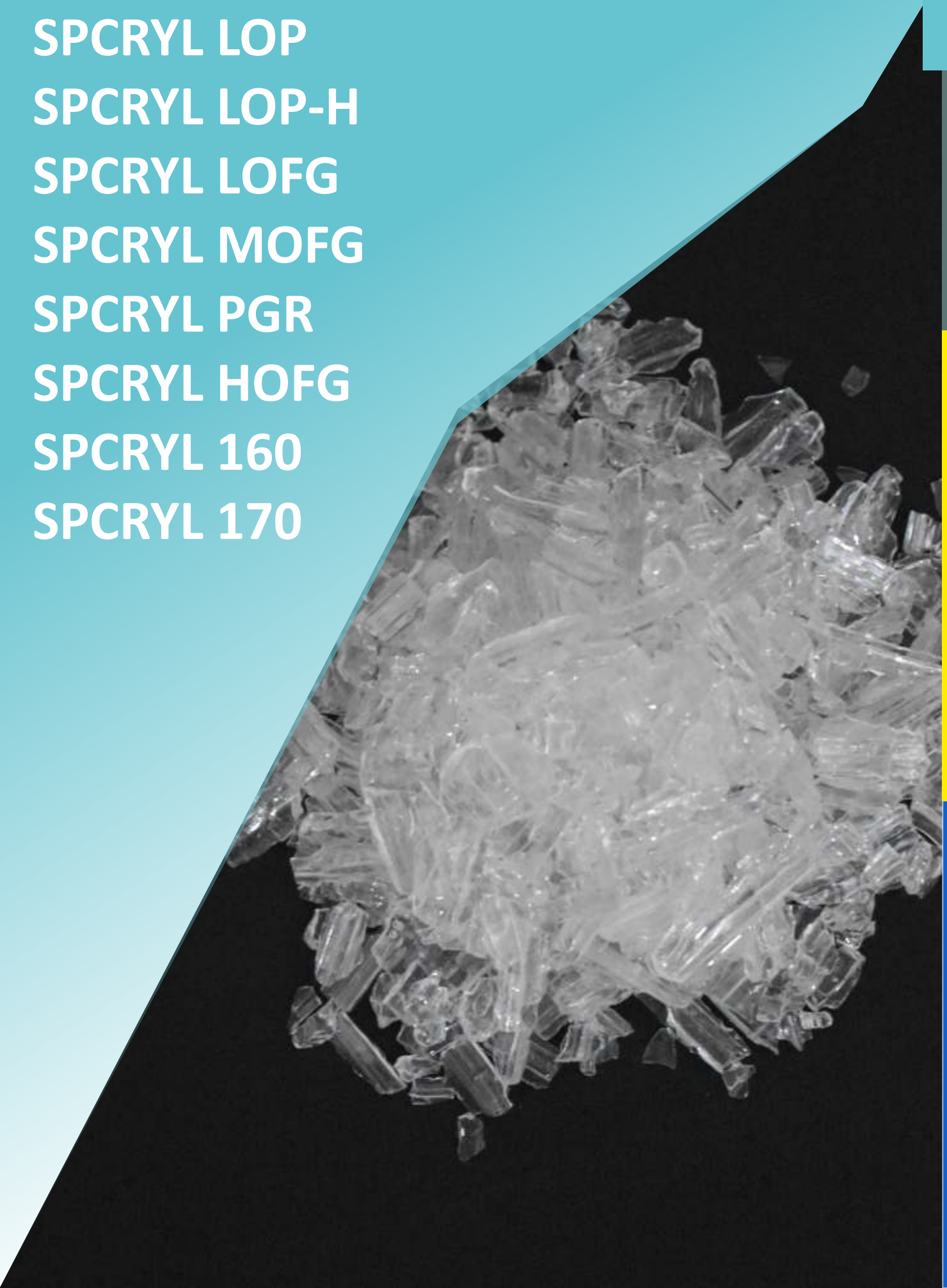
- State-of-the-art manufacturing facility spread over 28,000 sq.mtrs.
- Plant runs on “Distributed Control Systems (DCS)” with “Mass Flow Meters” for feeding raw-materials.
- Continuous production of Solid Resins using in house technology.
- Batch processes for Emulsion Polymerization.
- In house application laboratory for hand holding & troubleshooting.
- Dedicated department for EHS - Environment, Health & Safety.
- Compliant with all Regulations for all major countries.

TECHNICAL CAPABILITIES

INSTRUMENTS	CAPABILITIES
DSC	For Measuring Glass transition temperature(Tg)
GPC	For Measuring Molecular Weight
MFI	For Measuring Melt flow index
GC	For measuring Residual Monomers
VISCOMETER	For measuring Viscosity of Polymers
HEADSPACE	For measuring Volatile Organic Compound (VOC)
PARTICLE ANALYZER	For measuring Particle Size of Emulsions through laser diffraction

SOLID RESINS

SPCRYL LOP
SPCRYL LOP-H
SPCRYL LOFG
SPCRYL MOFG
SPCRYL PGR
SPCRYL HOFG
SPCRYL 160
SPCRYL 170



SOLID RESINS

RESIN SOLUTIONS

HIGH PERFORMANCE DISPERSION

ACRYLIC & COLLOIDAL EMULSIONS

SPCRYL LOP

STYRENE ACRYLIC RESIN

Description

SPCRYL LOP is a low molecular weight acrylic resin for use in high solids water based overprint varnishes

Key features & Benefits

-High gloss
-High solids/low viscosity solutions
-Excellent resolubility

Physical Properties

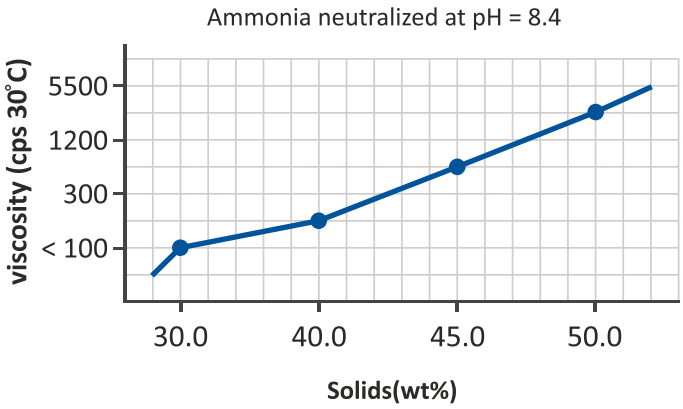
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	2,000 GPC
-Acid Number (mgKOH/gm)	230
-Glass Transition Temp., (Tg)	55° C DSC

Typical solution

SPCRYL LOP	50.0 parts
Ammonia 28%	14.0 parts
water	36.0 parts
Total	100.0 parts

pH	8.4
viscosity (cps 30˚C)	5500

Solids/Viscosity of SPCRYL LOP



Applications

SPCRYL LOP is an acrylic resin designed to be used as an extender in waterbased overprint varnishes to produce a high gloss finish.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL LOP-H

STYRENE ACRYLIC RESIN

Description

SPCRYL LOP-H is a low molecular weight acrylic resin for use in high solids water based overprint varnishes

Key features & Benefits

-High gloss
-Low viscosity solution with High solids
-Excellent re-solubility

Physical Properties

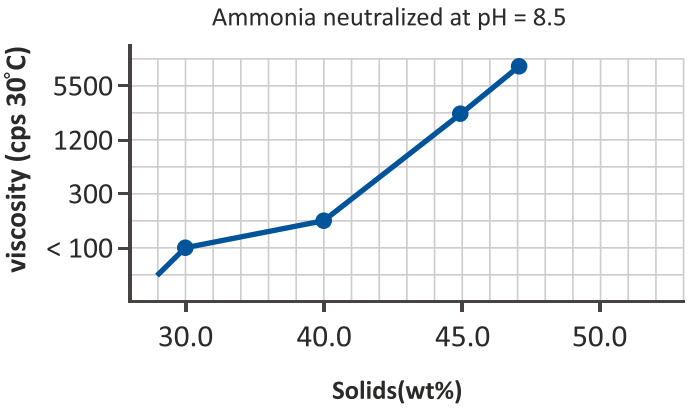
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	2,000 GPC
-Acid Number (mgKOH/gm)	235 - 245
-Glass Transition Temp., (Tg)	75 - 90° C DSC

Typical solution

SPCRYL LOP-H	45.0 parts
Ammonia 28%	13.0 parts
water	42.0 parts
Total	100.0 parts

pH	8.5 – 8.7
viscosity(cps 30° C)	2000 – 2500

Solids/Viscosity of SPCRYL LOP-H



Applications

SPCRYL LOP-H is an acrylic resin designed to be used as an extender in waterbased overprint varnishes to produce a high gloss finish.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL LOFG

STYRENE ACRYLIC RESIN

Description

SPCRYL LOFG is a mid range molecular weight acrylic resin for water-based overprint varnishes and fluid inks.

Key features & Benefits

-High Solids varnishes at low viscosity
-High gloss
-Broad compatibility
-Excellent transfer and printability
- Good Resolubility

Physical Properties

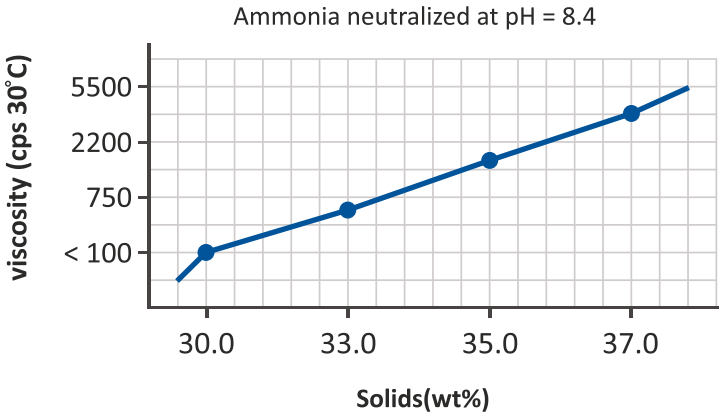
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	5,000 GPC
-Acid Number (mgKOH/gm)	215
-Glass Transition Temp., (Tg)	65° C DSC

Typical solution

SPCRYL LOFG	37.0 parts
Ammonia 28%	10.0 parts
water	53.0 parts
Total	100.0 parts

pH	8.5
viscosity (cps 30˚C)	5500

Solids/Viscosity of SPCRYL LOFG



Applications

SPCRYL LOFG is an acrylic resin designed to be used as an extender in overprint varnishes and inks and to produce water-based pigment dispersions.

As an extender it provides improved transfer and re-solubility, as dispersion resin it provides good wetting properties for the manufacture of stable pigment dispersions.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL MOFG

STYRENE ACRYLIC RESIN

Description

SPCRYL MOFG is an acrylic resin designed to be used as an extender in overprint varnishes and inks and to produce water based pigment dispersions

Key features & Benefits

-Excellent color strength development
-Excellent transfer and printability
-Good gloss and holdout

Physical Properties

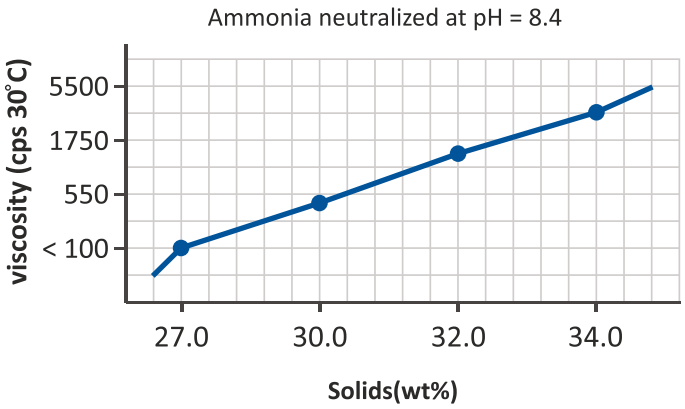
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	8,500 GPC
-Acid Number (mgKOH/gm)	210
-Glass Transition Temp., (Tg)	105° C DSC

Typical solution

SPCRYL MOFG	32.0 parts
Ammonia 28%	8.50 parts
water	59.5 parts
Total	100.0 parts

pH	8.4
viscosity (cps 30˚C)	1750

Solids/Viscosity of SPCRYL MOFG



Applications

SPCRYL MOFG is an acrylic resin designed to be used as an extender in overprint varnishes and inks and to produce water-based pigment dispersions.

As an extender it provides improved transfer and re-solubility, as dispersion resin it provides good wetting properties for the manufacture of stable pigment dispersions.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL PGR

STYRENE ACRYLIC RESIN

Description

SPCRYL PGR is an acrylic resin specially designed for making high quality resin-fortified emulsions.
It is also used as an extender in overprint varnishes and inks, and also to produce high quality water-based pigment dispersions.

Key features & Benefits

-Making high quality emulsions
-Excellent rheology behaviour
-Gloss improvement
-Increase of transfer & resolubility
-Improvement of block & heat resistance

Physical Properties

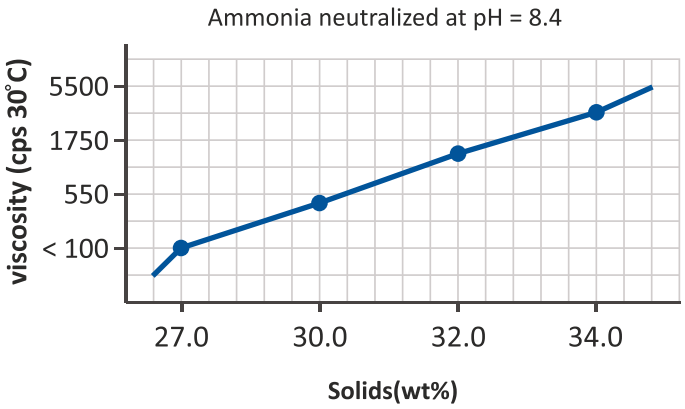
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	8,500 GPC
-Acid Number (mgKOH/gm)	210
-Glass Transition Temp., (Tg)	105° C DSC

Typical solution

SPCRYL PGR	32.0 parts
Ammonia 28%	8.50 parts
water	59.5 parts
Total	100.0 parts

pH	8.4
viscosity (cps 30˚C)	1750

Solids/Viscosity of SPCRYL PGR



Applications

SPCRYL PGR is an acrylic resin designed to be used as an extender in overprint varnishes and inks and to produce water-based pigment dispersions.

As an extender it provides improved transfer and re-solubility, as dispersion resin it provides good wetting properties for the manufacture of stable pigment dispersions.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL HOFG

STYRENE ACRYLIC RESIN

Description

SPCRYL HOFG is a high molecular weight acrylic resin use for water-based overprint varnishes and flexographic and gravure-printing inks.

Key features & Benefits

-Increase of transfer and resolubility
-Improvement of block and heat resistance
-Excellent print characteristics

Physical Properties

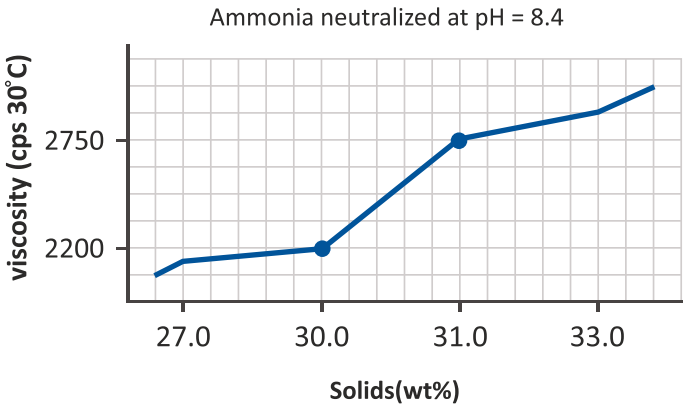
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	12,000 GPC
-Acid Number (mgKOH/gm)	210
-Glass Transition Temp., (Tg)	105° C DSC

Typical solution

SPCRYL HOFG	30.0 parts
Ammonia 28%	08.0 parts
water	62.0 parts
Total	100.0 parts

pH	8.4
viscosity (cps 30˚C)	2200

Solids/Viscosity of SPCRYL HOFG



Applications

SPCRYL HOFG is an acrylic resin designed to be used as an extender in overprint varnishes and inks and to produce water-based pigment dispersions.

As an extender it provides improved transfer and re-solubility, as dispersion resin it provides good wetting properties for the manufacture of stable pigment dispersions.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 160

STYRENE ACRYLIC RESIN

Description

SPCRYL 160 is a high molecular weight acrylic resin designed to improve color and gloss of pigment dispersion without affecting stability of ink

Key features & Benefits

-Increase Pigment dispersion
-Improvement in Color and strength
-Excellent Ink Stability

Physical Properties

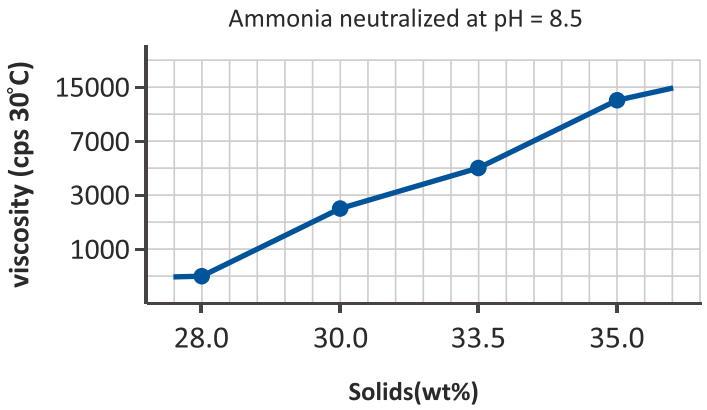
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	16,000 GPC
-Acid Number (mgKOH/gm)	210
-Glass Transition Temp., (Tg)	100° C DSC

Typical solution

SPCRYL 160	30.0 parts
Ammonia 28%	8.00 parts
water	62.0 parts
Total	100.0 parts

pH	8.5
viscosity (cps 30˚C)	2700

Solids/Viscosity of SPCRYL 160



Applications

SPCRYL 160 provides improved pigment wetting, color strength and gloss compared to conventional dispersion resins. This allows for high solids, low viscosity pigment dispersion that have excellent rheology, flow and stability.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 170

STYRENE ACRYLIC RESIN

Description

SPCRYL 170 is a high molecular weight acrylic resin designed to improve color and gloss of pigment dispersion without affecting stability of ink

Key features & Benefits

-Good viscosity stability
-Good pigment wetting and color development
-Good gloss and transparency

Physical Properties

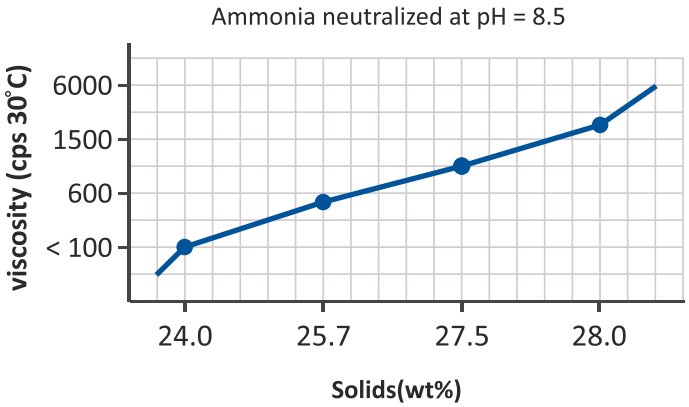
-Appearance:	Flakes
-Non-Volatile	>99%
-Molecular Weight, Mw	17,000 GPC
-Acid Number (mgKOH/gm)	210
-Glass Transition Temp., (Tg)	120° C DSC

Typical solution

SPCRYL 170	25.7 parts
Ammonia 28%	07.0 parts
water	67.3 parts
Total	100.0 parts

pH	8.5
viscosity (cps 30˚C)	500

Solids/Viscosity of SPCRYL 170



Applications

SPCRYL 170 is designed to produce high quality water-based pigment dispersions with good viscosity stability. It is specially effective with difficult pigments like calcium reds.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

RESIN SOLUTION

SPCRYL 50 ECO
SPCRYL 55 ECO
SPCRYL 75 ECO
SPCRYL 60 ECO
SPCRYL 61
SPCRYL 63

SOLID RESINS
RESIN SOLUTIONS
HIGH PERFORMANCE DISPERSION
ACRYLIC & COLLOIDAL EMULSIONS

SPCRYL 50 ECO & SPCRYL 55 ECO

Description

SPCRYL 50 ECO is a low molecular weight resin solution of SPCRYL LOP for water-based overprint varnishes and inks

Key features & Benefits

-High solids OPV
-High Gloss and Clarity
-Excellent Holdout
-Low VOC Solution

Physical Properties SPCRYL 50 ECO

-Appearance:	Clear Solution
-Non-Volatile %	50
-pH (30°C)	8.4
-Viscosity, (cps 30°C)	5500
-Molecular Weight, (Mw)	2000 GPC
-Acid Number(mg KOH/gm)	238
-Glass Transition temperature (Tg)	56°C DSC

Description

SPCRYL 55 ECO is a low molecular weight resin solution of SPCRYL LOP for water-based overprint varnishes and inks

Key features & Benefits

-High solids OPV
-High Gloss and Clarity
-Excellent Holdout
-Low VOC Solution

Physical Properties SPCRYL 55 ECO

-Appearance:	Clear Solution
-Non-Volatile %	55
-pH (30°C)	8.4
-Viscosity, (cps 30°C)	7500
-Molecular Weight, (Mw)	2000 GPC
-Acid Number(mg KOH/gm)	238
-Glass Transition temperature (Tg)	56°C DSC

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 75 ECO STYRENE ACRYLIC RESIN SOLUTION

Description

SPCRYL 75 ECO is a mid molecular weight resin solution of SPCRYL LOFG for water-based overprint varnishes and inks

Key features & Benefits

-Low VOC solution
-Excellent water resistance
-Excellent block resistance
-Good Resolubility

Physical Properties SPCRYL 75 ECO

-Appearance:	Clear Solution
-Non-Volatile %	33
-pH (30°C)	8.5
-Viscosity, (cps 30°C)	800
-Molecular Weight, (Mw)	5,500 GPC
-Acid Number(mg KOH/gm)	220
-Glass Transition temperature (Tg)	57°C DSC

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 60 ECO & SPCRYL 61

Description

SPCRYL 60 ECO is a mid molecular weight resin solution of SPCRYL MOFG for water-based overprint varnishes and inks

Key features & Benefits

-Broad range utility
-Balance of Gloss & Dispersion
-Very low VOC solution

Physical Properties SPCRYL 60 ECO

-Appearance:	Clear Solution
-Non-Volatile %	34
-pH (30°C)	8.4
-Viscosity, (cps 30°C)	5500
-Molecular Weight, (Mw)	8,500 GPC
-Acid Number(mg KOH/gm)	215
-Glass Transition temperature (Tg)	85°C DSC

Description

SPCRYL 61 is a customized mid molecular weight resin solution of SPCRYL MOFG for water-based overprint varnishes and inks

Key features & Benefits

-Broad range utility
-Balance of Gloss & Dispersion
-Very low VOC solution

Physical Properties SPCRYL 61

-Appearance:	Clear Solution
-Non-Volatile %	34
-pH (30°C)	8.4
-Viscosity, (cps 30°C)	5200
-Molecular Weight, (Mw)	8,500 GPC
-Acid Number(mg KOH/gm)	215
-Glass Transition temperature (Tg)	85°C DSC

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

SPCRYL 63

STYRENE ACRYLIC RESIN SOLUTION

Description

SPCRYL 63 is a customized high molecular weight resin solution of SPCRYL HOFG for water-based overprint varnishes and inks

Key features & Benefits

-Low VOC Solution
-High quality dispersion
-Mainly for Printing Inks

Physical Properties SPCRYL 63

-Appearance:	Clear Solution
-Non-Volatile %	30
-pH(30°C)	8.4
-Viscosity, (cps 30°C)	5000
-Molecular Weight, (Mw)	12,000 GPC
-Acid Number(mg KOH/gm)	213
-Glass Transition temperature (Tg)	73°C DSC

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

HIGH PERFORMANCE RESIN SOLUTIONS

SPCRYL 160EH
SPCRYL 160 MEA
SPCRYL 170E
SPCRYL 296
SPCRYL 396
SPCRYL 496

SOLID RESINS
RESIN SOLUTIONS
HIGH PERFORMANCE DISPERSION
ACRYLIC & COLLOIDAL EMULSIONS

SPCRYL 160 EH HIGH PERFORMANCE DISPERSION

Description

SPCRYL 160 EH is an ammonia based high performance dispersion resin solution for high concentrated pigment dispersions to be used in water based inks.

Key features & Benefits

-Higher concentrated dispersions
-Superior color development
-Pigment saving
-Excellent rheology & transfer
-Gloss and transparency

Applications

SPCRYL 160 EH is a high molecular weight, high acid value resin solution specifically designed to optimize the grinding of pigments while still offering excellent ink stability. Dispersions made with SPCRYL 160 EH exhibit excellent rheology properties.

This allows for higher pigment loadings, which are a trend in the industry. Due to its superior color development capability it is often possible to achieve equal color strength at reduced pigment

Physical Properties

-Appearance:	Clear Solution
-Non-Volatile %	34
-pH (30°C)	8.5
-Viscosity, (cps 30°C)	5000
-Molecular Weight, (Mw)	16,000 GPC
-Acid Number(mg KOH/gm)	220
-Glass Transition temperature (Tg)	88°C DSC

International Listings

SPCRYL 160 EH is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 160 EH is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 160 MEA HIGH PERFORMANCE DISPERSION

Description

SPCRYL 160MEA is a MEA based high performance dispersion resin solution for high concentrated pigment dispersions to be used in water based inks.

Key features & Benefits

-Very good dispersions
-Superior color development
-High pigment loading
-Excellent rheology & transfer
-Gloss and transparency
-Low viscosity

Applications

SPCRYL 160 MEA is a high molecular weight, high acid value resin solution specifically designed to optimize the grinding of pigments while still offering excellent ink stability.

Dispersions made with SPCRYL 160 MEA exhibit excellent rheology properties.

This allows for higher pigment loadings, which are a trend in the industry. Due to its superior color development capability it is often possible to achieve equal color strength at reduced pigment levels.

Physical Properties

-Appearance:	Clear Solution
-Non-Volatile %	39
-pH (30°C)	8.6
-Viscosity, (cps 30°C)	5000
-Molecular Weight, (Mw)	16,000 GPC
-Acid Number(mg KOH/gm)	220
-Glass Transition temperature (Tg)	86°C DSC

International Listings

SPCRYL 160 MEA is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 160 MEA is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

SPCRYL 170 E

HIGH PERFORMANCE DISPERSION

Description

SPCRYL 170 E is an ammonia based high performancedispersion resin solution for high concentrated pigmentdispersions to be used in water based inks.

Key features & Benefits

- Higher Pigment Loading
- Superior color development
- Pigment savings
- Excellent rheology and transfer
- Gloss and transparency
- Improved stability with letdown emulsions

Physical Properties

- Appearance	Clear solution
- pH (30°C)	8 to 9
- Non-Volatile	29 – 30 %
- Molecular Weight, Mw	17,500 GPC
- Viscosity, (30°C)	4000 – 6000 cps
- Acid Number (mg KOH/gm)	220 - 240
- Glass Transition Temp., (Tg)	100 - 105° C DSC
- Freeze/thaw stable	Yes

Typical formulations using SPCRYL 170 E

Formulations	**A**	**B**	**C**
Lithol Rubine 57:1	40	-	-
Phthalo Blue 15:3	-	40	-
Carbon Black	-	-	40
SPCRYL 170 E	37.1	37.1	37.1
Antifoam	0.5	0.5	0.5
Water	22.4	22.4	22.4
Total	**100**	**100**	**100**

Applications

SPCRYL 170 E is a highest molecular weight, high acid value resin solution specifically designed to optimize the grinding of pigments while still offering excellent ink stability. Dispersions made with **SPCRYL 170 E** exhibit excellent rheology properties. This allows for higher pigment loadings, which are a trend in the industry. Due to its superior color development capability it is often possible to achieve equal color strength at reduced pigment levels.

International Listings

SPCRYL 170 E is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 170 E is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 296

HIGH PERFORMANCE RESIN SOLUTION FOR HIGHLY PIGMENTED DISPERSIONS

Description

SPCRYL 296 is high performance dispersion resin solution designed to improve the viscosity and shock stability of highly pigmented dispersions.

Key features & Benefits

- Enables high pigmented low viscosity dispersions
- Improves storage and shock stability
- Reduces mill time

Physical Properties

- Appearance	Clear solution
- Non-Volatile	35.5%
- Molecular Weight, Mw	11,500 GPC
- Acid Number (mg KOH /gm)	141
- Glass Transition Temp., (Tg)	15° C DSC
- Viscosity, (cps30°C)	600
- pH (30°C)	8.7

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 296 is packed in 210kgs HDPE Drums / 1000kgs IBC.

Typical formulations using SPCRYL 296

Pigment dispersions

The improved rheology characteristics of SPCRYL 296 resin enable the manufacture of high pigment loading, low viscosity organic color dispersions that are viscosity stable under normal storage conditions.

Formulations	**A**	**B**	**C**	**D**
Lithol Rubine 57:1	40.0	-	-	-
Phthalo Blue 15:3	-	46.0	-	-
Diarylide yellow	-	-	44.0	-
Carbon Black	-	-	-	42.0
SPCRYL 296	27.6	31.8	30.4	38.7
Antifoam	1.0	1.0	1.0	1.0
Water	31.4	21.2	24.6	18.3
	100	**100**	**100**	**100**
Pigment to binder ratio	4/1	4/1	4/1	4/1

Typical procedure

1) Pre-blend batch to uniformity using high speed dispersing equipment.

2) Feed blend into a small media mill.

3) Increase speed and disperse to required fineness of grind.

International Listings

SPCRYL 296 is listed in the national inventories of all major markets. For further details, please contact the product manager.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 396

HIGH PERFORMANCE RESIN SOLUTION FOR HIGHLY PIGMENTED DISPERSIONS

Description

SPCRYL 396 is high performance dispersion resin solution designed for high-concentrated dispersions, superior color development, excellent performance with critical pigments, high gloss and transparency.

Key features & Benefits

- Enables high pigmented low viscosity dispersions
- Superior color development
- High gloss & transparency

International Listings

SPCRYL 396 is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

- Appearance	Clear solution
- Non-Volatile	35.5%
- Molecular Weight, Mw	10,000 GPC
- Acid Number (mg KOH /gm)	185
- Glass Transition Temp., (Tg)	91° C DSC
- Viscosity (cps 30°C)	400
- pH (30°C)	8.5

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 396 is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 496

HIGH PERFORMANCE RESIN SOLUTION FOR HIGHLY PIGMENTED DISPERSIONS

Description

SPCRYL 496 is high performance dispersion resin solution designed for high-concentrated dispersions, superior color development, excellent performance with critical pigments, high gloss and transparency.

Key features & Benefits

- Enables high pigmented low viscosity dispersions
- Superior color development
- High gloss & transparency

International Listings

SPCRYL 496 is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

- Appearance	Clear solution
- Non-Volatile	34.5%
- Molecular Weight, Mw	5,500 GPC
- Acid Number (mg KOH /gm)	178
- Glass Transition Temp., (Tg)	58° C DSC
- Viscosity (cps 30°C)	500
- pH (30°C)	8.5

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 496 is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

ACRYLIC EMULSION – FILM FORMING

SPCRYL EOFGL
SPCRYL EOFG
SPCRYL EHG
SPCRYL EHG-T
SPCRYL EFGH
SPCRYL EFG-T

SPCRYL EOFGL FILM-FORMING EMULSION

Description

SPCRYL EOFGL is a soft film forming acrylic polymer emulsion for water based film printing inks.

Applications

SPCRYL EOFGL is a soft film-forming rheology controlled emulsion for use in water-based flexographic and gravure inks on flexible film and foil.

It has good adhesion to broad range of polyolefin films. SPCRYL EOFGL will improve rub resistance properties to paper and paperboard inks.

SPCRYL EOFGL used as a universal film printing vehicle with the combination of properties for surface printing and lamination applications.

Key features & Benefits

-Water resistance
-Good gloss
-Rub resistance
-Excellent film wetting

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	48.0
- pH (30°C)	8.3
- Viscosity (cps 30°C)	900
-Acid value on solid	63
-Glass transition temperature	-25 to -35°C DCS
-Minimum film-forming temperature(°C)	<7

International Listings

SPCRYL EOFGL is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EOFGL is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL EOFG

FILM-FORMING EMULSION

Description

SPCRYL EOFG an acrylic polymer emulsion for use in water-based flexo / gravu reinks and overprint Varnishes

Key features & Benefits

-Excellent water and grease resistance
-Good gloss
-Low foaming
-Pigment wetting

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	48.0
- pH (30°C)	8.1
- Viscosity (cps 30°C)	600
-Acid value on solid	69
-Glass transition temperature	-15 to -25°C DCS
-Minimum film-forming temperature(°C)	<5

Applications

SPCRYL EOFG is a film-forming emulsion for use in water-based flexographic and gravure inks and overprint varnishes providing excellent water and grease resistance.

It may be used as a modifier to improve film forming properties of high MFT polymer emulsions.

International Listings

SPCRYL EOFG is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EOFG is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL EHG

FILM-FORMING EMULSION

Description

SPCRYL EHG an acrylic polymer emulsion for use in water-based flexo / gravure inks and overprint Varnishes

Applications

SPCRYL EHG is a film forming emulsion designed to provide high gloss and clarity in water-based flexo and gravure inks and overprint varnishes.

It may be used as a modifier to improve film forming properties of high MFT polymer emulsions.

Key features & Benefits

-Excellent film-forming
-Good gloss and transparency
-Excellent water and grease resistance
-Economical

International Listings

SPCRYL EHG is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	45.0
- pH (30°C)	8.3
- Viscosity (cps 30°C)	1,250
-Acid value on solid	63
-Glass transition temperature	5 to 10°C DCS
-Minimum film-forming temperature(°C)	<5

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EHG is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL EHG-T

FILM-FORMING EMULSION

Description

SPCRYL EFG-T an acrylic polymer emulsion for use in water-based flexo / gravure inks and overprint varnishes.

Applications

SPCRYL EHG-T is a film forming emulsion designed to provide high gloss and clarity in water-based flexo and gravure inks and overprint varnishes.

It may be used as a modifier to improve film forming properties of high MFT polymer emulsions.

Key features & Benefits

-Excellent film-forming
-Good gloss and transparency
-Excellent water and grease resistance
-Economical

International Listings

SPCRYL EHG-T is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

-Appearance:	Milky White Emulsion
-Non-Volatile %	800 – 1200 cps
- pH (30°C)	8.3
- Viscosity (cps 30°C)	45.0 + 1
-Acid value on solid	63
-Glass transition temperature	6 to 8°C DCS
-Minimum film-forming temperature(°C)	<5

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EHG-T is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL EFGH

FILM-FORMING EMULSION

Description

SPCRYL EFGH an acrylic polymer emulsion for use in water-based flexo / gravure inks and overprint varnishes.

Applications

SPCRYL EFGH is film-forming emulsion for use in water-based flexographic and gravure inks and overprint varnishes providing excellent gloss, leveling, resolubility and drying speed.

Key features & Benefits

-Film-forming
-Good resolubility
-Excellent printability
-Excellent viscosity stability

International Listings

SPCRYL EFGH is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	46.0
- pH (30°C)	8.1
- Viscosity (cps 30°C)	550
-Acid value on solid	62
-Glass transition temperature	25 to 30°DCS
-Minimum film-forming temperature(°C)	12

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EFGH is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL EFG-T

FILM-FORMING EMULSION

Description

SPCRYL EFG-T an acrylic polymer emulsion for use in water-based flexo / gravure inks and overprint varnishes.

Applications

SPCRYL EFG-T is film-forming emulsion for use in water-based flexographic and gravure inks and overprint varnishes providing excellent gloss, leveling, resolubility and drying speed.

Key features & Benefits

-Film-forming
-Good resolubility
-Excellent printability
-Excellent viscosity stability

International Listings

SPCRYL EFG-T is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	800 – 1200 cps
- pH (30°C)	8.0 – 8.5
- Viscosity (cps 30°C)	80 – 90
-Acid value on solid	47 – 49
-Glass transition temperature	-2 to -5°C DCS

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EFG-T is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

ACRYLIC EMULSION – NON FILM FORMING

SPCRYL EOH
SPCRYL EO
SPCRYL EO-T
SPCRYL OPH
SPCRYL OPHF
SPCRYL 538A

SPCRYL EOH

STYRENE ACRYLIC EMULSION

Description

SPCRYL EOH is a styrene-acrylic co-polymer emulsion for use in water-based overprint varnishes and inks.

Applications

SPCRYL EOH is a general purpose non-film-forming rheology control emulsion developed for use in water-based overprint varnishes and flexographic and gravure inks, providing high gloss, clarity, and fast drying properties.

Key features & Benefits

-Gloss and Clarity
-Good resolubility
-Fast dry
-Cost effective

International Listings

SPCRYL EOH is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	47.0
- pH (30°C)	8.3
- Viscosity (cps 30°C)	500
-Acid value on solid	50
-Glass transition temperature	100-110°C DCS
-Minimum film-forming temperature(°C)	>85

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EOH is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL EO

STYRENE ACRYLIC EMULSION

Description

SPCRYL EO is a styrene-acrylic copolymer emulsion for use in water-based overprint varnishes and inks.

Applications

SPCRYL EO is a non-film-forming emulsion developed for use in water-based overprint varnishes and flexographic and gravure inks, providing high heat seal and film release properties.

The heat resistant properties may be further enhanced by the addition of Zinc Ammonium Carbonate solution.

In overprint varnishes SPCRYL EO additionally provides gloss and optical clarity.

Key features & Benefits

-Excellent optical clarity
-High gloss
-Good heat resistance
-Fast drying

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	44.0
- pH (30°C)	8.3
- Viscosity (cps 30°C)	260
-Acid value on solid	76
-Glass transition temperature	100-110°C DCS
-Minimum film-forming temperature(°C)	>85

International Listings

SPCRYL EO is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EO is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL EO-T

STYRENE ACRYLIC EMULSION

Description

SPCRYL EO-T is a styrene-acrylic copolymer emulsion for use in water-based overprint varnishes and inks.

Key features & Benefits

-Excellent optical clarity
-High gloss
-Film forming
-Oil/Grease Resistance

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	44.0
- pH (30°C)	8.3
- Viscosity (cps 30°C)	260
-Acid value on solid	76
-Glass transition temperature	100-110°C DCS
-Minimum film-forming temperature(°C)	>85

Applications

SPCRYL EO-T is a non-film-forming emulsion developed for use in water-based overprint varnishes and flexographic and gravure inks, providing high heat seal and film release properties.

The heat resistant properties may be further enhanced by the addition of Zinc Ammonium Carbonate solution.

In overprint varnishes SPCRYL EO-T additionally provides gloss and optical clarity.

International Listings

SPCRYL EO-T is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL EO-T is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL OPH

OPAQUE EMULSION

Description

SPCRYL OPH isa high hiding styrene-acrylic co-polymer emulsion for use in water-based overprint varnishes and inks.

Applicatons

SPCRYL OPH is a controlled partice size emulsion designed to hide the brown background of natural kraf substrates.

The use of SPCRYL OPH as a letd own vehicle results in more intense, brighter printed colors.

The semi-opaque nature of product allows for the reducton in the level of pigments as well as extenders.

Key features & Benefits

-High color intensity
-Execllent printability
-Excellent resolubility

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	50.0
- pH (30°C)	8.0
- Viscosity (cps 30°C)	2,500
-Acid value on solid	31
-Glass transition emperature	100-110°C DCS
-Minimum film-forming temperature(°C)	>85

International Listings

SPCRYL OPH is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL OPH is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL OPHF

OPAQUE EMULSION

Description

SPCRYL OPHF isa high hiding styrene-acrylic co-polymer emulsion for use in water-based overprint varnishes and inks.

Key features & Benefits

-High color intensity
-Execllent printability
-Excellent resolubility

Physical Properties

-Appearance:	Semi translucent emulsion
-Non-Volatile %	48-50.0
- pH (30°C)	9.0
- Viscosity (Z4 30°C)	100-115
-Acid value on solid	31
-Glass transition emperature	100-110°C DCS
-Minimum film-forming temperature(°C)	>85

Applicatons

SPCRYL OPHF is a controlled partice size emulsion designed to hide the brown background of natural kraf substrates.

The use of SPCRYL OPHF as a letd own vehicle results in more intense, brighter printed colors.

The semi-opaque nature of product allows for the reducton in the level of pigments as well as extenders.

International Listings

SPCRYL OPHF is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL OPHF is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 538A

ALCOHOL RESISTANCE

Description

SPCRYL 538A is an alcohol-resistant, Rheology Controlled (RC) acrylic emulsion for use in overprint varnish and water-based inks. The product unites a good balance of alcohol resistance and resolubility.

Key features & Benefits

-Good Alcohol Resistance
-Excellent Resolubility
-Resistance to plasticizer migration
-Excellent solvent and detergent resistance

Physical Properties

-Appearance:	Translucent Emulsion
-Non-Volatile %	46.0 + 1
- pH (30°C)	8.3
- Viscosity (cps 30°C)	200 – 300 cps
-Acid value on solid	70
-Glass transition emperature	60°C-70°C DCS
-Minimum film-forming temperature(°C)	65
-Freeze Thaw Stable	Yes

Applicatons

SPCRYL 538A is a non-film forming, RC acrylic polymer that can be coalesced to form an alcohol- and chemical-resistant film for inks and coatings. In addition, the unique properties of this polymer include outstanding gloss and adhesion to flexible substrates such as vinyl and polystyrene when formulated with the proper coalescing solvents. The hardness of this polymer allows it to resist plasticizer migration on printed vinyl.

-Overprint Varnishes
-Flexo & Gravure Inks
-PVC flooring and wallpaper

International Listings

SPCRYL 538A is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 538A is packed in 210kgs Plastic HDPE / 1000kgs IBC.

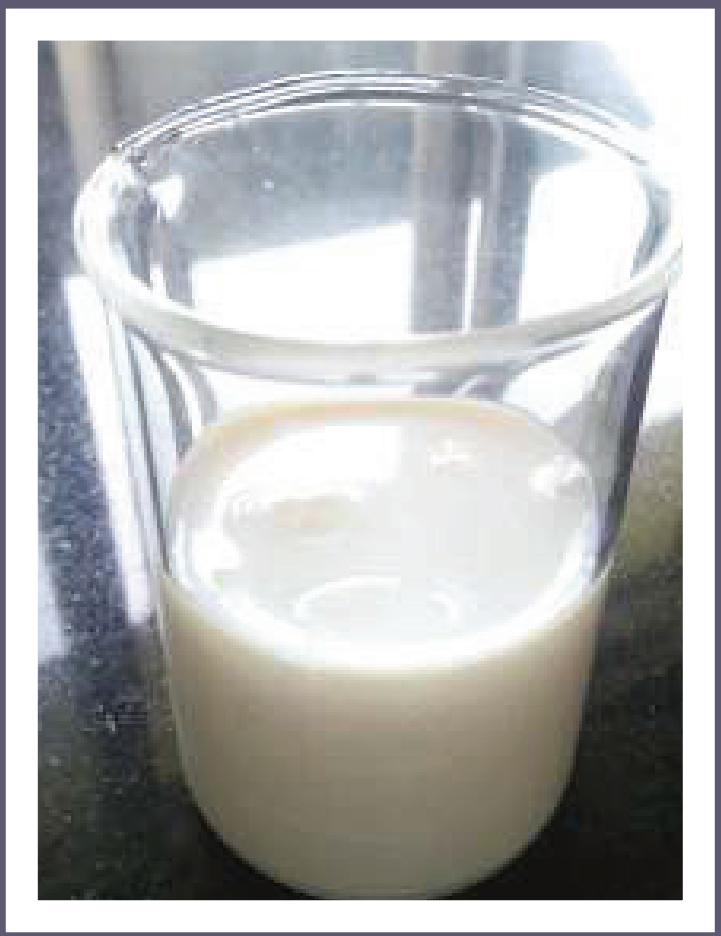
Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

COLLOIDAL EMULSION

SPCRYL HMR 45
SPCRYL HMR 45H
SPCRYL HMR 45J
SPCRYL HMR 45L
SPCRYL HMR 45J
SPCRYL HMR 45T
SPCRYL HMR 45T (NV)
SPCRYL 142



SPCRYL HMR 45

Description

SPCRYL HMR 45 is an economical acrylic colloidal emulsion for use in pre-print and post-print corrugated inks and kraft paper applications.

Applications

SPCRYL HMR 45 is use in both pre-print and post – print corrugated inks and kraft paper applications to maintain ink quality compare to traditional colloidal emulsion.
It is allow formulating at lower solid, leading to improve economics and efficiency.

SPCRYL HMR 45 also use to reduce the number of let-down vehicles as it can be used as a multi - purpose let-down vehicle for highly concentrated pigment dispersion systems.

Key features & Benefits

-Economical
-Execllent hot mar resistance
-High efficiency
-Excellent ink viscosity stability and dilution
-Excellent transfer and printability

Physical Properties

-Solids % :	44.5
-pH (30'C) :	2.1
-Viscosity cps (30') :	< 50
-Acid Number :	154
-Glass transition :	70'C
-Molecular Weight :	85,000

International Listing

SPCRYL HMR 45 is listed in the national inventories of all major markets. For further details, please contact the product manager.

Neutralised letdown solution

SPCRYL HMR45	30.5parts
Water	67.0parts
MEA	02.5parts
Total	100.0 parts

13% solids - 800 to 1000 cps viscosity using BF Viscometer

Storage and Stability

in unopened packaging Shiva pharmachem limited guarantee's,life of at least 12 month if stored properly.
in case of opening packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL HMR 45 is packed in 210kg HDPE Drums / 1000kg IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL HMR 45H

Description

SPCRYL HMR 45H is very cost effective acrylic colloidal emulsion for use in pre-print and post-print corrugated inks and craft paper applications.

Applications

SPCRYL HMR 45H is use in both pre-print and post-print corrugated inks and craft paper applications to maintain ink quality compare to traditional colloidal emulsion.

It is allow formulating at lower solid, leasing to improve economics and efficiency.

SPCRYL HMR 45H also use to reduce the number of let-down vehicles as it can be used as a multi-purpose let- down vehicle for high concentrated pigment dispersion systems.

Key features & Benefits

-Economical
-Execllent hot mar resistance
-High efficiency
-Excellent ink viscosity stability and dilution
-Excellent transfer and printability

Physical Properties

-Solids % :	44.5
-pH (30'C) :	2.1
-Viscosity cps (30') :	< 50
-Acid Number :	154
-Glass transition :	70'C
-Molecular Weight :	85,000

International Listing

SPCRYL HMR 45H is listed in the national inventories of all major markets. For further details, please contact the product manager.

Neutralised letdown solution

SPCRYL HMR45 H	30.5parts
Water	67.0parts
MEA	02.5parts
Total	100.0 parts

13% solids - 1800 cps viscosity using BF Viscometer

Storage and Stability

in unopened packaging Shiva pharmachem limited guarantee's,life of at least 12 month if stored properly.
in case of opening packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL HMR 45H is packed in 210kg HDPE Drums / 1000kg IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL HMR 45J

Description

SPCRYL HMR 45J is very cost effective acrylic colloidal emulsion for use in pre-print and post-print corrugated inks and craft paper applications.

Key features & Benefits

-Cost effective
-Good hot mar resistance
-Very high efficiency
-Excellent ink viscosity stability and dilution
-Excellent transfer and printability

Physical Properties

-Solids % :	41.0
-pH (30'C) :	2.0
-Viscosity cps (30') :	< 50
-Acid Number :	154
-Glass transition :	70'C
-Molecular Weight :	70,000

Applications

SPCRYL HMR 45J is use in both pre-print and post-print corrugated inks and craft paper applications to maintain ink quality compare to traditional colloidal emulsion.

It is allow formulating at lower solid, leasing to improve economics and efficiency.

SPCRYL HMR 45J also use to reduce the number of let-down vehicles as it can be used as a multi-purpose let- down vehicle for high concentrated pigment dispersion systems.

International Listing

SPCRYL HMR 45J is listed in the national inventories of all major markets. For further details, please contact the product manager.

Neutralised letdown solution

SPCRYL HMR 45J	25.00 parts
Water	72.75 parts
MEA	2.25 parts
Total	100.0 parts

10 % solids - 100 cps viscosity using BF Viscometer

Storage and Stability

in unopened packaging Shiva pharmachem limited guarantee's,life of at least 12 month if stored properly.
in case of opening packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL HMR 45J is packed in 210kg HDPE Drums / 1000kg IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL HMR 45L

Description

SPCRYL HMR 45L is very cost effective acrylic colloidal emulsion for use in pre-print and post-print corrugated inks and craft paper applications.

Key features & Benefits

-Cost effective
-Good hot mar resistance
-Very high efficiency
-Excellent ink viscosity stability and dilution
-Excellent transfer and printability

Physical Properties

-Solids % :	44.0
-pH (30'C) :	2.1
-Viscosity cps (30') :	< 50
-Acid Number :	154
-Glass transition :	70'C
-Molecular Weight :	70,000

Applications

SPCRYL HMR 45L is use in both pre-print and post-print corrugated inks and craft paper applications to maintain ink quality compare to traditional colloidal emulsion.

It is allow formulating at lower solid, leasing to improve economics and efficiency.

SPCRYL HMR 45L also use to reduce the number of let-down vehicles as it can be used as a multi-purpose let- down vehicle for high concentrated pigment dispersion systems.

International Listing

SPCRYL HMR 45L is listed in the national inventories of all major markets. For further details, please contact the product manager.

Neutralised letdown solution

SPCRYL HMR 45L	30.5 parts
Water	67.0 parts
MEA	2.5 part
Total	100.0 parts

13% solids - 400 cps viscosity using BF Viscometer

Storage and Stability

in unopened packaging Shiva pharmachem limited guarantee's,life of at least 12 month if stored properly.
in case of opening packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL HMR 45L is packed in 210kg HDPE Drums / 1000kg IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL HMR 45T

Description

SPCRYL HMR 45T is a very cost effective acrylic colloidal emulsion for use in pre-print and post-print corrugated inks and kraft paper applications.

Applications

SPCRYL HMR 45T is use in both pre-print and post – print corrugated inks and kraft paper applications to maintain ink quality compare to traditional colloidal emulsion.

It is allow formulating at lower solid, leading to improve economics and efficiency.

SPCRYL HMR 45T also use to reduce the number of let-down vehicles as it can be used as a multi - purpose let-down vehicle for highly concentrated pigment dispersion systems.

Key features & Benefits

-Cost effective
-Good hot mar resistance
-Very high efficiency
-Excellent ink viscosity stability and dilution
-Excellent transfer and printability

Physical Properties

-Solids % :	44.0
-pH (30'C) :	2.0
-Viscosity cps (30') :	< 50
-Acid Number :	164
-Glass transition :	120'C
-Molecular Weight :	100,000

International Listing

SPCRYL HMR 45T is listed in the national inventories of all major markets. For further details, please contact the product manager.

Neutralised letdown solution

SPCRYL HMR45T	25.00 parts
Water	72.75 parts
MEA	2.25 parts
Total	100.0 parts

6000cps neutralized at 11% solids using BF Viscometer

Storage and Stability

in unopened packaging Shiva pharmachem limited guarantee's,life of at least 12 month if stored properly.
in case of opening packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL HMR 45T is packed in 210kg HDPE Drums / 1000kg IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL HMR 45T(NV)

Description

SPCRYL HMR 45T(NV) is very cost effective acrylic colloidal emulsion for use in pre-print and post-print corrugated inks and craft paper applications.

Key features & Benefits

-Cost effective
-Good hot mar resistance
-Very high efficiency
-Excellent ink viscosity stability and dilution
-Excellent transfer and printability

Physical Properties

-Solids % :	44.0
-pH (30'C) :	2.0
-Viscosity cps (30') :	< 50
-Acid Number :	164
-Glass transition :	120'C
-Molecular Weight :	100,000

Applications

SPCRYL HMR 45T(NV) is use in both pre-print and post-print corrugated inks and craft paper applications to maintain ink quality compare to traditional colloidal emulsion.

It is allow formulating at lower solid, leasing to improve economics and efficiency.

SPCRYL HMR 45T(NV) also use to reduce the number of let-down vehicles as it can be used as a multi-purpose let- down vehicle for high concentrated pigment dispersion systems.

International Listing

SPCRYL HMR 45T(NV) is listed in the national inventories of all major markets. For further details, please contact the product manager.

Neutralised letdown solution

SPCRYL HMR 45T(NV)	25.00 parts
Water	72.75 parts
MEA	2.25 parts
Total	100.0 parts

11% solids - 2000 cps viscosity using BF Viscometer

Storage and Stability

in unopened packaging Shiva pharmachem limited guarantee's,life of at least 12 month if stored properly.
in case of opening packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL HMR 45T(NV) is packed in 210kg HDPE Drums / 1000kg IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SPCRYL 142

Description

SPCRYL 142 has been designed for use in Post-Print corrugated ink or kraft paper applications providing excellent transfer and printability. Alternatively it can be used as an effective thickening agent in water based flexo graphic and gravure inks.

Applications

SPCRYL 142 is an acrylic colloid emulsion for use in post-print corrugated inks and kraft paper applications.

Key features & Benefits

-Excellent transfer
-Flat dilution profile
-Good rub resistance

International Listings

SPCRYL 142 is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

-Appearance:	Opaque emulsion
- pH	6.1
-Solids, %	40 ± 01
-BF Viscosity, cps	25 cps

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPCRYL 142 is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

OTHER PRODUCTS

SP WAX 35
SP ZINC 15

SOLID RESINS

RESIN SOLUTIONS

HIGH PERFORMANCE DISPERSION

ACRYLIC & COLLOIDAL EMULSIONS

SPWAX 35

POLYETHYLENE WAX EMULSION

Description

SPWAX 35 is a non-ionic emulsion of particularly fine particle size, giving much improved stability. It's mainly use for improve RUB / SCRATCH resistance in water based OPVs and INKs.

Key features & Benefits

- Ease of handling
- Aqueous based
- Enhanced rub - and scratch resistance
- Maintains gloss
- Anti blocking
- Lubricity

Physical Properties

- Appearance	Semi translucent emulsion
- pH	9.5-11.5
- Solids, %	35 ± 01
- Viscosity, BF	Up to 100 cps
- Softening Point, °C	130

Applications

The addition of SPWAX 35 will significantly improve the rub resistance and scratch resistance without affecting the gloss.

It is advisable to dilute the SPWAX 35 with water prior to its addition to inks or lacquers to avoid shock.

Suggested dosages 4 to 5 %.

International Listings

SPWAX 35 is listed in the national inventories of all major markets. For further details, please contact the product manager.

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly. In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SPWAX 35 is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

SP ZINC 15

AQUEOUS AMMONIACAL SOLUTION OF ZINC OXIDE

Description

Aqueous ammoniacal solution of zinc oxide.

Applications

Printing Inks, Overprint Varnishes & Adhesives
Additive for water-based inks & overprint varnishes
Additive for casein adhesives.

Key features & Benefits

-Cross-linking of carboxylated polymers
-Improved film hardness and heat-resistance
-Improved water resistance of label adhesives based on casein

International Listings

SP Zinc 15 is listed in the national inventories of all major markets. For further details, please contact the product manager.

Physical Properties

- Appearance	clear colorless solution
- pH	11.0 – 12.0
- Solids, %	14.5 – 15.5
- Viscosity, BF	< 100.0 cps
- Ionicity	anionic

Storage and Stability

In unopened packaging Shiva Pharmachem Limited guarantee's, a shelf life of at least 12 months if stored properly.
In case of opened packaging, should be closed tightly after use and stored under cool and dry conditions.

Standard Packaging

SP Zinc 15 is packed in 210kgs HDPE Drums / 1000kgs IBC.

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

Shiva

PERFORMANCE MATERIALS

Corporate Office:

9th Floor, ABS Towers,
Old Padra Road, Vadodara 390007
Gujarat, India.
T: +91 265 2321418 / 2335432

Mumbai Office:

9th Floor, # 96, Jolly Maker Chambers II
Nariman Point, Mumbai 400 032
Maharashtra, India.
T: +91 22 2204 0378

Manufacturing Site:

Plot # 447, P.O. 2/460, 502, ECP Canal Road,
Village Karkhadi, Taluka Padra,
District Vadodara, Gujarat, India.
T: +91 9574 001 950

marketing@shivaperformance.com || www.shivaperformance.com