

# PRODUCTLIST

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8. Printing Ink Binders
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## PERFORMANCE CHEMICALS FOR SYNTHETIC RESIN & RUBBER INDUSTRIES AND PAINT, INK & PIGMENT INDUSTRIES

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### IMPORTANT :

Before handling these materials, refer to the current Material Safety Data Sheet for recommended protective equipment, and detailed precautionary and hazards information.

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## 1. Curing Agents for Epoxy Resins and Epoxy Resin Enamels

Product Name	Principal Component (Product form)	Uses and Features
<b>POLYMIDE</b> <b>H Products</b> <b>L Products</b> <b>X Products</b>	Polyamideamine (Liquid)	These products are curing agents for epoxy resins, having a wide range of amine values. They have a long shelf life, and can cure epoxy resins at ambient temperature (20 °C±15 °C). The resulting cured epoxy resins excel in flexibility, impact strength, and resistance to abrasion, weather, water, oil and chemicals. See page 6.
<b>REACT CA-101</b>	Modified polyamine (Liquid)	REACT CA-101 is a curing agent for epoxy resins, suitable for epoxy enamels, adhesives, as well as epoxy resins for use in civil engineering and construction. It can cure epoxy resins at low temperatures. The resulting cured epoxy resin has high hardness. See page 6.
<b>DSA</b> <b>PDSA-DA</b>	Alkenyl succinic anhydride (Liquid)	These products are curing agents for epoxy resins. They are easy to handle due to the low viscosity and suitable for casting. The resulting cured epoxy resins have high bending strength, high flexibility and high electrical resistance.
<b>SANAMEEL TAP-10</b> <b>SANAMEEL TAP-40</b>	Polyether diamine (Liquid)	These products are curing agents for epoxy resins with low viscosity and high reactivity. The resulting cured resins have flexibility and hydrophilic properties. They are also suitable for preparing epoxy emulsion.

## 2. Pigment Dispersants (Oligomer Type)

Product Name	Principal Component (Product form)	Uses and Features
<b>SANWAX Products</b>	Low-molecular-weight polyethylene (Powder, Pellet)	SANWAX products include pigment dispersants and flow improvers, suitable for polymers such as PE, PP, PVC, or ABS. As an additive for use in printing ink and paint, they can improve abrasion resistance, and anti-scratching, anti-blocking (anti-sticking) and anti-slipping properties of printed or painted surfaces. They are also useful as delustering agents. See page 6.
<b>VISCOL Products</b>	Low-molecular-weight polypropylene (Powder)	VISCOL products permit uniform dispersion of pigments and fillers into molten synthetic resins like PP. As an additive for use in printing ink and paint, they can improve abrasion resistance, and anti-scratching, anti-blocking (anti-sticking) and anti-slipping properties of printed or painted surfaces. They are also useful as delustering agents. See page 7.

### 3. Emulsifiers for Emulsion Polymerization

Product Name	Principal Component (Product form)	Uses and Features
<b>ELEMINOL NA Products</b>	Polyoxyalkylene alkyl ether (Liquid, Solid)	ELEMINOL NA products have a wide range of HLB values, being used alone or in combination with anionic surfactants as emulsifiers for emulsion polymerization of vinyl acetate, acrylic esters, etc. See page 7.
<b>ELEMINOL SCZ-35</b>	Polyoxyethylene polystyrene-creosol ether (Liquid)	ELEMINOL SCZ-35 is a low-foaming emulsifier used alone or in combination with anionic surfactants in emulsion polymerization of vinyl acetate, or acrylic ester.
<b>NEWPOL PE-64 PE-68</b>	Block polymer of polyoxyethylene and polyoxypropylene (Liquid, Flake)	These products are low-foaming emulsifiers used alone or in combination with anionic surfactants in emulsion polymerization of vinyl acetate, or acrylic ester. They effectively lower surface tension of emulsions.
<b>ELEMINOL MON-2 MON-7</b>	Disodium alkyl diphenyl ether disulfonate (Liquid)	These products are emulsifiers for emulsion polymerization. They are capable of showing stable performance in a wide range of pH.
<b>SANDET EN</b>	Sodium salt of higher alcohol ether sulfate (Liquid)	These products are used alone or in combination with nonionic surfactants in emulsion polymerization of vinyl acetate, acrylic esters, etc. They perform like both nonionic and anionic emulsifiers and are useful in developing various emulsions with excellent chemical stability.
<b>CARRYBON EN-200</b>		
<b>SANMORIN OT-70</b>	Sodium dioctyl sulfosuccinate (Liquid)	SANMORIN OT-70 is used alone or in combination with any surfactants (except cationic) as a wetting agent, penetrating agent, laundry detergent, industrial detergent, emulsifier, etc. It excels in the ability to lower surface tension and exhibits excellent wetting and penetrating properties.
<b>SANDET LNM ONA</b>	Sodium salt of higher alkylsulfate (Liquid)	These products are used alone or in combination with nonionic surfactants in emulsion polymerization of vinyl acetate, acrylic ester, vinylidene chloride, etc. SANDET ONA produces emulsion with relatively large particles.
<b>ELEMINOL JS-2</b>	Sodium alkyl allyl sulfosuccinate (Liquid)	ELEMINOL JS-2 is a copolymerizable emulsifier, used alone or in combination with other nonionic surfactants in emulsion polymerization of vinyl acetate, styrene, ethyl acrylate, butyl acrylate, etc. The resulting emulsion has low viscosity, produces less foam, and is mechanically stable against phase separation. The resulting film has high water resistance.

### 4. Stabilizer for Emulsions and Latexes

Product Name	Principal Component (Product form)	Uses and Features
<b>ELEMINOL MBN-1</b>	Polycarboxylic acid type high molecular surfactant (Liquid)	ELEMINOL MBN-1 is an additive for latex to improve the storage stability of pigment dispersion.

### 5. Resin Modifiers

Product Name	Principal Component (Product form)	Uses and Features
<b>NEWPOL BP Products</b>	Bis (hydroxyphenyl) propane, propoxylated (Liquid)	These products are alkylene oxide adducts of bisphenol-A, used for a wide range of applications such as raw materials for resins, raw materials of intermediates, and resin modifiers. For example, they can be used as a diol component for corrosion resistant grade unsaturated polyester resins. They are also useful as modifiers for polyether, epoxy resins, and polyurethane. See page 7.
<b>NEWPOL BPE Products</b>	Bis (hydroxyphenyl) propane, ethoxylated (Solid, Liquid)	

### 6. Internal Antistatic Agents

Product Name	Principal Component (Product form)	Uses and Features
<b>CHEMISTAT 1100</b>	Nonionic surfactant (Granule)	CHEMISTAT 1100 is suitable for application to synthetic resin films or sheets (polyethylene, polypropylene, polystyrene, ABS resin, etc.). It has high heat resistance.
<b>CHEMISTAT 3033</b>	Anionic surfactant (Granule)	CHEMISTAT 3033 imparts antistatic properties to synthetic resins (polyethylene, polypropylene, polystyrene, ABS resin, nylon, etc.). It has high heat resistance.
<b>PELESTAT NC6321 NC7530 230 300</b>	Block-type thermoplastic elastomer (Pellet)	These products are polymer-alloy type permanent antistatic agents. They impart antistatic properties to resins, and their antistatic effects are long-lasting. PELESTAT NC6321 and PELESTAT NC7530 are suitable for ABS, HIPS and MS (methyl methacrylate-styrene) resins, while PELESTAT 230 and PELESTAT 300 are suitable for polyolefin. See page 8.

### 7. Mold Releasing Agents

Product Name	Principal Component (Product form)	Uses and Features
<b>NEWPOL LB-625 LB-1715</b>	Polyoxypropylene glycol monoalkyl ether (Liquid)	These products are suitable for application to rubbers, plastics such as high speed tire molding, foam rubber, etc. They are used in organic solvent solution.
<b>NEWPOL 50HB-2000</b>	Poly (oxyethylene, oxypropylene) glycol monoalkyl ether (Liquid)	NEWPOL 50HB-2000 is suitable for application to rubber, plastics such as high speed tire molding, foam rubber, etc. It is used in aqueous solution.
<b>NEWPOL 50HB-5100</b>	Poly (oxyethylene, oxypropylene) glycol monoalkyl ether (Liquid)	NEWPOL 50HB-5100 is suitable for application to automotive radiator hose, household rubber hose, etc. They are used in aqueous solution.
<b>PEG 4000S 6000S</b>	Polyethylene glycol (Flake)	These products are suitable for application to both foam rubber and latex foam.

## 8. Printing Ink Binders

Product Name	Principal Component (Product form)	Uses and Features
<b>POLYIMIDE S-40E S-1962</b>	Polyamide resin (Powder)	These products are suitable for application as binders for gravure printing ink. They impart gloss, water proofing, chemical resistance, abrasion resistance, and anti-blocking (anti-sticking) properties to printed film. They exhibit excellent adhesion to a variety of substances including cellophane, metallic foil, plastic films, etc.
<b>SANPRENE LQ-390</b>	Non-yellowing type thermo-plastic polyurethane (Liquid)	SANPRENE LQ-390 is a binder for special gravure printing ink. It exhibits high adhesion to polyester or nylon film. It is also suitable for polyurethane lamination film.
<b>SANPRENE IB Products</b>	Non-yellowing type thermo-plastic polyurethane (Liquid)	SANPRENE IB products are binders for special gravure printing inks. They exhibit high adhesion to polyester or nylon film, heat resistance and oil resistance. They are also suitable for polyurethane lamination film. See page 8.

## 9. Compounding Ingredients for Paints and Printing Inks

Product Name	Principal Component (Product form)	Uses and Features
<b>SANWAX Products</b>	Low-molecular-weight polyethylene (Powder, Pellet)	These products are additives used in printing ink and paint to improve abrasion resistance, and anti-scratching, anti-blocking (anti-sticking) and anti-slipping properties of printed or painted surfaces. They are also suitable as a delustering agent.
<b>VISCOL Products</b>	Low-molecular-weight polypropylene (Powder)	See pages 6 and 7.

## 10. Polyurethane Coating Materials

Product Name	Principal Component (Product form)	Uses and Features
<b>SANPRENE C-810 C-800B-40</b>	Urethane prepolymer solution (Liquid)	These products are one-component (moisture curing type) polyurethane coating agents. Resulting films exhibit high adhesion, impact strength, wear, bending and chemical resistances. They are particularly suitable for woodwork coating.
<b>COATRON MW-060</b>	Non-yellowing type polyurethane solution (Liquid)	COATRON MW-060 is a one-component polyurethane coating material containing a crosslinking agent. It crosslinks at relatively low temperature (e.g. 80 °C, 30 min). Resulting film exhibits high adhesion, impact strength, wear, weather, thermal and chemical resistance. It is particularly suitable for coating plastics (except polyolefin).
<b>COATRON TCM-312</b>	Non-yellowing type polyurethane solution (Liquid)	COATRON TCM-312 is a two-component polyurethane coating material. Resulting film exhibits high adhesion, impact strength, wear, weather, thermal and chemical resistance. It is particularly suitable for coating plastics (except polyolefin).

## 11. Pigment Dispersants (Surfactant Type)

Product Name	Principal Component (Product form)	Uses and Features
<b>SANSPEARL PS-2</b>	Polycarboxylic acid type high molecular surfactant (Liquid)	SANSPEARL PS-2 is a high performance pigment dispersant. In particular, the resulting mixture has an excellent viscosity and stability during storage and heating. It excels in the ability to reduce the viscosity of pigment slurry.
<b>SANSPEARL PS-8</b>	Polycarboxylic acid type high molecular surfactant (Liquid)	SANSPEARL PS-8 is particularly suitable for spray lithic paint and emulsion paint. The resulting mixture exhibits stable viscosity.
<b>SANMORIN OT-70</b>	Sodium dioctyl sulfosuccinate (Liquid)	SANMORIN OT-70 is a pigment dispersant. It exhibits excellent wetting and penetrating properties for hydrophobic pigments.
<b>IONET D Products M Products</b>	Polyoxyethylene fatty acid ester (Solids, Liquid)	These products are general-purpose pigment dispersants. A variety of products are available. See page 8.
<b>IONET S-80</b>	Sorbitan fatty acid ester (Liquid)	IONET S-80 is a pigment dispersant effective in organic solvents.
<b>IONET T-60V</b>	Polyethoxylated sorbitan fatty acid ester (Liquid)	IONET T-60V is a pigment dispersant effective in aqueous solution.

## 12. Defoaming Agents

Product Name	Principal Component (Product form)	Uses and Features
<b>COLORIN DF</b>	Proprietary formulated product (Liquid)	COLORIN DF is a defoaming agent for paint, pigment and printing ink without corroding substrates. It exhibits high defoaming properties.
<b>COLORIN 302</b>	Derivative of polyalkylene glycol (Liquid)	COLORIN 302 is an economical defoaming agent for manufacture of acrylonitrile. It exhibits high defoaming properties, improving product yield and working efficiency.
<b>COLORIN EM-104</b>	Proprietary formulated product (Liquid)	COLORIN EM-104 is a defoaming agent for the manufacturing process of latex. It exhibits high defoaming properties, improving product yield and working efficiency.

## 13. Plasticizer for Polyurethane-Based Sealant

Product Name	Principal Component (Product form)	Uses and Features
<b>SANFLEX SPX-80</b>	Esterified polyether polyol (Liquid)	SANFLEX SPX-80 is a plasticizer for polyurethane-based sealant. When a top coat is applied to the plasticized polyurethane-based sealant, it minimally bleeds through to the top coat.

## Appendix

### 1. Typical Properties of POLYIMIDE H Products, L Products and X Product

Product Name	Appearance (20°C ± 5°C)	Color (Gardner)	Viscosity mPa·s	Total Amine value*
<b>POLYIMIDE H-1060</b>	Brown liquid	6	7000 (25°C)	70
<b>POLYIMIDE H-2870</b>		7	100 (25°C)	204
<b>POLYIMIDE L-15-3</b>		7	3600 (65°C)	230
<b>POLYIMIDE L-2513</b>		6	2250 (30°C)	290
<b>POLYIMIDE L-25-3</b>		6	3800 (40°C)	285
<b>POLYIMIDE L-45-3</b>		6	4800 (40°C)	320
<b>POLYIMIDE L-4051</b>	Straw-colored liquid	4	300 (20°C)	345
<b>POLYIMIDE L-55-3</b>		5	1750 (20°C)	380
<b>POLYIMIDE X-1850</b>		4	900 (25°C)	73

\* Measured by a potentiometric titration method.

### 2. Typical Properties of REACT Product

Product Name	Appearance (20°C ± 5°C)	Color (Gardner)	Viscosity mPa·s	Total Amine Value*
<b>REACT CA-101</b>	Pale yellow liquid	3	4000 (20°C)	430

\* Measured by a potentiometric titration method.

### 3. Typical Properties of SANWAX Products

Product Name	Appearance (20°C ± 5°C)	Color (APHA/molten)	Viscosity mPa·s (140°C)	Softening Point <sup>2</sup> °C	Penetration Hardness <sup>3</sup> (100g/5s/25°C)	Acid Value	Density <sup>4</sup> (20°C)	Average Molecular Weight <sup>5</sup>
<b>SANWAX 171-P</b>	White powder	30	180	107	4.5	Nil	0.92	1500
<b>SANWAX 151-P</b>		30	300	107	4	Nil	0.92	2000
<b>SANWAX 131-P</b>		30	1000	108	3.5	Nil	0.92	3500
<b>SANWAX 161-P</b>		30	4200	111	2	Nil	0.92	5000
<b>SANWAX 165-P</b>		30	4300	107	2	Nil	0.91	5000
<b>SANWAX LEL-250</b>	Pale yellow pellet	50	600	124	< 1	Nil	0.95	3000
<b>SANWAX LEL-400P (EX)</b>	White powder	50	650	128	1	1	0.96	4000
<b>SANWAX E-250P</b>	Pale yellow powder	6 <sup>1</sup>	320	106	5	16.5	0.95	2000 <sup>6</sup>
<b>SANWAX E-310</b>	Pale yellow pellet	100	300	100	5	15	0.93	2000
<b>SANWAX E-330</b>		100	850	104	4	17	0.94	2000

\*1 Gardner  
\*2 ASTM E 28-58T  
\*3 ASTM D 1321-61T  
\*4 ASTM D 792-60T  
\*5 Vapor pressure osmometry  
\*6 Gel permeation chromatography

### 4. Typical Properties of VISCOL Products

Product Name	Appearance (20°C ± 5°C)	Color (APHA/molten)	Viscosity mPa·s (160°C)	Softening Point <sup>2</sup> °C	Penetration Hardness <sup>3</sup> (100g/5s/25°C)	Density <sup>4</sup> (20°C)	Average Molecular Weight <sup>5</sup>
<b>VISCOL 660-P</b>	White powder	1 <sup>1</sup>	70	145	1.5	0.89	3000
<b>VISCOL 550-P</b>		200	200	152	< 1	0.89	4000
<b>VISCOL 440-P</b>		200	1800	157	< 1	0.89	9000 <sup>6</sup>
<b>VISCOL 330-P</b>		200	4000	153	< 1	0.89	15000 <sup>6</sup>

\*1 Gardner  
\*2 ASTM E 28-58T  
\*3 ASTM D 1321-61T  
\*4 ASTM D 792-60T  
\*5 Vapor pressure osmometry  
\*6 Gel permeation chromatography

### 5. Typical Properties of ELEMNOL NA Products

Product Name	Appearance (20°C ± 5°C)	HLB	Cloud Point °C
<b>ELEMNOL NA-40</b>	Colorless liquid	8.9	< Ambient temperature
<b>ELEMNOL NA-50</b>		10.0	
<b>ELEMNOL NA-70</b>		11.7	
<b>ELEMNOL NA-85</b>		12.6	42
<b>ELEMNOL NA-95</b>		13.1	56
<b>ELEMNOL NA-100</b>		13.3	63
<b>ELEMNOL NA-120</b>		14.1	80
<b>ELEMNOL NA-140</b>		14.7	93
<b>ELEMNOL NA-160</b>		15.2	97
<b>ELEMNOL NA-200</b>		Colorless wax	16.0
<b>ELEMNOL NA-400</b>	Colorless flake	17.8	> 100

### 6. Typical Properties of NEWPOL BP Products

Product Name	Appearance (20°C ± 5°C)	Color (APHA)	Acid Value	Hydroxyl Value	Viscosity mPa·s (60°C)
<b>NEWPOL BP-2P</b>	Pale yellow liquid	40	0.50	321	1600
<b>NEWPOL BP-23P</b>		20	0.02	315	1180
<b>NEWPOL BP-3P</b>		20	0.02	280	628
<b>NEWPOL BP-5P</b>	Colorless liquid	10	0.02	211	200

### 7. Typical Properties of NEWPOL BPE Products

Product Name	Appearance (20°C ± 5°C)	Color (APHA)	Acid Value	Hydroxyl Value	Viscosity mPa·s (60°C)
<b>NEWPOL BPE-20T</b>	White granule	10 (molten)	0.01	349	-
<b>NEWPOL BPE-40</b>	Pale yellow liquid	20	0.02	276	278
<b>NEWPOL BPE-60</b>	Colorless to pale yellow liquid	10	0.02	228	174
<b>NEWPOL BPE-100</b>		10	0.02	167	120
<b>NEWPOL BPE-180</b>		10	0.02	110	115

## 8. Typical Properties of PELESTAT Products

Product Name	Appearance (20°C ± 5°C)	Melting Point °C	Reduced Viscosity <sup>*1</sup>	Refractive Index	Surface Resistivity <sup>*2</sup> Ω
PELESTAT NC6321	Pale yellow pellet	202	1.7	1.51	1 × 10 <sup>9</sup>
PELESTAT NC7530		177	1.3	1.53	2 × 10 <sup>9</sup>
PELESTAT 230		161	-	1.50	5 × 10 <sup>7</sup>
PELESTAT 300		135	-	1.49	1 × 10 <sup>8</sup>

\*1 0.5 wt % formic acid solution at 25°C

\*2 The resistivity of PELESTAT itself. Measured at 23°C under 50% R.H. (ASTM D 257)

## 9. Typical Properties of SANPRENE IB Products

Product Name	Appearance (20°C ± 5°C)	Viscosity mPa·s (20°C)	Solid Content wt %	Solvent*
SANPRENE IB-422	Pale yellow liquid	1100	30	MEK / IPA
SANPRENE IB-104		1400	30	IPA / Tol
SANPRENE IB-114B		1100	30	IPA / Tol
SANPRENE IB-1700D		1300	30	MEK / IPA
SANPRENE IB-129		5000	40	IPA / EtAc
SANPRENE IB-465		2500	30	MEK / IPA / Tol

\* MEK : Methyl ethyl ketone, IPA : Isopropanol, Tol : Toluene, EtAc : Ethyl acetate

## 10. Typical Properties of IONET D Products and M Products

Product Name	Appearance (20°C ± 5°C)	Composition	HLB
IONET DL-200	Pale yellow liquid	Polyoxyethylene di-laurate	6.6
IONET DS-300	Pale yellow solid	Polyoxyethylene di-stearate	7.3
IONET DS-400			8.5
IONET DO-600	Brown liquid	Polyoxyethylene di-oleate	10.4
IONET DO-1000	Pale yellow solid		12.9
IONET MS-400	Pale yellow solid	Polyoxyethylene mono-stearate	11.9
IONET MS-1000			15.7
IONET MO-200	Pale straw-colored liquid	Polyoxyethylene mono-oleate	8.4
IONET MO-400	Straw-colored liquid		11.8
IONET MO-600			13.7

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ELEMNOL NA Products .....	2, 7	SANAMEEL TAP-10 .....	1
ELEMNOL SCZ-35 .....	2	SANAMEEL TAP-40 .....	1
IONET D Products .....	5, 8	SANDET EN .....	2
IONET M Products .....	5, 8	SANDET LNM .....	2
IONET S-80 .....	5	SANDET ONA .....	2
IONET T-60V .....	5	SANFLEX SPX-80 .....	5
NEWPOL 50HB-2000 .....	3	SANMORIN OT-70 .....	2, 5
NEWPOL 50HB-5100 .....	3	SANPRENE C-810 .....	4
NEWPOL BP Products .....	3, 7	SANPRENE C-800B-40 .....	4
NEWPOL BPE Products .....	3, 7	SANPRENE IB Products .....	4, 8
NEWPOL LB-625 .....	3	SANPRENE LQ-390 .....	4
NEWPOL LB-1715 .....	3	SANSPEARL PS-2 .....	5
NEWPOL PE-64 .....	2	SANSPEARL PS-8 .....	5
NEWPOL PE-68 .....	2	SANWAX Products .....	1, 4, 6
		VISCOL Products .....	1, 4, 7