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PERFORMANCE CHEMICALS FOR POLYURETHANE AND POLYURETHANE-RELATED INDUSTRIES

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- 9. Water-Borne Polyurethanes for Textile Processing**
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IMPORTANT :

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

SANYO CHEMICAL PRODUCT OUTLINE

1. Polyether Polyols for Flexible Slabstock Polyurethane Foams

Product Name	Principal Component (Product form)	Hydroxyl Value	Viscosity mPa·s (25°C)	pH	Uses and Features
SANNIX GP-3000R	Polyoxypropylene triol (Liquid)	56	510	6.5	SANNIX GP-3000R is a standard polyol, used most widely to produce flexible polyurethane foams for general uses. It is usually used in slab-stock foams. The resulting foam has well-balanced physical properties.
SANNIX GS-3000R	Polyoxyalkylene triol (Liquid)	56	480	6.5	SANNIX GS-3000R is a polyol with higher reactivity and a wide tolerance to catalyst levels. Furthermore, it is suitable for the MAX FOAM process, because it causes less scorching.
SANNIX GP-3700M	Polyoxyalkylene triol (Liquid)	45	650	6.5	SANNIX GP-3700M is a polyol for producing flexible polyurethane foams with superior elongation property. It is particularly suitable for producing foams for furniture cushions, and foams for textile laminates.
SANNIX FA-195	Polyoxyalkylene polyol (Liquid)	50	730	6.5	When SANNIX FA-195 is used in combination with SANNIX GP-3700M, the resulting foam is suitable for bedspreads and quilted garments. It is also useful to produce hydrophilic polyurethane foams.
SHARPFLOW FS-7301	Polyoxyalkylene polyol based polymer polyol (Liquid)	31	5,400	7.0	SHARPFLOW FS-7301 is a polymer polyol for producing flexible polyurethane foams. It has the ability to produce a wide range of hardness, when it is mixed in different proportions with other polyether polyol.
SANNIX FA-703V FA-921V	Polyoxyalkylene polyol (Liquid)	33 28	910 1,200	6.5 6.5	These products are polyols and polymer polyols for producing high-resilient flexible polyurethane foams with high hardness.
SANNIX KC-900	Polyoxyalkylene polyol based polymer polyol (Liquid)	22	4,600	7.5	

2. Polyether Polyols for Automobile Hot Molded Seat Cushions

Product Name	Principal Component (Product form)	Hydroxyl Value	Viscosity mPa·s (25°C)	pH	Uses and Features
SANNIX GL-3000	Polyoxyalkylene triol (Liquid)	54	510	6.5	SANNIX GL-3000 is a polyol with higher reactivity. It is used in combination with SANNIX GP-3000R.
SANNIX FA-226	Polyoxyalkylene polyol (Liquid)	60	450	6.5	SANNIX FA-226 is a polyol with good curing efficiency and a wide tolerance to tin catalyst levels. It is particularly suitable for producing flexible polyurethane foams with lower hardness.

3. Polyether Polyols for Automobile High-Resilient Molded Seat Cushions

Product Name	Principal Component (Product form)	Hydroxyl Value	Viscosity mPa·s (25°C)	pH	Uses and Features
SANNIX FA-703V	Polyoxyalkylene polyol (Liquid)	33	910	6.5	These products are highly reactive polyols suitable for cold-molding of flexible polyurethane foams. The reaction of these polyols with crude MDI, or a blend of crude MDI and TDI-80, results in high-resilient flexible polyurethane foams with an open cell structure, higher SAG factor, and lower hysteresis loss. The resulting foam is particularly suitable as cushions for automobile seats, motorcycle saddles, and furniture.
KC-720		34	880	6.5	
KC-745		34	900	6.5	
SANNIX KC-737	Polyoxyalkylene polyol (Liquid)	24	1,400	6.5	SANNIX KC-737 is a polyol particularly suitable for automobile cushioning that needs high ball rebound characteristics.
SANNIX KC-760	Polyoxyalkylene polyol (Liquid)	33	1,100	6.5	SANNIX KC-760 is a special polyol for better durability foams compared with regular polyols such as SANNIX FA-703V. It is particularly suitable for automobile cushions.
SANNIX FA-921V	Polyoxyalkylene polyol (Liquid)	28	1,200	6.5	SANNIX FA-921V is a highly reactive polyol that produces softer foams than regular polyols such as SANNIX FA-703V and SANNIX KC-720.
SANNIX FA-728R	Polyoxyalkylene polyol based polymer polyol (Liquid)	27.5	2,630	8.0	These products are special polymer polyols effective to increase hardness. The desired hardness ranging from very hard to extra hard can be achieved by blending these polymer polyols with standard polyols such as SANNIX FA-703V and SANNIX KC-720, to produce flexible polyurethane molded foams. They are also effective to increase permeability of foams. SANNIX FA-728R is superior in this effect.
KC-900		22	4,600	7.5	

4. Polyether Polyols for Crushpad Foams

The following polyols are used for producing energy-absorbing semi-flexible car trims such as crushpads, arm rests, head rests, sun visors and steering wheels. Each polyol has specific advantages as shown below.

Product Name	Principal Component (Product form)	Hydroxyl Value	Viscosity mPa·s (25°C)	pH	Uses and Features
SANNIX FA-703V	Polyoxyalkylene polyol (Liquid)	33	910	6.5	SANNIX FA-703V is used semi-rigid polyurethane foams with well-balanced in physical properties. It is suitable for producing steering wheels.
SANNIX FA-7030	Polyoxyalkylene polyol (Liquid)	28	1,300	10.0	SANNIX FA-7030 is a special polyol with higher reactivity containing nitrogen and primary hydroxyl groups. It offers softer semi-rigid polyurethane foams than SANNIX FA-703V. The resulting foam has good permeability. SANNIX FA-7030 shows excellent effects to reduce the formation of closed cells and shrinkage after molding.
SANNIX FA-718	Polyoxyalkylene polyol (Liquid)	29	800	6.5	SANNIX FA-718 is a special polyol with high reactivity suitable for producing semi-rigid polyurethane foams. It shows good flowability into molds for foaming mixtures.

5. Polyether Polyols for Rigid Polyurethane Foams

Product Name	Principal Component (Product form)	Hydroxyl Value	Viscosity mPa·s (25°C)	pH	Uses and Features
SANNIX NP-300	Hydroxypropylated ethylenediamine (Liquid)	755	50,000	11.5	These products are polyfunctional polyols that catalyze the synthesis-reaction of isocyanates to polyols. The resulting foam excels in dimensional stability and compressive strength, and shows less shrinkage. It is suitable for producing semi-rigid or rigid foams, particularly for spray foaming or pour-in-place molding for rigid foams.
SANNIX NE-240	Hydroxyalkylated ethylenediamine (Liquid)	980	3,700	11.5	
NL-300		745	4,600	13.0	
NL-270		812	8,250	12.0	

6. Multi Functional Polyols

Product Name	Principal Component (Product form)	Hydroxyl Value	Viscosity mPa·s (25°C)	pH	Uses and Features
SANNIX SP-750	Polyoxypropylene polyol (Liquid)	490	24,000	6.5	SANNIX SP-750 is a cross-linker and used with polyols. It is effective to achieve open cell structure and produces foams with improved elasticity and less shrinkage. The resulting foams are particularly suitable for producing automobile trims and furniture.
SANNIX CA-204	Polyoxypropylene polyol (Liquid)	790	32,500	11.5	SANNIX CA-204 is a cross-linker particularly suitable for producing flexible or semi-rigid polyurethane foams with excellent foam permeability.

7. Polyether Polyols for CASE*

Product Name	Principal Component (Product form)	Hydroxyl Value	Viscosity mPa·s (25°C)	pH	Uses and Features
SANNIX PK-400	Polyoxypropylene diol (Liquid)	270	70	6.5	Each of the product numbers that are written next to SANNIX PP, PK and PA as product names indicates its approx. number-average molecular weight. They are mainly used as raw materials for polyurethane resins.
PK-1000		112	150	6.0	
PA-2000		56	310	6.3	
PA-3000		35	590	6.3	
PP-4000		27	950	6.3	
SANNIX GA-3000	Polyoxypropylene triol (Liquid)	56	490	6.5	Each of the product numbers that are written next to SANNIX GA as product names indicates its approx. number-average molecular weight. They are mainly used as raw materials for polyurethane resins.
GA-4000		42	670	6.5	
GA-5000		33	900	6.3	

* Coatings, Adhesives, Sealants and Elastomers

8. Base Materials for Synthetic Leathers

Product Name	Description	Uses and Features
SANPRENE LQ-X5	Solution of non-reactive thermoplastic PU resin used in various processes for the manufacture of synthetic leathers.	SANPRENE LQ-X5 is used for the production of microporous layers in wet processes. It imparts softness feel and a good hot embossing property to leather. It is suitable for women's shoes.
SANPRENE LQ-3358	One package of solvent diffusion type or evaporation type	SANPRENE LQ-3358 is particularly suitable for the production of microporous layers for shoe tops in wet processes. It is designed to achieve good balance between film forming properties and resistance to low-temperature flex cracking. The resulting film has excellent hydrolysis resistance.
SANPRENE LQ-660		SANPRENE LQ-660 is used for the production of microporous layers in wet processes. It is particularly suitable for leather for women's shoes with a smooth, standard hard feel. It excels in properties to form uniform microporous film when used together.
SANPRENE LQ-2700 LQ-2300		These products are used for the production of microporous layers in wet processes. They are suitable for leather for shoe tops with a rather hard feel. The resulting films exhibit excellent hydrolysis resistance.

9. Water-Borne Polyurethanes for Textile Processing

Product Name	Principal Component (Product form)	Uses and Features
PERMARIN UA-200	Polyether-based non-yellowing type polyurethane dispersion (Anionic)	It forms a film with high resiliency and provides firm feeling texture to the textile when a coating is applied and dried.
PERMARIN UA-4000	Polycarbonate-based non-yellowing type polyurethane dispersion (Anionic)	It excels in adhesion with various textile including synthetic one, and forms a hard film with excellent heat resistance and light resistance when a coating is applied and dried.
PERMARIN UA-368	Polycarbonate-based non-yellowing type polyurethane dispersion (Anionic)	It excels in adhesion with various textile including synthetic one, and forms a film with high resiliency and provides firm feeling texture to the textile when a coating is applied and dried. The film also excels in heat resistance and light resistance and has softness. It shows more flexible touch compared with the one made from PERMARINE UA-4000.

10. Water-Borne Polyurethane for Coatings

Product Name	Principal Component (Product form)	Uses and Features
UCOAT UWS-145	Polyester-type polyurethane dispersion (Anionic)	The film is elastic and relatively hard. Because of its small particle size (approx. 20 nm), UCOAT UWS-145 excels in pigment dispersibility and the resulting film has high gloss. It is also suitable as a rust-inhibiting primer when used together with a cross-linking agent such as melamine-type one.

PRODUCT LIST

1 PERFORMANCE CHEMICALS FOR SYNTHETIC RESIN & RUBBER INDUSTRIES AND PAINT, INK & PIGMENT INDUSTRIES

1. Emulsifiers for Emulsion Polymerization
2. Pigment Dispersants (Oligomer Type)
3. Resin Modifiers
4. Antistatic Agents
5. Mold Releasing Agents
6. Printing Ink Binders
7. Compounding Ingredients for Paints and Printing Inks
8. Pigment Dispersants (Surfactant Type)
9. Defoaming Agents
10. Plasticizers for Polyurethane-Based Sealants

2 PERFORMANCE CHEMICALS FOR COSMETICS, PHARMACEUTICALS, AGRICHEMICALS AND DETERGENTS

Performance Chemicals for Cosmetics

1. Base Materials for Shampoos (Anionic Type)
2. Base Materials for Shampoos (Amphoteric Type)
3. Foam Stabilizers and Thickeners for Shampoos
4. Base Materials for Body Washes
5. Base Materials for Hair Conditioners
6. Compounding Ingredients for Cosmetics
7. Emulsifiers for Cosmetics
8. Gelling Agents for Cosmetics

Performance Chemicals for Pharmaceuticals

1. Tablet Binders
2. Base Materials for Ointments
3. Coating Agents for Tablets
4. Germicides (Pharmaceutical Use)
5. Other Products for Pharmaceuticals

Performance Chemicals for Agrichemicals

1. Dispersants for Agrichemical Granule Preparations

Performance Chemicals for Detergents

1. Base Materials for Detergents
2. Germicides (Industrial Use)
3. Additives for Detergents
4. Base Materials for Household Fabric Softeners
5. Industrial Defoaming Agents

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4 PERFORMANCE CHEMICALS FOR LUBRICANT INDUSTRIES AND MACHINERY & METAL PROCESSING INDUSTRIES

1. Lubricant Additives
2. Base Materials for Polyalkylene Glycol-Type Lubricants
3. Base Materials for Water-Soluble Quenchants
4. Base Materials for Hydraulic Fluids
5. Materials for Brake Fluids
6. Rust Inhibitors
7. Water-Soluble Cutting Fluids
8. Emulsifiers for Metal Working Oils
9. Base Materials for Metal Cleaners

5 PERFORMANCE CHEMICALS FOR RESOURCE EXTRACTION AND MINING INDUSTRIES

1. Polymer Flocculants
2. Dewatering Accelerator
3. Cold Flow Improvers
4. Lubricity Improver
5. Dewaxing Aids

6 PERFORMANCE CHEMICALS FOR WASTEWATER TREATMENT

1. Polymer Flocculants
2. Aminoalkyl Methacrylate Monomers

7 PERFORMANCE CHEMICALS FOR COSMETICS SUCH AS HAIR-CARE, SKIN-CARE AND MAKE-UP

1. Foaming Agents/Detergents/Foam Improvers
2. Emulsifying Agent/Solubilizing Agent/Dispersing Agent
3. Conditioning Agents/Styling Agents
4. Thickeners/Gelling Agents/Film-Forming Agents
5. Moisturizing Agents/Moistening Agents
6. Antibacterial/Anticeptic

8 PERFORMANCE CHEMICALS FOR CONSTRUCTION AND PUBLIC WORKS

1. Flooring Materials
2. Polyurethane for Architectural Paints
3. Water Sealants
4. Dispersant for Manufacturing Cement Boards by Extrusion Molding
5. Foaming Agent for Foam Concrete and Shield Tunnel
6. Agents for Drilling Mud
7. Waste Mud Solidification
8. Polymer Flocculants for Gravel Washing Wastewater Treatment
9. Binder for Ceramics
10. Modifier for Asphalt Pavement

9 ADHESIVES AND ADHESIVE-RELATED PRODUCTS

1. Pressure-Sensitive Adhesives (Cohesive Agents)
2. Potting Resins for Artificial Kidneys (Hollow-Fiber Type)
3. Resins for Anti-Corrosion Paints for Automobiles (for Improving Adhesion of Paints to Electrodeposition Steel)
4. Binders for Fiber-Finishing Agents
5. Binders for Fiberglass
6. Curing Agents for Epoxy Resins



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