

Here are your solutions classified by chemical Performance,  
especially because Sanyo Chemical provides "Performance"  
Through Chemistry.

Product Overview

# Product Overview

"Performance" Through Chemistry.

## [IMPORTANT]

- The values in this catalogue are representatives.
- Chemical structures and main components are described in common names of representative components of the products.
- Before handling these materials, refer to the current Safety Data Sheet (SDS) for recommended protective equipment, and detailed precautionary and hazards information.
- When you need individual brochure or SDS, please contact to our sales department.  
Also SDS is available on our website.

Sanyo Chemical Industries, Ltd.

URL: <https://www.sanyo-chemical.co.jp/eng>

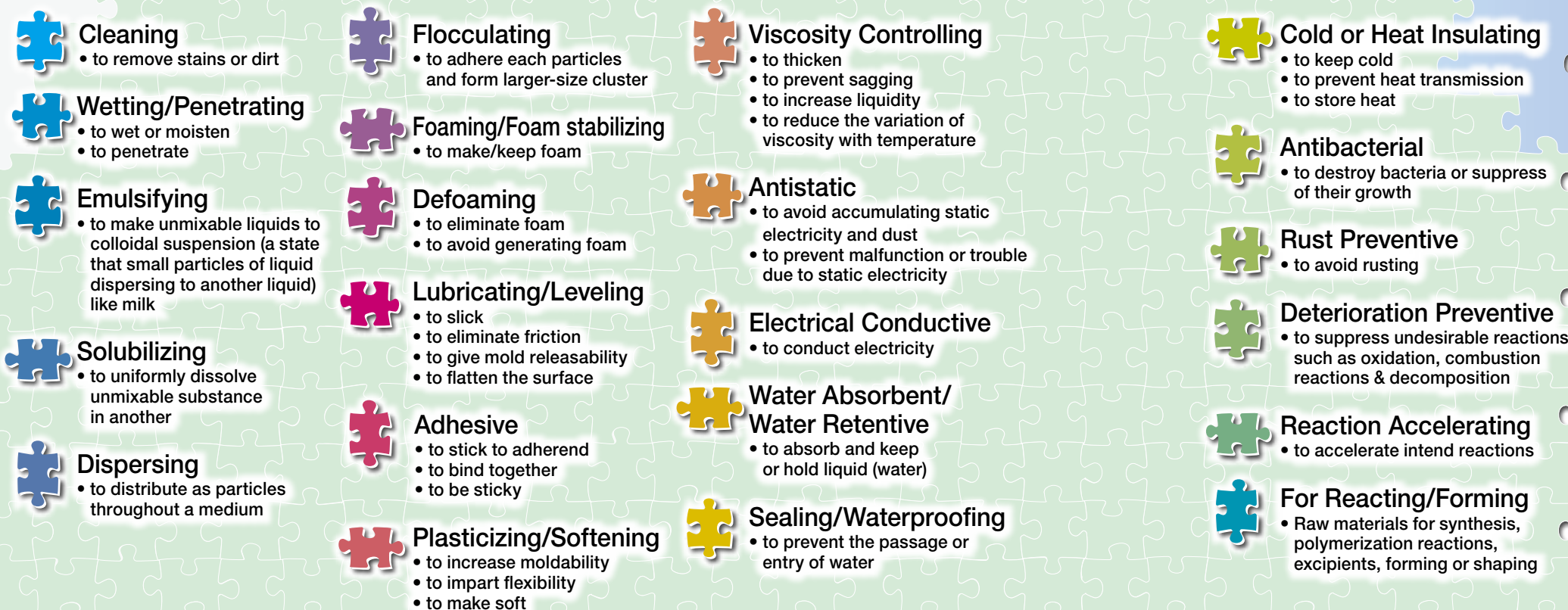


SANYO CHEMICAL INDUSTRIES, LTD.

**Sanyo  
Chemical**

Sanyo Chemical provides  
"Performance"  
Through Chemistry

## Our Products Respond to Diverse Needs by Various Performances



Sanyo Chemical Provides Various Performances (functions)

Design and  
Produce of  
Performance  
Chemicals

- Organic synthesis
- Polymerization
- Surface control, etc.

NeeSeeds-  
Oriented  
Approach

Technology diversification ;  
a technique developed to meet a  
certain need is combined with another  
technique to create another new seed  
technology for new products

Concurrent  
Engineering

A systematic approach to integrate  
accuracy and speed of time-to-market  
by simultaneous development through  
all processes in cooperation among R&D,  
production and engineering divisions

We provides diverse performances (functions) based on these strengths

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We developed the first polyether polyols for polyurethane foam in Japan in 1960 under the trade name of SANNIX. We have a world-class technology and a top-class production capacity in Japan, and therefore our PPG are used among polyurethane manufacturers not only in Japan, but also overseas. We have developed various polyether polyols for polyurethanes including PRIMEPOL; polypropylene polyol with increased primary hydroxyl content by only propylene oxide and they gained popularity.

## 1 Cleaning

to remove stains or dirt

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
BEAULIGHT ECA, LCA	Carboxylic-based anionic surfactants	Sodium polyoxyethylene alkyl ether carboxylate	p57	liquid, paste	<ul style="list-style-type: none"> <li>Excellent foaming property even under weak acidity</li> <li>Low irritancy to eyes &amp; skin</li> <li>Base material for hair shampoos, body shampoos &amp; face washes</li> <li>In Japan, BEAULIGHT SHAA is approved for an exclusive use in cosmetics</li> </ul>	
BEAULIGHT SHAA		Sodium [(2-hydroxydodecyl)-oxy] acetate	p57	liquid		
BEAULIGHT A-5000, ESS, LSS, SSS	Sulfosuccinate-based anionic surfactants	(Look at the page by composition)	p57 p58	liquid, paste		
NSA-400L	Carboxylic-based anionic surfactants	Polycarboxylate	-	liquid	<ul style="list-style-type: none"> <li>Excellent calcium-ion trapping capability, high pH buffering &amp; soil-dispersion abilities</li> <li>Builder for powdered detergent</li> </ul>	
SANDET EN, END, ET	Sulfuric acid ester-based anionic surfactants	Sodium polyoxyethylene alkyl ether sulfate SANDET ET is a triethanolamine salt instead of sodium salt	p58	liquid	<ul style="list-style-type: none"> <li>Excellent solubility to water, hard-water resistance, foaming property &amp; detergency</li> <li>Low irritation to skin</li> <li>Hair shampoo &amp; detergent base/emulsifier for emulsion polymerization</li> </ul>	
BEAULIGHT NA-25S			p58	liquid	<ul style="list-style-type: none"> <li>Low irritancy to eyes &amp; skin because of its low content of sodium lauryl sulfate</li> <li>Base material for hair or body shampoos &amp; detergents</li> </ul>	
PROFAN	Amide-based nonionic surfactants	Alkylol amide based surfactants	p60	liquid, solid, flake	<ul style="list-style-type: none"> <li>Foaming agent, foam stabilizer, thickener &amp; detergency enhancer for shampoos, liquid detergents &amp; bactericidal detergents/rust preventive</li> </ul>	
EMULMIN LCA-10	Ether-based (Amine type) nonionic surfactants	Polyoxyalkylene alkyl amine	p60	liquid	<ul style="list-style-type: none"> <li>Excellent surface tension reducing ability &amp; foam sustainability</li> <li>Kitchen detergent base</li> </ul>	
PUREMEEL			p60	liquid	<ul style="list-style-type: none"> <li>Excellent detergency of fats &amp; oils/low-temperature fluidity</li> <li>Liquid detergent base</li> </ul>	
NSA-17	Ether-based nonionic surfactants	Proprietary nonionic surfactant	-	powder	<ul style="list-style-type: none"> <li>Reinforcing detergency of powdered detergents/fluidity improver for powder</li> </ul>	
EMULMIN FL, HL		Polyoxyalkylene lauryl ether derived from natural higher alcohols	p61	liquid	<ul style="list-style-type: none"> <li>Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB</li> <li>Detergent/emulsifier/dispersant/wetting agent/solubilizer</li> </ul>	  
EMULMIN LS, NL, L		Polyoxyethylene lauryl ether derived from natural higher alcohols	p64	liquid, solid to paste	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Detergent/emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> <li>EMULMIN NL, L can be emulsifiers for emulsion polymerization</li> </ul>	 
EMULMIN No.		Polyoxyethylene alkyl ether derived from natural higher alcohols	p61	liquid, solid, paste	<ul style="list-style-type: none"> <li>Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable</li> <li>Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming &amp; wetting agent/oiliness improver</li> <li>Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent</li> </ul>	
CHEMICLEAN FS		Glycol ether based compound	-	liquid	<ul style="list-style-type: none"> <li>High Detergency/low foaming property/neutral/halogen free</li> <li>Not corresponding to a hazardous material on the Fire Defense Law (Japan)</li> <li>Cleaning agent for electric devices/metal working oils</li> </ul>	 
NAROACTY CL		Polyoxyalkylene alkyl ether derived from synthetic higher alcohol	p61	liquid, solid, flake, paste	<ul style="list-style-type: none"> <li>Alkylene oxide adducts with narrow molecular weight distribution</li> <li>Excellent detergency, emulsifiability</li> <li>Detergent base/detergent/emulsifier/dispersant/wetting agent</li> </ul>	  
NAROACTY ID			p61	liquid	<ul style="list-style-type: none"> <li>Alkylene oxide adducts with narrow molecular weight distribution</li> <li>Excellent penetrating property</li> <li>Detergent base</li> </ul>	



For shampoos
















For kitchen detergents



For laundry



## List by Performance (Function)












Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
<b>SANNONIC TN SEDORAN FF, SF, SNP-112</b>	Ether-based nonionic surfactants	Polyoxyalkylene alkyl ether derived from synthetic alcohols SANNONIC SS, DE-70 are Polyoxyethylene alkyl ether	p61/ -	liquid, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Excellent detergency</li> <li>Metal cleaners</li> </ul>	
<b>SANNONIC FN, SS</b>			p61 p62	liquid	<ul style="list-style-type: none"> <li>SANNONIC FN: Excellent fluidity at low temperature</li> <li>SANNONIC SS: Excellent penetrating property</li> <li>Detergent/emulsifier/dispersant/wetting agent</li> </ul>	 
<b>SANNONIC DE-70</b>			p62	liquid	<ul style="list-style-type: none"> <li>Excellent penetrating property</li> <li>Detergent base</li> </ul>	
<b>CHEMICLEAN DLE-20</b>		Polyoxyethylene alkyl ether with limonene	p62	liquid	<ul style="list-style-type: none"> <li>Excellent detergency</li> <li>Household cleaners base</li> <li>Removing stubborn stains of electrical appliances, bathtubs, toilet tools</li> </ul>	
<b>NEWPOL PE</b>		Polyoxyethylene polyoxypropylene glycol	p63	liquid, flake, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li> </ul>	 
<b>LAUROMACROGOL 100</b>	Ester-based nonionic surfactants	Polyoxyethylene lauryl ether derived from natural higher alcohol	p64	petrolatum jelly	<ul style="list-style-type: none"> <li>Ethylene oxide adducts with narrow molecular weight distribution derived from natural alcohols</li> <li>Excellent penetrating property &amp; detergency</li> <li>Corresponding to the Japanese Pharmacopoeias &amp; exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing</li> </ul>	
<b>IONET DL-200, DO, DS, MO, MS</b>		Polyoxyethylene fatty acid diester or monoester	p65	liquid, solid	<ul style="list-style-type: none"> <li>Offering a wide selection from lipophilic to hydrophilic products</li> <li>Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent</li> </ul>	 
<b>CHEMICLEAN AM</b>		Proprietary nonionic surfactant	-	liquid	<ul style="list-style-type: none"> <li>Excellent detergency/low foaming property/neutral/halogen free</li> <li>Not corresponding to a hazardous material on the Fire Defense Law (Japan)</li> <li>Cleaning agent for electronic components</li> </ul>	
<b>LEBON 101-H, 105, APL, APL-D, CIB</b>		(Look at the page by composition)	p66	liquid	<ul style="list-style-type: none"> <li>Excellent foaming property &amp; hard-water resistance</li> <li>LEBON APL-D also excels in low temperature fluidity</li> <li>Base material for hair shampoos &amp; body shampoos</li> </ul>	
<b>LEBON 2000, 2000HG, 2000L, HC-30W, MY-30W, LD-36</b>		(Look at the page by composition)	p66 p67	liquid		



For cleaning hard-disks






















## 2 Wetting/Penetrating

to wet or moisten  
to penetrate

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
<b>CARABON DA-72</b>	Sulfosuccinate-based anionic surfactants	Sodium dioctyl sulfosuccinate	p57	liquid	<ul style="list-style-type: none"> <li>Extremely effective to wet hydrophobic materials</li> <li>Suitable for aqueous (water-soluble, emulsion) coatings</li> <li>Penetrating agent/dispersant/emulsifier for emulsion polymerization</li> </ul>	 
<b>SANMORIN OT</b>			p57	liquid	<ul style="list-style-type: none"> <li>Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- &amp; penetrating agent/dispersant &amp; binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization</li> <li>Suitable for aqueous (water-soluble, emulsion) coatings</li> </ul>	  
<b>CATION G-50</b>	Benzalkonium-based cationic surfactants	Benzalkonium chloride	p60	liquid	<ul style="list-style-type: none"> <li>Wide spectrum antibacterial activities</li> <li>Germicide, detergent for food factory/germicide for industrial use</li> <li>Hair conditioner &amp; treatment base</li> </ul>	
<b>EMULMIN FL, HL</b>	Ether-based nonionic surfactants	Polyoxyalkylene lauryl ether derived from natural higher alcohols	p61	liquid	<ul style="list-style-type: none"> <li>Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB</li> <li>Detergent/emulsifier/dispersant/wetting agent/solubilizer</li> </ul>	  
<b>EMULMIN No.</b>		Polyoxyethylene alkyl ether derived from natural higher alcohols	p61	liquid, solid, paste	<ul style="list-style-type: none"> <li>Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable</li> <li>Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming &amp; wetting agent/oiliness improver</li> <li>Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent</li> </ul>	 



For coating agents

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
NAROACTY CL	Ether-based nonionic surfactants	Polyoxyalkylene alkyl ether derived from synthetic higher alcohols SANNONIC SS, DE-70, SANMORIN 11 are Polyoxyethylene alkyl ether	p61	liquid, solid, flake, paste	<ul style="list-style-type: none"> <li>Alkylene oxide adducts with narrow molecular weight distribution</li> <li>Excellent detergency, emulsifiability</li> <li>Detergent base/detergent/emulsifier/dispersant/wetting agent</li> </ul>	
NAROACTY ID			p61	liquid	<ul style="list-style-type: none"> <li>Alkylene oxide adducts with narrow molecular weight distribution</li> <li>Excellent penetrating property</li> <li>Detergent base</li> </ul>	
SANNONIC FN, SS			p61 p62	liquid	<ul style="list-style-type: none"> <li>SANNONIC FN: Excellent fluidity at low temperature</li> <li>SANNONIC SS: Excellent penetrating property</li> <li>Detergent/emulsifier/dispersant/wetting agent</li> </ul>	  
SANNONIC DE-70			p62	liquid	<ul style="list-style-type: none"> <li>Excellent penetrating property</li> <li>Detergent base</li> </ul>	
SANMORIN 11			p62	liquid	<ul style="list-style-type: none"> <li>Particularly excellent penetrating property among surfactants</li> <li>Wetting- &amp; penetrating agent</li> </ul>	
NEWDET PE-85		Polyoxyethylene polyoxypropylene glycol	p63	petrolatum jelly	<ul style="list-style-type: none"> <li>Corresponding to Japanese Pharmaceutical Excipients</li> <li>Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent)</li> <li>Cleaning agent for medical equipment</li> </ul>	
NEWPOL PE			p63	liquid, flake, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li> </ul>	
LAUROMACROGOL 100		Polyoxyethylene lauryl ether derived from natural higher alcohol	p64	petrolatum jelly	<ul style="list-style-type: none"> <li>Ethylene oxide adducts with narrow molecular weight distribution derived from natural alcohols</li> <li>Excellent penetrating property &amp; detergency</li> <li>Corresponding to the Japanese Pharmacopoeias &amp; exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing</li> </ul>	
NEWPOL 50HB, 75H-90000, LB, NSQ, V		(Look at the page by composition)	p62 p63 p64	liquid	<ul style="list-style-type: none"> <li>Offering a wide selection from water-soluble to -insoluble products</li> <li>Wetting agent, moisturizer &amp; viscosity controller for cosmetics/releasing lubricant/lubricant for machinery, metals &amp; fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery &amp; metals/emulsion-breaker/heating-medium</li> </ul>	
NEWPOL GEP-2800, TL		(Look at the page by composition)	p63	liquid	<ul style="list-style-type: none"> <li>Excellent lubricating effect to skin &amp; hair</li> <li>Wetting agent, moisturizer &amp; viscosity modifier for cosmetics/defoaming agent</li> </ul>	
NEWPOL GP, PP		Polyoxypropylene triol/ Polyoxypropylene glycol	p61 p64	liquid	<ul style="list-style-type: none"> <li>Non-volatile/low freezing point</li> <li>Wetting agent &amp; moisturizer for cosmetics/raw material for cosmetics, surfactant &amp; synthetic lubricant/releasing lubricant</li> </ul>	 
NEWPOL SP-750		Polyoxypropylene sorbitol ether	-	liquid	<ul style="list-style-type: none"> <li>Non-volatile/low freezing point</li> <li>Wetting agent for cosmetics/moisturizer</li> </ul>	
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p65	flake	<ul style="list-style-type: none"> <li>Softener, emulsifier, solubilizer, moisturizer &amp; oiliness improver for cosmetics, creams, lotions &amp; quasi drugs</li> <li>Lubricant &amp; stabilizer of sustained drug releasing agents, tablets, pills &amp; capsules of medicine</li> </ul>	
IONET S		Sorbitan mono- or di-fatty acid ester	p65	liquid, granule	<ul style="list-style-type: none"> <li>SPAN type lipophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li> <li>Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> </ul>	 
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid	<ul style="list-style-type: none"> <li>TWEEN type hydrophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> <li>Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li> </ul>	  

Continued on the next page →



For skincare lotions



## List by Performance (Function)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
<b>POLYSORBATE 80</b>	Ester-based nonionic surfactants	Modified sorbitan	-	liquid	<ul style="list-style-type: none"> <li>Derived from plants/no animal ingredients nor genetically-modified ingredients</li> <li>For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li> <li>Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> </ul>	
<b>PEG</b>	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Low acute toxicity/low irritancy to eyes &amp; skins</li> <li>Widely used in various applications</li> </ul>	
<b>MACROGOL</b>			p70	liquid, flake, powder, paste	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Corresponding to the Japanese Pharmacopoeias &amp; Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> <li>Base material for ointments &amp; suppositories/lubricant &amp; binder for tablets or capsules/plasticizer &amp; solubilizer for manufacturing medicine</li> </ul>	
<b>SANFRESH</b>	Methacrylate/Acrylate-based	Cross-linked acrylic acid polymer sodium salt	p72	powder	<ul style="list-style-type: none"> <li>Crushed particulate superabsorbent polymer</li> <li>Water absorbent &amp; retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for cosmetics &amp; medical use/thickener/ice packs</li> </ul>	
<b>METHACRYLATE</b>		Long-chain alkyl methacrylate or dialkylaminoalkyl methacrylate derivatives	p73	liquid	<ul style="list-style-type: none"> <li>Good copolymerizability with other vinyl monomers</li> <li>Polymer modifier/imparting hydrophilicity, antistatic or adsorptive property/drainage &amp; retention aid in paper making processes/polymer flocculant/electrodialysis or reverse osmosis membrane/ion-exchange resin/paper strengthening agent</li> </ul>	



For poultices

## 3 Emulsifying





































to make unmixable liquids to colloidal suspension  
(a state that small particles of liquid dispersing to another liquid) like milk

Beside, our subsidiary & affiliate; San Nopco Limited also provides related products (p91)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
<b>ELEMINOL MBN-2</b>	Carboxylic-based anionic surfactants	Sodium polyacrylate	p57	liquid	<ul style="list-style-type: none"> <li>Emulsifier for emulsion &amp; latex</li> </ul>	
<b>ELEMINOL JS-20</b>	Sulfosuccinate-based anionic surfactants	Sodium alkyl allyl sulfosuccinate	p57	liquid	<ul style="list-style-type: none"> <li>Reactive emulsifier for emulsion polymerization</li> </ul>	
<b>CARABON DA-72</b>		Sodium dioctyl sulfosuccinate	p57	liquid	<ul style="list-style-type: none"> <li>Extremely effective to wet hydrophobic materials</li> <li>Suitable for aqueous (water-soluble, emulsion) coatings</li> <li>Penetrating agent/dispersant/emulsifier for emulsion polymerization</li> </ul>	
<b>SANMORIN OT</b>			p57	liquid	<ul style="list-style-type: none"> <li>Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- &amp; penetrating agent/dispersant &amp; binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization</li> <li>Suitable for aqueous (water-soluble, emulsion) coatings</li> </ul>	
<b>ELEMINOL CLS-20, SANDET ONA</b>	Sulfuric acid ester-based anionic surfactants	(Look at the page by composition)	p58	liquid	<ul style="list-style-type: none"> <li>Emulsifier for emulsion polymerization</li> <li>Suitable for large-particle-size emulsion polymerization</li> </ul>	
<b>ELEMINOL NS-5S, RS-3000</b>		(Look at the page by composition) NS-5S is nondisclosure	p58	liquid	<ul style="list-style-type: none"> <li>Emulsifier for emulsion polymerization (RS-3000 is a reactive emulsifier)</li> </ul>	
<b>SANDET EN</b>		Sodium polyoxyethylene lauryl ether sulfate	p58	liquid	<ul style="list-style-type: none"> <li>Excellent solubility to water, hard-water resistance, foaming property &amp; detergency</li> <li>Low irritation to skin</li> <li>Hair shampoo &amp; detergent base/emulsifier for emulsion polymerization</li> </ul>	
<b>EMULMIN No.</b>	Ether-based nonionic surfactants	Polyoxyethylene alkyl ether derived from natural higher alcohols	p61	liquid, solid, paste	<ul style="list-style-type: none"> <li>Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable</li> <li>Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming &amp; wetting agent/oiliness improver</li> <li>Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent</li> </ul>	

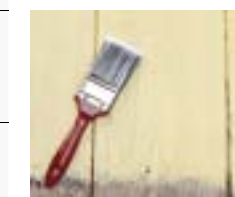


For emulsifiers for emulsion polymerization

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
NAROACTY CL	Ether-based nonionic surfactants	Polyoxyalkylene alkyl ether derived from synthetic higher alcohols	p61	liquid, solid, flake, paste	<ul style="list-style-type: none"> <li>Alkylene oxide adducts with narrow molecular weight distribution</li> <li>Excellent detergency, emulsifiability</li> <li>Detergent base/detergent/emulsifier/dispersant/wetting agent</li> </ul>	 
SANNONIC FN, SS		SANNONIC SS is Polyoxyethylene alkyl ether	p61 p62	liquid	<ul style="list-style-type: none"> <li>SANNONIC FN: Excellent fluidity at low temperature</li> <li>SANNONIC SS: Excellent penetrating property</li> <li>Detergent/emulsifier/dispersant/wetting agent</li> </ul>	 
EMULMIN CC		Polyoxyethylene cetyl ether derived from natural higher alcohols	p62	solid, wax	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> </ul>	   
ELEMINOL HB-29		Polyoxyethylene tribenzyl phenyl ether	p62	liquid	<ul style="list-style-type: none"> <li>Emulsion stabilizer for emulsion &amp; latex</li> </ul>	
EMULMIN LS, NL, L		Polyoxyethylene lauryl ether derived from natural higher alcohols	p64	solid to paste	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Detergent/emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> <li>EMULMIN NL, L can be used as emulsifiers for emulsion polymerization</li> </ul>	    
EMULMIN FL, HL		Polyoxyalkylene lauryl ether derived from natural higher alcohols	p61	liquid	<ul style="list-style-type: none"> <li>Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB</li> <li>Detergent/emulsifier/dispersant/wetting agent/solubilizer</li> </ul>	   
ELEMINOL 200L		Polyoxyethylene alkyl ether	p61	liquid	<ul style="list-style-type: none"> <li>Emulsifier for emulsion polymerization</li> </ul>	
NEWPOL PE		Polyoxyethylene polyoxypropylene glycol	p63	liquid, flake, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li> </ul>	 
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p65	flake	<ul style="list-style-type: none"> <li>Softener, emulsifier, solubilizer, moisturizer &amp; oiliness improver for cosmetics, creams, lotions &amp; quasi drugs</li> <li>Lubricant &amp; stabilizer of sustained drug releasing agents, tablets, pills &amp; capsules of medicine</li> </ul>	 
IONET DL-200, DO, DS, MO, MS		Polyoxyethylene fatty acid diester or monoester	p65	liquid, solid	<ul style="list-style-type: none"> <li>Offering a wide selection from lipophilic to hydrophilic products</li> <li>Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent</li> </ul>	    
IONET S		Sorbitan mono- or di-fatty acid ester	p65	liquid, granule	<ul style="list-style-type: none"> <li>SPAN type lipophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li> <li>Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> </ul>	    
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid	<ul style="list-style-type: none"> <li>TWEEN type hydrophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> <li>Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li> </ul>	       
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"> <li>Derived from plants/no animal ingredients nor genetically-modified ingredients</li> <li>For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li> <li>Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> </ul>	
HITRON #3A	Nonionic surfactants	Specific nonionic surfactant (a mixture with petroleum solvent)	-	liquid (possibly jelly in winter)	<ul style="list-style-type: none"> <li>Dispersing oil to sea water</li> <li>Low toxicity to marine life</li> <li>Dispersant of spillage oil</li> </ul>	



For milky lotions



For aqueous coating



## 4 Solubilizing

to uniformly dissolve unmixable substance in another

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
EMULMIN FL, HL	Ether-based nonionic surfactants	Polyoxyalkylene lauryl ether derived from natural higher alcohols	p61	liquid	<ul style="list-style-type: none"> <li>Exhibiting excellent low-temperature fluidity compared to other nonionic surfactants with the same HLB</li> <li>Detergent/emulsifier/dispersant/wetting agent/solubilizer</li> </ul>	
EMULMIN No.		Polyoxyethylene alkyl ether derived from natural higher alcohols	p61	liquid, solid, paste	<ul style="list-style-type: none"> <li>Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable</li> <li>Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming &amp; wetting agent/oiliness improver</li> <li>Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent</li> </ul>	
EMULMIN CC		Polyoxyethylene cetyl ether derived from natural higher alcohols	p62	solid, wax	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> </ul>	
EMULMIN LS, NL, L		Polyoxyethylene lauryl ether derived from natural higher alcohols	p64	solid to paste	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Detergent/emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> <li>EMULMIN NL, L can be emulsifiers for emulsion polymerization</li> </ul>	
NEWDET PE-85		Polyoxyethylene polyoxypropylene glycol	p63	petrolatum jelly	<ul style="list-style-type: none"> <li>Corresponding to Japanese Pharmaceutical Excipients</li> <li>Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent)</li> <li>Cleaning agent for medical equipment</li> </ul>	
NEWPOL PE			p63	liquid, flake, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li> </ul>	
NEWPOL EFP		Phenoxyethanol	p61	liquid	<ul style="list-style-type: none"> <li>Excellent solubility of fats &amp; oils</li> <li>Solvent of cosmetics, detergents/preservative for cosmetics</li> </ul>	
NEWPOL B-12		Polyoxyalkylene alkyl ether	p61	liquid	<ul style="list-style-type: none"> <li>Excellent solubility of fats &amp; oils</li> <li>Solvent of detergent</li> </ul>	
NEWPOL SBF		Polyoxyalkylene glycol monoether or borate	p61	liquid	<ul style="list-style-type: none"> <li>High boiling point, excellent fluidity at low temperature</li> <li>Solvent for brake oils</li> </ul>	
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p65	flake	<ul style="list-style-type: none"> <li>Softener, emulsifier, solubilizer, moisturizer &amp; oiliness improver for cosmetics, creams, lotions &amp; quasi drugs</li> <li>Lubricant &amp; stabilizer of sustained drug releasing agents, tablets, pills &amp; capsules of medicine</li> </ul>	
IONET DL-200, DO, DS, MO, MS		Polyoxyethylene fatty acid diester or monoester	p65	liquid, solid	<ul style="list-style-type: none"> <li>Offering a wide selection from lipophilic to hydrophilic products</li> <li>Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent</li> </ul>	
IONET S		Sorbitan mono- or di-fatty acid ester	p65	liquid, granule	<ul style="list-style-type: none"> <li>SPAN type lipophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li> <li>Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> </ul>	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid	<ul style="list-style-type: none"> <li>TWEEN type hydrophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> <li>Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li> </ul>	
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"> <li>Derived from plants/no animal ingredients nor genetically-modified ingredients</li> <li>For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li> <li>Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> </ul>	






To dissolve uniformly



As a solvent for detergents




















For brake fluids

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder		<ul style="list-style-type: none"><li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>Low acute toxicity/low irritancy to eyes &amp; skins</li><li>Widely used in various applications</li></ul>	
MACROGOL			p70	liquid, flake, powder, paste		<ul style="list-style-type: none"><li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>Corresponding to the Japanese Pharmacopoeias &amp; Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li><li>Base material for ointments &amp; suppositories/lubricant &amp; binder for tablets or capsules/plasticizer &amp; solubilizer for manufacturing medicine</li></ul>	
SANFINE DM-200	Others	Polyoxyethylene dimethyl ether	p73	liquid		<ul style="list-style-type: none"><li>Excellent solubility of fats &amp; oils</li><li>Solvent for detergent</li></ul>	

## 5 Dispersing

to distribute as particles throughout a medium

Beside, our subsidiary & affiliate; San Nopco Limited also provides related products (p91)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
SANCARRIER No.5L	Carboxylic-based anionic surfactants	Mixture of acrylic polymer & sodium aluminate	-	liquid		<ul style="list-style-type: none"><li>Preventing degradation &amp; viscosity increase of drilling mud</li><li>Dispersant for bentonite muds (drilling mud)</li></ul>	
SS-B		Polycarboxylate	-	liquid		<ul style="list-style-type: none"><li>Preventing viscosity increase of drilling mud &amp; the collapse of unstable strata</li><li>Dispersant for drilling mud (stabilization fluid)/wall-building aid</li></ul>	
CARRYBON L-400			p57	liquid		<ul style="list-style-type: none"><li>Providing low-viscosity pigment slurry with high dispersion stability</li><li>Dispersant for pigment slurry of water-soluble or emulsion coatings</li></ul>	 
SANSPARL PS-2			-	liquid		<ul style="list-style-type: none"><li>Suitable for aqueous (water-soluble, emulsion) coatings</li><li>Pigment dispersant</li></ul>	 
TOXANON			-	liquid		<ul style="list-style-type: none"><li>Imparting excellent spreading property to agrichemical granules</li><li>Excellent binding property/enhancing hardness of granules</li><li>Dispersant &amp; binder for agrichemical granules</li></ul>	
CARABON DA-72	Sulfosuccinate-based anionic surfactants	Sodium dioctyl sulfosuccinate	p57	liquid		<ul style="list-style-type: none"><li>Extremely effective to wet hydrophobic materials</li><li>Suitable for aqueous (water-soluble, emulsion) coatings</li><li>Penetrating agent/dispersant/emulsifier for emulsion polymerization</li></ul>	
SANSEPARER 100			p57	wax		<ul style="list-style-type: none"><li>Suitable for oil-based, organic-solvent based coatings</li><li>Without water nor organic solvent</li><li>Internal releasing agent for PMMA/pigment dispersant</li></ul>	  
SANMORIN OT			p57	liquid		<ul style="list-style-type: none"><li>Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- &amp; penetrating agent/dispersant &amp; binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization</li><li>Suitable for aqueous (water-soluble, emulsion) coatings</li></ul>	 
IONET D-2	Sulfonate-based anionic surfactants	Sodium naphthalenesulfonate formalin condensate	-	powder		<ul style="list-style-type: none"><li>Low foaming property</li><li>Pigment dispersant</li></ul>	 
SANYO LEVELON PHL			p58	liquid			
SANDET ONA	Sulfuric acid ester-based anionic surfactants	Sodium 2-ethylhexyl sulfate	p58	liquid		<ul style="list-style-type: none"><li>Emulsifier for emulsion polymerization</li><li>Suitable for large-particle-size emulsion polymerization</li></ul>	



For stabilization for drilling mud



To disperse of pigment slurry










Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
NSA-17	Ether-based nonionic surfactants	Proprietary nonionic surfactant	-	powder	<ul style="list-style-type: none"> <li>Reinforcing detergency of powdered detergents/fluidity improver for powder</li> </ul>	
EMULMIN No.		Polyoxyethylene alkyl ether derived from natural higher alcohols	p61	liquid, solid, paste	<ul style="list-style-type: none"> <li>Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable</li> <li>Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming &amp; wetting agent/oiliness improver</li> <li>Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent</li> </ul>	
EMULMIN CC		Polyoxyethylene cetyl ether derived from natural higher alcohols	p62	solid, wax	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> </ul>	
EMULMIN FL, HL		Polyoxyalkylene lauryl ether derived from natural higher alcohols	p61	liquid	<ul style="list-style-type: none"> <li>Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB</li> <li>Detergent/emulsifier/dispersant/wetting agent/solubilizer</li> </ul>	
EMULMIN LS, NL, L		Polyoxyethylene lauryl ether derived from natural higher alcohols	p64	liquid, solid to paste	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Detergent/emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> <li>EMULMIN NL, L can be emulsifiers for emulsion polymerization</li> </ul>	
NEWPOL PE		Polyoxyethylene polyoxypropylene glycol	p63	liquid, flake, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li> </ul>	
NAROACTY CL		Polyoxyalkylene alkyl ether derived from synthetic higher alcohols	p61	liquid, solid, flake, paste	<ul style="list-style-type: none"> <li>Alkylene oxide adducts with narrow molecular weight distribution</li> <li>Excellent detergency, emulsifiability</li> <li>Detergent base/detergent/emulsifier/dispersant/wetting agent</li> </ul>	
SANNONIC FN, SS		SANNONIC SS is Polyoxyethylene alkyl ether	p61 p62	liquid	<ul style="list-style-type: none"> <li>SANNONIC FN: Excellent fluidity at low temperature</li> <li>SANNONIC SS: Excellent penetrating property</li> <li>Detergent/emulsifier/dispersant/wetting agent</li> </ul>	
IONET DL-200, DO, DS, MO, MS	Ester-based nonionic surfactants	Polyoxyethylene fatty acid diester or monoester	p65	liquid, solid	<ul style="list-style-type: none"> <li>Offering a wide selection from lipophilic to hydrophilic products</li> <li>Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent</li> </ul>	
IONET S		Sorbitan mono- or di-fatty acid ester	p65	liquid, granule	<ul style="list-style-type: none"> <li>SPAN type lipophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li> <li>Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> </ul>	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid	<ul style="list-style-type: none"> <li>TWEEN type hydrophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> <li>Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li> </ul>	
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"> <li>Derived from plants/no animal ingredients nor genetically-modified ingredients</li> <li>For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li> <li>Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> </ul>	
SANWAX	Olefin or Styrene-based compounds	Low-molecular-weight polyethylene	p68	powder, pellet, etc.	<ul style="list-style-type: none"> <li>Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for cosmetics/abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance &amp; releasability/flattening agent/lubricant/fixing agent for agrichemicals</li> </ul>	
VISCOL		Low-molecular-weight polypropylene	p68	powder	<ul style="list-style-type: none"> <li>Moderate hardness, low melt viscosity equivalent to polypropylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigment, filler dispersant/releasing agent for toner/improver for flowability, releasability, softening point &amp; abrasion-resistance/flattening agent/lubricant</li> </ul>	
UMEX		Acid modified low-molecular-weight polypropylene	p68	granule, powder, etc.	<ul style="list-style-type: none"> <li>Dispersant for pigments, fillers &amp; wood-flour/hot-melt adhesives</li> <li>Resin modifier for polyolefins (such as improving adhesion)</li> </ul>	

Continued on the next page →



For uniform coloring of plastics










Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
HIMER SB, ST	Olefin or Styrene-based compounds	Low-molecular-weight polystyrene	p68	granule	<ul style="list-style-type: none"><li>Resulting toner has excellent fusing properties &amp; charging characteristics</li><li>HIMER SB: toner resin</li><li>HIMER ST: dispersant for pigments &amp; fillers</li></ul> <ul style="list-style-type: none"><li>Registered to the positive list of Japan Hygienic Olefin &amp; Styrene Plastics Association ([B]NJ-0912)</li><li>Dispersant for pigments &amp; fillers</li></ul> <ul style="list-style-type: none"><li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>Low acute toxicity/low irritancy to eyes &amp; skins</li><li>Widely used in various applications</li></ul> <ul style="list-style-type: none"><li>Forming tough film/excellent dispersibility of magnetic powders &amp; hydrolysis resistance</li><li>Caprolactone type</li><li>Binder for magnetic tapes</li></ul> <ul style="list-style-type: none"><li>Used in combination with dibasic acid</li><li>Resulting coating film has excellent pigment dispersibility, weather resistance/glossiness &amp; smoothness</li><li>Resin for powder coating</li></ul>	 
REGIT S-94			p68	granule		 
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder		
SANRETAN TIM-2011A	Urethane Series	Polyurethane solution (caprolactone type)	-	liquid		
SANPEX PA-55	Methacrylate/Acrylate-based	Glycidyl group-containing acrylic resin	-	granule		



For dispersion of abrasive polishing agents

## 6 Flocculating

to adhere each particles and form larger-size cluster

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SERABON DH-505	Anionic surfactants	Proprietary anionic surfactant	-	liquid	<ul style="list-style-type: none"><li>Dehydration promoting agent for metal sulfide concentration</li></ul>	
ACRYLATE SMC-80H	Methacrylate/Acrylate-based	Dimethylaminoethyl acrylate quaternary salt	p72	liquid	<ul style="list-style-type: none"><li>Monomer for water-soluble cationic polymer/flocculant/papermaking chemicals</li></ul>	 
CATIOMER 300		Water soluble cationic polymer	-	liquid	<ul style="list-style-type: none"><li>Organic coagulant for industrial wastewater treatment</li></ul>	
SACRIS		Water soluble acrylic polymer (ultrahigh molecular weight)	-	powder	<ul style="list-style-type: none"><li>Offering anionic, cationic &amp; amphoteric polymer</li><li>Thickener/gelling agent/flocculant/wastewater treatment/sizing-agent in paper making/sealant/excipient for dehumidifiers/sludge solidifying agent/seed binder for slope greening/soil modifier</li></ul>	
SANQUICK			-	liquid	<ul style="list-style-type: none"><li>Offering cationic or amphoteric polymer</li><li>Waste water treatment/flocculant</li></ul>	
SANFLOC			-	liquid, powder	<ul style="list-style-type: none"><li>Offering a wide selection depending on ionic type of polymers (anionic, cationic, nonionic &amp; amphoteric)</li><li>Wastewater treatment/filtering speed improver of organic flocculant/coagulant</li></ul>	
METHACRYLATE		Long-chain alkyl methacrylate or dialkylaminoalkyl methacrylate derivatives	p73	liquid	<ul style="list-style-type: none"><li>Good copolymerizability with other vinyl monomers</li><li>Polymer modifier/imparting hydrophilicity, antistatic or adsorptive property/drainage &amp; retention aid in paper making processes/polymer flocculant/electrodialysis or reverse osmosis membrane/ion-exchange resin/paper strengthening agent</li></ul>	 



For flocculation/settling



















For paper making



For wastewater treatment



## 7 Foaming/Foam stabilizing to make/keep foam

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
<b>BEAULIGHT ECA, LCA</b>	Carboxylic-based anionic surfactants	Sodium polyoxyethylene alkyl ether carboxylate	p57	liquid, paste	<ul style="list-style-type: none"> <li>Excellent foaming property even under weak acidity</li> <li>Low irritancy to eyes &amp; skin</li> <li>Base material for hair shampoos, body shampoos &amp; face washes</li> <li>In Japan, BEAULIGHT SHAA is approved for an exclusive use in cosmetics</li> </ul>	
<b>BEAULIGHT SHAA</b>		Sodium [(2-hydroxydodecyl)-oxy] acetate	p57	liquid		
<b>BEAULIGHT A-5000, ESS, LSS, SSS</b>	Sulfosuccinate-based anionic surfactants	(Look at the page by composition)	p57 p58	liquid, paste		
<b>SANDET EN, END, ET</b>	Sulfuric acid ester-based anionic surfactants	Sodium polyoxyethylene alkyl ether sulfate SANDET ET is a triethanolamine salt instead of sodium salt	p58	liquid	<ul style="list-style-type: none"> <li>Excellent solubility to water, hard-water resistance, foaming property &amp; detergency</li> <li>Low irritation to skin</li> <li>Hair shampoo &amp; detergent base/emulsifier for emulsion polymerization</li> </ul>	
<b>BEAULIGHT NA-25S</b>			p58	liquid	<ul style="list-style-type: none"> <li>Low irritancy to eyes &amp; skin because of its low content of sodium lauryl sulfate</li> <li>Base material for hair or body shampoos &amp; detergents</li> </ul>	
<b>SANSPARL RA-33</b>	Anionic surfactants	Proprietary anionic surfactants	-	paste	<ul style="list-style-type: none"> <li>Foam stabilizer for polymer emulsion</li> </ul>	
<b>PROFAN</b>	Amide-based nonionic surfactants	Alkylol amide based surfactants	p60	liquid, solid, flake	<ul style="list-style-type: none"> <li>Foaming agent, foam stabilizer, thickener &amp; detergency enhancer for shampoos, liquid detergents &amp; bactericidal detergents/rust preventive</li> </ul>	
<b>EMULMIN LCA-10</b>	Ether-based (amine type) nonionic surfactants	Polyoxyalkylene alkyl amine	p60	liquid	<ul style="list-style-type: none"> <li>Excellent surface tension reducing ability &amp; foam sustainability</li> <li>Kitchen detergent base</li> </ul>	
<b>EMULMIN No.</b>	Ether-based nonionic surfactants	Polyoxyethylene alkyl ether derived from natural higher alcohols	p61	liquid, solid, paste	<ul style="list-style-type: none"> <li>Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable</li> <li>Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming &amp; wetting agent/oiliness improver</li> <li>Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent</li> </ul>	
<b>EMULMIN CC</b>		Polyoxyethylene cetyl ether derived from natural higher alcohols	p62	solid, wax	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> </ul>	 
<b>EMULMIN LS, NL, L</b>		Polyoxyethylene lauryl ether derived from natural higher alcohols	p64	liquid, solid to paste	<ul style="list-style-type: none"> <li>Hardly hydrolyzed even in the presence of acidity or alkalinity</li> <li>Detergent/emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li> <li>EMULMIN NL, L can be emulsifiers for emulsion polymerization</li> </ul>	 
<b>LEBON 101-H, 105, APL, APL-D, CIB</b>	Amino acid-type amphoteric surfactants	(Look at the page by composition)	p66	liquid	<ul style="list-style-type: none"> <li>Excellent foaming property &amp; hard-water resistance</li> <li>LEBON APL-D also excels in low temperature fluidity</li> <li>Base material for hair shampoos &amp; body shampoos</li> </ul>	
<b>LEBON 2000, 2000HG, 2000L, HC-30W, MY-30W, LD-36</b>	Betaine-type amphoteric surfactants	(Look at the page by composition)	p66 p67	liquid		
<b>LEVEFLOW SR-21</b>	Surfactant	Proprietary surfactant	-	liquid	<ul style="list-style-type: none"> <li>Creates fine bubbles in concrete &amp; allows it to become lightweight</li> <li>Foaming agent for foamed concrete</li> </ul>	



For fine foaming



For shampoo







For foamed concrete

8 Defoaming

to eliminate foam  
to avoid generating foam

Beside, our subsidiary & affiliate; San Nopco Limited also provides related products (p91)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
COLORIN	Ether-based nonionic surfactants	Polyoxyalkylene glycol or polyoxypropylene monobutyl ether	p61	liquid	<ul style="list-style-type: none"><li>• Defoaming agent for the fermentation industries</li><li>• Defoaming agent for other industrial use such as latex manufacturing process</li></ul>	
NEWPOL 50HB, 75H-90000, LB, NSQ, V		(Look at the page by composition)	p62 p63 p64	liquid	<ul style="list-style-type: none"><li>• Offering a wide selection from water-soluble to -insoluble products</li><li>• Wetting agent, moisturizer &amp; viscosity controller for cosmetics/releasing lubricant/lubricant for machinery, metals &amp; fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery &amp; metals/emulsion-breaker/heating-medium</li></ul>	
NEWPOL GEP-2800, TL		(Look at the page by composition)	p63	liquid	<ul style="list-style-type: none"><li>• Excellent lubricating effect to skin &amp; hair</li><li>• Wetting agent, moisturizer &amp; viscosity modifier for cosmetics/defoaming agent</li></ul>	
IONET S	Ester-based nonionic surfactants	Sorbitan mono- or di-fatty acid ester	p65	liquid, granule	<ul style="list-style-type: none"><li>• SPAN type lipophilic surfactants derived from plants</li><li>• Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li><li>• Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li></ul>	



To defoam during process









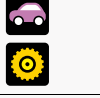



To prevent foaming in coating

9 Lubricating/Leveling

to slick/to eliminate friction  
to give mold releasability  
to flatten the surface

Beside, our subsidiary & affiliate; San Nopco Limited also provides related products (p91)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANSEPARER 100	Sulfosuccinate-based anionic surfactants	Sodium dioctyl sulfosuccinate	p57	wax	<ul style="list-style-type: none"><li>• Suitable for oil-based, organic-solvent based coatings</li><li>• Without water nor organic solvent</li><li>• Internal releasing agent for PMMA/pigment dispersant</li></ul>	
HIGHCLEAN	Anionic surfactants	Compound of lubricant & proprietary antibacterial surfactant	-	liquid (possibly jelly in winter)	<ul style="list-style-type: none"><li>• Chlorine free</li><li>• Imparting excellent cutting processability/anti-septicity</li><li>• Water-soluble cutting oil</li></ul>	
ECONOL	Ammonium salt-based cationic surfactants	Alkyltrimethylammonium chloride	p59	liquid, solid	<ul style="list-style-type: none"><li>• Imparting smoothness, pliability &amp; tenseness-stiffness finished feeling to hair</li><li>• Hair conditioner &amp; treatment base</li></ul>	
CATION DSV		Distearyldimethylammonium chloride	p59	flake	<ul style="list-style-type: none"><li>• Imparting excellent flexibility &amp; antistaticity to hair and fibers</li><li>• Hair conditioner &amp; treatment base/softener for fabrics</li></ul>	
LEBON TM-18, 18PA		Stearyltrimethylammonium chloride	p59	solid	<ul style="list-style-type: none"><li>• Imparting smoothness, pliability &amp; tenseness-stiffness finished feeling to hair/long-lasting softness &amp; smoothness</li><li>• Hair conditioner &amp; treatment base</li></ul>	
CATION LQ		Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium	p59	paste	<ul style="list-style-type: none"><li>• Imparting excellent moisturizing, antistaticity &amp; tactile property to hair/long-lasting softness &amp; smoothness</li><li>• Hair conditioner &amp; treatment base/shampoo with built-in conditioner</li><li>• In Japan, CATION LQ is approved for an exclusive use in cosmetics</li></ul>	
CATION SF	Imidazolinium salt-based cationic surfactants	Imidazoline compound	p59	liquid to paste	<ul style="list-style-type: none"><li>• Imparting excellent flexibility, antistaticity &amp; water-absorbing effect</li><li>• Softener for fabrics</li></ul>	
CATION S	Benzalkonium-based cationic surfactants	Stearyldimethylbenzyl-ammonium chloride	p60	solid	<ul style="list-style-type: none"><li>• Imparting smoothness, pliability &amp; tenseness-stiffness finished feeling to hair</li><li>• Hair conditioner &amp; treatment base</li></ul>	
BLEMBER	Ether-based nonionic surfactants	Polyoxyalkylene alkyl ether	p61	liquid	<ul style="list-style-type: none"><li>• Excellent lubricity, oil separation performance/low foaming property</li><li>• Water-soluble cutting oil base</li></ul>	
NEWDET PE-85		Polyoxyethylene polyoxypropylene glycol	p63	petrolatum jelly	<ul style="list-style-type: none"><li>• Corresponding to Japanese Pharmaceutical Excipients</li><li>• Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent)</li><li>• Cleaning agent for medical equipment</li></ul>	





For cutting oils

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
NEWPOL PE	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p63	liquid, flake, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li> </ul>	
NEWPOL 50HB, 75H-90000, LB, NSQ, V		(Look at the page by composition)	p62 p63 p64	liquid	<ul style="list-style-type: none"> <li>Offering a wide selection from -soluble to -insoluble products</li> <li>Wetting agent, moisturizer &amp; viscosity controller for cosmetics/releasing lubricant/lubricant for machinery, metals &amp; fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery &amp; metals/emulsion-breaker/heating-medium</li> </ul>	
NEWPOL GEP-2800, TL		(Look at the page by composition)	p63	liquid	<ul style="list-style-type: none"> <li>Excellent lubricating effect to skin &amp; hair</li> <li>Wetting agent, moisturizer &amp; viscosity modifier for cosmetics/defoaming agent</li> </ul>	
NEWPOL GP, PP		Polyoxypropylene triol, polyoxypropylene glycol	p61 p64	liquid	<ul style="list-style-type: none"> <li>Non-volatile/low freezing point</li> <li>Wetting agent &amp; moisturizer for cosmetics/raw material for cosmetics, surfactant &amp; synthetic lubricant/releasing lubricant</li> </ul>	
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p65	flake	<ul style="list-style-type: none"> <li>Softener, emulsifier, solubilizer, moisturizer &amp; oiliness improver for cosmetics, creams, lotions &amp; quasi drugs</li> <li>Lubricant &amp; stabilizer of sustained drug releasing agents, tablets, pills &amp; capsules of medicine</li> </ul>	
IONET DL-200, DO, DS, MO, MS		Polyoxyethylene fatty acid diester or monoester	p65	liquid, solid	<ul style="list-style-type: none"> <li>Offering a wide selection from lipophilic to hydrophilic products</li> <li>Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent</li> </ul>	
IONET S		Sorbitan mono- or di-fatty acid ester	p65	liquid, granule	<ul style="list-style-type: none"> <li>SPAN type lipophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li> <li>Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> </ul>	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid	<ul style="list-style-type: none"> <li>TWEEN type hydrophilic surfactants derived from plants</li> <li>Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li> <li>Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li> </ul>	
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"> <li>Derived from plants/no animal ingredients nor genetically-modified ingredients</li> <li>For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li> <li>Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> </ul>	
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p68	powder, pellet, etc.	<ul style="list-style-type: none"> <li>Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for cosmetics/abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance &amp; releasability/flatting agent/lubricant/fixing agent for agrichemicals</li> </ul>	
VISCOL		Low-molecular-weight polypropylene	p68	powder	<ul style="list-style-type: none"> <li>Moderate hardness, low melt viscosity equivalent to polypropylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigment, filler dispersant/releasing agent for toner/improver for flowability, releasability, softening point &amp; abrasion-resistance/flatting agent/lubricant</li> </ul>	
SANFRIC	Metalic compounds/ Acids/Acid Anhydrides	Organomolybdenum compound/ fatty acid compound	p69	liquid	<ul style="list-style-type: none"> <li>Friction reducer or friction modifier/anti-wear agent or wear inhibitor/ lubricity improver for fuel oils</li> </ul>	
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Low acute toxicity/low irritancy to eyes &amp; skins</li> <li>Widely used in various applications</li> </ul>	
MACROGOL			p70	liquid, flake, powder, paste	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Corresponding to the Japanese Pharmacopoeias &amp; Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> <li>Base material for ointments &amp; suppositories/lubricant &amp; binder for tablets or capsules/ plasticizer &amp; solubilizer for manufacturing medicine</li> </ul>	



For lubricant for fibers



















Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
ACLUBE	Methacrylate/Acrylate-based	Methacrylate copolymer & refined mineral oil	p72	liquid		<ul style="list-style-type: none"><li>Contributing to a reduction of fuel consumption to reduce the viscosity of lubricant depending on temperature</li><li>Viscosity Index Improver/Viscosity Modifier (VII/VM) or pour point depressant for lubricants, hydraulic &amp; engine oils/dewaxing aid during the production of lubricants</li></ul>	
PERMARIN	Urethane series	Polyurethane emulsion	p74	liquid		<ul style="list-style-type: none"><li>Resulting coating film has excellent flexibility, water-, adhesion- &amp; chemical resistance</li><li>Raw material for coatings, ink &amp; adhesives/binder for pigment printing</li><li>Texture modifier/shrink-resistant finishing agent/imparting elastic repulsion/pilling preventing agent</li></ul>	



For lubricants

**10 Adhesive** to stick to adherend  
to bind together  
to be sticky

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
TOXANON	Carboxylic-based anionic surfactants	Polycarboxylate	-	liquid		<ul style="list-style-type: none"><li>Imparting excellent spreading property to agrichemical granules</li><li>Excellent binding property/enhancing hardness of granules</li><li>Dispersant &amp; binder for agrichemical granules</li></ul>	
NEWDET PE-85	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p63	petrolatum jelly		<ul style="list-style-type: none"><li>Corresponding to Japanese Pharmaceutical Excipients</li><li>Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent)</li><li>Cleaning agent for medical equipment</li></ul>	
NEWPOL PE			p63	liquid, flake, paste		<ul style="list-style-type: none"><li>Low foaming property</li><li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li></ul>	
NEWPOL T-240U		Modified polyether	-	block		<ul style="list-style-type: none"><li>Freezing point (55-60°C)/slow dissolution to water</li><li>Binder for aromatic deodorant toilet cleaner</li></ul>	
POLYSORBATE 80	Ester-based nonionic surfactants	Modified sorbitan	-	liquid		<ul style="list-style-type: none"><li>Derived from plants/no animal ingredients nor genetically-modified ingredients</li><li>For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li><li>Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li></ul>	
CHEMITYLEN PEB-13ST	Esters	Bisphenol-A type unsaturated polyester	p67	powder		<ul style="list-style-type: none"><li>Binder for glass chopped strand mats for FRP</li></ul>	
ACROBINDER BG-7	Olefin-based compounds	Butadiene & maleic acid copolymer	-	liquid		<ul style="list-style-type: none"><li>Binder for fiberglasses</li><li>Especially suitable for FRTR (Fiber-Rainforced Thermo Plastic)</li></ul>	 
UMEX		Acid modified low-molecular-weight polypropylene	p68	granule, powder, etc.		<ul style="list-style-type: none"><li>Dispersant for pigments, fillers &amp; wood-flour/hot-melt adhesives</li><li>Resin modifier for polyolefins (such as improving adhesion)</li></ul>	 
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p69	liquid		<ul style="list-style-type: none"><li>Imparting long pot life, excellent electrical insulating property, flexibility &amp; bending strength to resins</li><li>Epoxy curing agent/rust preventive/corrosion inhibitor</li></ul>	
POLYMIDE L	Nitrogen-Containing Compounds	Polyamideamine	p69	liquid		<ul style="list-style-type: none"><li>Cured epoxy resin has rust prevention, excellent adhesion, toughness &amp; flexibility</li><li>Curing agent for epoxy resin used to coatings, adhesives, civil engineering &amp; construction, laminating &amp; casting materials, etc.</li></ul>	  
POLYMIDE S			p69	powder		<ul style="list-style-type: none"><li>Resulting coating film has excellent water-, chemical-, abrasion-, weather-, oil-, blocking-resistance</li><li>Excellent glossiness &amp; adhesion to polyolefin films</li><li>Resin for special gravure printing ink</li></ul>	
MELPOL F-220	Polyols	Isocyanate modified polyether	-	pellet		<ul style="list-style-type: none"><li>Aqueous solution has surface activating ability/forming flexible &amp; elastic film</li><li>Decomposing thermally at relatively low temperature &amp; hardly-leaving ash after incineration</li><li>Sizing agent for glass-fibers (warp-yarn)/water-soluble polymer</li></ul>	



For excipients for tablets

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Low acute toxicity/low irritancy to eyes &amp; skins</li> <li>Widely used in various applications</li> </ul>	
MACROGOL			p70	liquid, flake, powder, paste	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Corresponding to the Japanese Pharmacopoeias &amp; Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> <li>Base material for ointments &amp; suppositories/lubricant &amp; binder for tablets or capsules/plasticizer &amp; solubilizer for manufacturing medicine</li> </ul>	
SANNIX PL-2100, PP		Polyoxyethylene polyoxypropylene glycol/ Polyoxypropylene glycol	p70 p71	liquid	<ul style="list-style-type: none"> <li>Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li> </ul>	
SANNIX GP, GH		Polyoxypropylene triol	p71	liquid	<ul style="list-style-type: none"> <li>Offering a wide selection of molecular weight</li> <li>The resulting foam has ideal balance of properties</li> <li>Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li> </ul>	
SANNIX TP-400		Trimethylolpropane-based polyether polyol	p71	liquid	<ul style="list-style-type: none"> <li>Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li> </ul>	
SANNIX SP-750		Polyoxypropylene sorbitol ether	p71	liquid		
PRIMEPOL		Polyoxypropylene glycol or triol	p71	liquid	<ul style="list-style-type: none"> <li>Excellent reactivity because of its high ratio of primary hydroxyl group with approx. 70mol %/ compatible water resistant which is a conflicting performance</li> <li>Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li> </ul>	
CB-1	Methacrylate/ Acrylates-based	Acrylic resin	-	powder	<ul style="list-style-type: none"> <li>High molecular weight-acrylic resin of less thermal decomposition</li> <li>Excellent molded shape retention property/imparting hardness to resulting ceramics</li> <li>Ceramics binder for injection molding</li> </ul>	
SOFIC W-802		Acrylic resin solution	-	liquid	<ul style="list-style-type: none"> <li>Excellent adhesion, glossiness, abrasion-resistance, blocking-resistance property &amp; pasting suitability</li> <li>Mixed solvent of water &amp; alcohol</li> <li>Gloss coating agent for printing paper</li> </ul>	
POLYQUID		Methacrylic acid - ethyl acrylate copolymer	p72	liquid	<ul style="list-style-type: none"> <li>Aqueous dispersion</li> <li>Enteric-soluble coating agent/masking pungency/binder for matrices</li> <li>Corresponding to Pharmacopoeias in the USA, Japan &amp; some product are compatible to the ones in Europe</li> </ul>	
POLYTHICK	Methacrylate/ Acrylates-based	Acrylic resin or acrylic resin solution	p74	liquid	<ul style="list-style-type: none"> <li>Excellent transparency/weather-, heat resistance</li> <li>Tackifier (pressure-sensitive adhesive)</li> <li>For various tapes (surgical, surface protection, electrical insulating, double-sided)/ paper making/automobile interiors/sealant for polypropylene bags</li> </ul>	
HAIRROL UC-4	Poly quarternary ammonium salt of isophoron diisocyanate, butylene glycol & dihydroxy ethyl dimonium methyl sulfate		-	liquid	<ul style="list-style-type: none"> <li>Providing ductile coating film to keep hair setting even at high temperature &amp; humidity</li> <li>Raw material for hair-styling agents</li> <li>In Japan, approved for an exclusive use in cosmetics</li> </ul>	
PERMARIN	Urethane series	Polyurethane emulsion	p74	liquid	<ul style="list-style-type: none"> <li>Resulting coating film has excellent flexibility, water-, adhesion- &amp; chemical resistance</li> <li>Raw material for coatings, ink &amp; adhesives/binder for pigment printing</li> <li>Texture modifier/shrink-resistant finishing agent/imparting elastic repulsion/ pilling preventing agent</li> </ul>	
CHEMITYLEN GA-500			p74	liquid	<ul style="list-style-type: none"> <li>Sizing agent for glass fiber spinning &amp; warping during weaving of glass cloths</li> </ul>	
UCOAT			p74	liquid	<ul style="list-style-type: none"> <li>Forming coating film has excellent yellowing-, water- &amp; chemical-resistance, flexibility &amp; adhesion</li> <li>Resin for aqueous coating materials</li> </ul>	
UPRENE UXA-307			p74	liquid	<ul style="list-style-type: none"> <li>Forming film has excellent adhesion &amp; water-resistance</li> <li>Adhesive for plastics, fabrics &amp; woods/excels in adhesion with PVC sheet &amp; plywood</li> <li>Unavailable for use directly brought into contact with the skins because of containing N-methyl pyrrolidone</li> </ul>	

Continued on the next page →



For adhesive tapes

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
COATRON	Urethane series	Polyurethane solution	p74	liquid	• Resin for coatings	
SANPRENE H			p74	liquid	• Resulting adhesion layer has excellent moisture permeability • Top layer for moisture-permeable & waterproofing fabrics (resulting film has the excellent moisture-permeability)	
SANPRENE IB			p74	liquid	• Resulting coating film has excellent weather-, water-, chemical-, abrasion-, blocking-resistance & adhesion • For resin of special gravure ink	
SANRETAN TIM-2011A		Polyurethane solution (caprolactone type)	-	liquid	• Forming tough film/excellent dispersibility of magnetic powders & hydrolysis resistance • Caprolactone type • Binder for magnetic tapes	
POLYBOND UNOFLEX		Two-component or moisture curing type polyurethane	p74	liquid	• POLYBOND: two-component curing type • UNOFLEX: one-component moisture curing type • Adhesive for dry laminate for food packaging films	
POLYMEDICA		Two-component type polyurethane	-	liquid	• Potting material for dialyzer & water purifiers	
CHEMIOX	Epoxides	Two-component blocked polyurethane resin	-	liquid	• Unblocking & starting curing at 140°C • Resins for anti-corrosion paints for automobiles (for improving adhesion of paints to electrodeposition steel)	
SANMODUR (two-component type)		Two-component curing type epoxy resin	-	liquid, paste	• Resin for models or molds made by cutting or casting from reverse molds in various processes for developing products/mounting & molding resin/adhesive/mounting repairment • Excellent fine structure, dimensional stability, homogeneity, processability, workability/ giving appropriate property according to the application	



For adhesive laminate for food packaging

## 11 Plasticizing/Softening

to increase moldability  
to impart flexibility  
to make soft

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
ECONOL LEBON TM-18, 18PA	Ammonium salt-based cationic surfactants	Alkyltrimethylammonium chloride	p59	liquid, solid	• Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair • Hair conditioner & treatment base	
CATION LQ		Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium	p59	paste	• Imparting excellent moisturizing, antistaticity & tactile property to hair/long-lasting softness & smoothness • Hair conditioner & treatment base/shampoo with built-in conditioner • In Japan, CATION LQ is approved for an exclusive use in cosmetics	
CATION DSV		Distearyldimethylammonium chloride	p59	flake	• Imparting excellent flexibility & antistaticity to hair and fibers • Hair conditioner & treatment base/softener for fabrics	
CATION SF	Imidazolinium salt-based cationic surfactants	Imidazoline compound	p59	liquid to paste	• Imparting excellent flexibility, antistaticity & water-absorbing effect • Softener for fabrics	
CATION G-50	Benzalkonium-based cationic surfactants	Benzalkonium chloride	p60	liquid	• Wide spectrum antibacterial activities • Germicide, detergent for food factory/germicide for industrial use • Hair conditioner & treatment base	
CATION S		Stearyldimethylbenzyl-ammonium chloride	p60	solid	• Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair • Hair conditioner & treatment base	
NEWPOL PE	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p63	liquid, flake, paste	• Low foaming property • Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/ gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent	

















For hair conditioners



For softeners













Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p65	flake	<ul style="list-style-type: none"><li>• Softener, emulsifier, solubilizer, moisturizer &amp; oiliness improver for cosmetics, creams, lotions &amp; quasi drugs</li><li>• Lubricant &amp; stabilizer of sustained drug releasing agents, tablets, pills &amp; capsules of medicine</li></ul>	
IONET S		Sorbitan mono- or di-fatty acid ester	p65	liquid, granule	<ul style="list-style-type: none"><li>• SPAN type lipophilic surfactants derived from plants</li><li>• Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li><li>• Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li></ul>	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid	<ul style="list-style-type: none"><li>• TWEEN type hydrophilic surfactants derived from plants</li><li>• Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li><li>• Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li></ul>	
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"><li>• Derived from plants/no animal ingredients nor genetically-modified ingredients</li><li>• For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li><li>• Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li></ul>	
SANFLEX EB EB-200	Esters	Polyethyleneglycol dibenzoate	p67	liquid	<ul style="list-style-type: none"><li>• Hardly bleeding out</li><li>• Plasticizer</li></ul>	
SANFLEX SK-500, GPA-3000, SPX-80N, LBU-25		(Look at the page by composition)	p67	liquid	<ul style="list-style-type: none"><li>• Inactive to isocyanate</li><li>• SANFLEX GPA-3000 and SPX-80N hardly bleed out because of their blanched structures</li><li>• Plasticizer</li></ul>	
GLYCIALE PP	Epoxides	Polyoxypropylene glycol diglycidyl ether	p67	liquid	<ul style="list-style-type: none"><li>• Imparting flexibility &amp; plasticity to resins</li><li>• Providing rust preventive coating film</li><li>• Raw material for epoxy resins &amp; electrodeposition coatings/resin modifier</li></ul>	
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p68	powder, pellet, etc.	<ul style="list-style-type: none"><li>• Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for cosmetics/abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance &amp; releasability/flatting agent/lubricant/fixing agent for agrichemicals</li></ul>	
VISCOL		Low-molecular-weight polypropylene	p68	powder	<ul style="list-style-type: none"><li>• Moderate hardness, low melt viscosity equivalent to polypropylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigment, filler dispersant/releasing agent for toner/improver for flowability, releasability, softening point &amp; abrasion-resistance/flatting agent/lubricant</li></ul>	
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p69	liquid	<ul style="list-style-type: none"><li>• Imparting long pot life, excellent electrical insulating property, flexibility &amp; bending strength to resins</li><li>• Epoxy curing agent/rust preventive/corrosion inhibitor</li></ul>	
SANAMEEL TAP	Nitrogen-Containing Compounds	Polyetheramine	-	liquid	<ul style="list-style-type: none"><li>• Low viscosity/high reactivity</li><li>• Offering flexible &amp; hydrophilic cured resin</li><li>• Epoxy resin curing agent/raw material for epoxy resin emulsion</li></ul>	
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"><li>• Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>• Low acute toxicity/low irritancy to eyes &amp; skins</li><li>• Widely used in various applications</li></ul>	
MACROGOL			p70	liquid, flake, powder, paste	<ul style="list-style-type: none"><li>• Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>• Corresponding to the Japanese Pharmacopoeias &amp; Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li><li>• Base material for ointments &amp; suppositories/lubricant &amp; binder for tablets or capsules/plasticizer &amp; solubilizer for manufacturing medicine</li></ul>	
SANNIX GP, GH		Polyoxypropylene triol	p71	liquid	<ul style="list-style-type: none"><li>• Offering a wide selection of molecular weight</li><li>• The resulting foam has ideal balance of properties</li><li>• Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li></ul>	



For plastics or rubbers








For ointment

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
SANNIX PL-2100	Polyols	Polyoxyethylene polyoxypropylene glycol	p70	liquid		• Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants)	
SANNIX PP, TP-400		Polyoxypropylene glycol/ Trimethylolpropane-based polyether polyol	p71	liquid			
NEWPOL BP		Bisphenol A-propylene oxide adduct	p70	liquid		• Resulting resin has excellent corrosion resistance & flexibility • Raw material for resins, organic-intermediate/modifier for resin	
NEWPOL BPE		Bisphenol A-ethylene oxide adduct	p70	liquid, block, etc.			
PRIMEPOL		Polyoxypropylene glycol or triol	p71	liquid		• Excellent reactivity because of its high ratio of primary hydroxyl group with approx. 70mol %/ compatible water resistant which is a conflicting performance • Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants)	
MELPOL F-220		Isocyanate modified polyether	-	pellet		• Aqueous solution has surface activating ability/forming flexible & elastic film • Decomposing thermally at relatively low temperature & hardly-leaving ash after incineration • Sizing agent for glass-fibers (warp-yarn)/water-soluble polymer	
METHACRYLATE	Methacrylate/Acrylate-based	Long-chain alkyl methacrylate or dialkylaminoalkyl methacrylate derivatives	p73	liquid		• Good copolymerizability with other vinyl monomers • Polymer modifier/imparting hydrophilicity, antistatic or adsorptive property/drainage & retention aid in paper making processes/polymer flocculant/electrodialysis or reverse osmosis membrane/ion-exchange resin/paper strengthening agent	
PERMARIN	Urethane series	Polyurethane emulsion	p74	liquid		• Resulting coating film has excellent flexibility, water-, adhesion- & chemical resistance • Raw material for coatings, ink & adhesives/binder for pigment printing • Texture modifier/shrink-resistant finishing agent/imparting elastic repulsion/ pilling preventing agent	
UCOAT			p74	liquid		• Forming coating films has excellent yellowing-, water- & chemical-resistance, flexibility & adhesion • Resin for aqueous coating materials	
SST-1		Urethane modified polyether	-	liquid		• Softener to finish leather in the production of artificial or synthetic leather	

12 Viscosity Controlling


























to thicken/to prevent sagging/to increase liquidity  
to reduce the variation of viscosity with temperature

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
SS-B	Carboxylic-based anionic surfactants	Polycarboxylate	-	liquid		• Preventing viscosity increase of drilling mud & the collapse of unstable strata • Dispersant for drilling mud (stabilization fluid)/wall-building aid	
CARRYBON L-400			p57	liquid		• Providing low-viscosity pigment slurry with high dispersion stability • Dispersant for pigment slurry of water-soluble or emulsion coatings	
SANCARRIER No.5L		Mixture of acrylic polymer & sodium aluminate	-	liquid		• Preventing degradation & viscosity increase of drilling mud • Dispersant for bentonite muds (drilling mud)	
PROFAN	Amide-based nonionic surfactants	Alkylol amide based surfactants	p60	liquid, solid, flake		• Foaming agent, foam stabilizer, thickener & detergency enhancer for shampoos, liquid detergents & bactericidal detergents/rust preventive	
EMULMIN CC	Ether-based nonionic surfactants	Polyoxyethylene cetyl ether derived from natural higher alcohols	p62	solid, wax		• Hardly hydrolyzed even in the presence of acidity or alkalinity • Emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant	







Continued on the next page →



To control viscosity of liquids

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
NEWDET PE-85	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p63	petrolatum jelly		<ul style="list-style-type: none"><li>• Corresponding to Japanese Pharmaceutical Excipients</li><li>• Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent)</li><li>• Cleaning agent for medical equipment</li></ul>	
NEWPOL PE	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p63	liquid, flake, paste		<ul style="list-style-type: none"><li>• Low foaming property</li><li>• Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li></ul>	
EMULMIN LS, NL, L		Polyoxyethylene lauryl ether derived from natural higher alcohols	p64	liquid, solid to paste		<ul style="list-style-type: none"><li>• Hardly hydrolyzed even in the presence of acidity or alkalinity</li><li>• Detergent/emulsifier for creams &amp; lotions/solubilizer/gelling &amp; foaming agent/dispersant</li><li>• EMULMIN NL, L can be emulsifiers for emulsion polymerization</li></ul>	 
NEWPOL DDE-10		Polyoxyethylene lauryl glycol	p61	paste		<ul style="list-style-type: none"><li>• Alkanediol derivative of dodecanediol in which about 1 mol ethylene oxide is adducted in average</li><li>• Low irritancy to eyes &amp; skins</li><li>• Antibacterial-, antifungal-, thickening agent for hair shampoos, conditioners, cosmetics &amp; detergents</li></ul>	
NEWPOL 50HB, 75H-90000, LB, NSQ, V		(Look at the page by composition)	p62 p63 p64	liquid		<ul style="list-style-type: none"><li>• Offering a wide selection from water-soluble to -insoluble products</li><li>• Wetting agent, moisturizer &amp; viscosity controller for cosmetics/releasing lubricant/lubricant for machinery, metals &amp; fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery &amp; metals/emulsion-breaker/heating-medium</li></ul>	
NEWPOL GEP-2800, TL		(Look at the page by composition)	p63	liquid		<ul style="list-style-type: none"><li>• Excellent lubricating effect to skin &amp; hair</li><li>• Wetting agent, moisturizer &amp; viscosity modifier for cosmetics/defoaming agent</li></ul>	
VISRIZER AP-2		Modified polyether type resin	-	liquid		<ul style="list-style-type: none"><li>• Excellent thickening property in small amount/aqueous solution type</li><li>• Giving almost no thixotropic property</li><li>• Thickening agent</li></ul>	 
EMULMIN 862		Polyoxyethylene distearate	p64	powder		<ul style="list-style-type: none"><li>• Thickener, gelling agent for cosmetics, shampoos &amp; hair conditioners</li></ul>	
IONET S	Ester-based nonionic surfactants	Sorbitan mono- or di-fatty acid ester	p65	liquid, granule		<ul style="list-style-type: none"><li>• SPAN type lipophilic surfactants derived from plants</li><li>• Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li><li>• Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li></ul>	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid		<ul style="list-style-type: none"><li>• TWEEN type hydrophilic surfactants derived from plants</li><li>• Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li><li>• Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li></ul>	  
POLYSORBATE 80		Modified sorbitan	-	liquid		<ul style="list-style-type: none"><li>• Derived from plants/no animal ingredients nor genetically-modified ingredients</li><li>• For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li><li>• Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li></ul>	
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p68	powder, pellet, etc.		<ul style="list-style-type: none"><li>• Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for cosmetics/abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance &amp; releasability/flatting agent/lubricant/fixing agent for agrichemicals</li></ul>	   
VISCOL		Low-molecular-weight polypropylene	p68	powder		<ul style="list-style-type: none"><li>• Moderate hardness, low melt viscosity equivalent to polypropylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigment, filler dispersant/releasing agent for toner/improver for flowability, releasability, softening point &amp; abrasion-resistance/flatting agent/lubricant</li></ul>	  
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p69	liquid		<ul style="list-style-type: none"><li>• Imparting long pot life, excellent electrical insulating property, flexibility &amp; bending strength to resins</li><li>• Epoxy curing agent/rust preventive/corrosion inhibitor</li></ul>	 
SANTHIXO 5001	Nitrogen-Containing Compounds	Higher fatty acid bisamide	p69	paste		<ul style="list-style-type: none"><li>• Anti-sagging agent for coatings</li></ul>	











Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"><li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>Low acute toxicity/low irritancy to eyes &amp; skins</li><li>Widely used in various applications</li></ul>	
MACROGOL			p70	liquid, flake, powder, paste	<ul style="list-style-type: none"><li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>Corresponding to the Japanese Pharmacopoeias &amp; Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li><li>Base material for ointments &amp; suppositories/lubricant &amp; binder for tablets or capsules/plasticizer &amp; solubilizer for manufacturing medicine</li></ul>	
ACLUBE	Methacrylate/Acrylate-based	Methacrylate copolymer & refined mineral oil	p72	liquid	<ul style="list-style-type: none"><li>Contributing to a reduction of fuel consumption to reduce the viscosity of lubricant depending on temperature</li><li>Viscosity Index Improver/Viscosity Modifier (VII/VM) or pour point depressant for lubricants, hydraulic &amp; engine oils/dewaxing aid during the production of lubricants</li></ul>	
SACRIS		Water soluble acrylic polymer (ultrahigh molecular weight)	-	powder	<ul style="list-style-type: none"><li>Offering anionic, cationic &amp; amphoteric polymer</li><li>Thickener/gelling agent/flocculant/wastewater treatment/sizing-agent in paper making/sealant/excipient for dehumidifiers/sludge solidifying agent/seed binder for slope greening/soil modifier</li></ul>	
SANDEWAX		Higher alkyl acrylate polymer	-	solid	<ul style="list-style-type: none"><li>Improving filtering speed</li><li>Dewaxing aid in producing lubricants</li></ul>	
SANFRESH		Cross-linked acrylic acid polymer sodium salt	p72	powder	<ul style="list-style-type: none"><li>Crushed particulate superabsorbent polymer</li><li>Water absorbent &amp; retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for cosmetics &amp; medical use/thickener/ice packs</li></ul>	



For fuel-saving engine oils

13 Antistatic

to avoid accumulating static electricity and dust  
to prevent malfunction or trouble due to static electricity

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
PELESTAT PELECTRON	Olefin or Nylon-based compounds	Proprietary block copolymer	-	pellet	<ul style="list-style-type: none"><li>Imparting long-lasting excellent antistatic property independent of humidity</li><li>Permanent antistatic agent for resins (preventing dust adhesion &amp; troubles by static electricity, destruction of electronic circuit, electric shock &amp; appliance malfunctions, etc.)</li><li>Causing almost no resin deterioration/especially PELECTRON shows lower resistivity</li></ul>	
CHEMISTAT	Anionic or nonionic surfactants	Proprietary nonionic surfactant	-	liquid, powder, etc.	<ul style="list-style-type: none"><li>Antistatic agent for synthetic resins</li><li>Offering coating, kneading or reactive type</li></ul>	
SANSTAT 2012A	Cationic surfactants	Proprietary cationic surfactant	-	liquid	<ul style="list-style-type: none"><li>Coating type antistatic agent for synthetic resins</li></ul>	
ECONOL LEBON TM-18, 18PA	Ammonium salt-based cationic surfactants	Alkyltrimethylammonium chloride	p59	liquid, solid	<ul style="list-style-type: none"><li>Imparting smoothness, pliability &amp; tenseness-stiffness finished feeling to hair</li><li>Hair conditioner &amp; treatment base</li></ul>	
CATION DSV		Distearyldimethylammonium chloride	p59	flake	<ul style="list-style-type: none"><li>Imparting excellent flexibility &amp; antistaticity to hair and fibers</li><li>Hair conditioner &amp; treatment base/softener for fabrics</li></ul>	
CATION LQ		Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium	p59	paste	<ul style="list-style-type: none"><li>Imparting excellent moisturizing, antistaticity &amp; tactile property to hair/long-lasting softness &amp; smoothness</li><li>Hair conditioner &amp; treatment base/shampoo with built-in conditioner</li><li>In Japan, CATION LQ is approved for an exclusive use in cosmetics</li></ul>	
CATION SF	Imidazolinium salt-based cationic surfactants	Imidazoline compound	p59	liquid to paste	<ul style="list-style-type: none"><li>Imparting excellent flexibility, antistaticity &amp; water-absorbing effect</li><li>Softener for fabrics</li></ul>	
CATION S	Benzalkonium-based cationic surfactants	Stearyldimethylbenzyl-ammonium chloride	p60	solid	<ul style="list-style-type: none"><li>Imparting smoothness, pliability &amp; tenseness-stiffness finished feeling to hair</li><li>Hair conditioner &amp; treatment base</li></ul>	






For protective films




To prevent dust



To avoid static electricity by brushing

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
NEWPOL PE	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p63	liquid, flake, paste		<ul style="list-style-type: none"><li>• Low foaming property</li><li>• Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li></ul>	
SIPA, SIPE-40L, SIPM	Sodium-5-sulphoisophthalic acid/Ethylene glycol solution of 1,3-Benzendicarboxylic acid, 5-sulfo-, 1-3-bis (2-hydroxyethyl) esters, monosodium salts/5-Sodium sulfo dimethyl isophthalate		p68/-	granule, liquid, powder		<ul style="list-style-type: none"><li>• Imparting cationic dyability, hydrophilicity &amp; antistatic property to polymers such as polyester, polyurethane &amp; polyamide</li></ul>	
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder		<ul style="list-style-type: none"><li>• Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>• Low acute toxicity/low irritancy to eyes &amp; skins</li><li>• Widely used in various applications</li></ul>	

14 Electrical Conductive to conduct electricity







Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
SANELEK	Nitrogen-Containing Compounds	Amidine based electrolyte	-	liquid		<ul style="list-style-type: none"><li>• Significant high degree of ionic dissociation/high electric conductivity</li><li>• High durability (less temperature-dependency of electric conductivity)</li><li>• Electrolyte for aluminum electrolytic capacitors</li></ul>	



For aluminum electrolytic capacitors

15 Water Absorbent/Water Retentive to absorb and keep or hold liquid (water)

Beside, our subsidiary & affiliate; SDP Global Co., Ltd. also provides related products (p91)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
SANNIX PRIMEPOL	Polyols	Proprietary polyether polyol or polymer polyol	p69 p70 p71	liquid		<ul style="list-style-type: none"><li>• PRIMEPOL has excellent reactivity because of its high ratio of primary hydroxyl group with approx. 70mol %/compatible water resistant which is a conflicting performance</li><li>• Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li></ul>	
SACRIS	Methacrylate/Acrylate-based	Water soluble acrylic polymer (ultrahigh molecular weight)	-	powder		<ul style="list-style-type: none"><li>• Offering anionic, cationic &amp; amphoteric polymer</li><li>• Thickener/gelling agent/flocculant/wastewater treatment/sizing-agent in paper making/sealant/excipient for dehumidifiers/sludge solidifying agent/seed binder for slope greening/soil modifier</li></ul>	
AQUAPEARL		Cross-linked acrylic acid polymer sodium salt	p72	powder		<ul style="list-style-type: none"><li>• Aggregated spherical particles of superabsorbent polymers</li><li>• Water absorbing agent/hygroscopic agent/anti-dew material/water-retention agent/gelling agent/thickener</li></ul>	
SANWET IM		(SANWET IM: Starch/acrylic acid graft copolymer sodium salt)	p72	powder		<ul style="list-style-type: none"><li>• Crushed particulate superabsorbent polymer/high water-absorbency, retentivity</li><li>• Corresponding to Japanese Pharmaceutical Excipients</li><li>• Thickener, gelling, absorbing agent for wound dressing, under pads, poultices or other supplies for medical use</li></ul>	
SANFRESH			p72	powder		<ul style="list-style-type: none"><li>• Crushed particulate superabsorbent polymer</li><li>• Water absorbent &amp; retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for cosmetics &amp; medical use/thickener/ice packs</li></ul>	
SANYO SEEDBED	Methacrylate/Acrylate-based	Cross-linked acrylic acid polymer sodium salt	-	sheet		<ul style="list-style-type: none"><li>• Seeding sheet for reducing soil of nursery beds</li></ul>	









Absorbs several hundred times its own weight of water



For cat litters

16 Sealing/Waterproofing to prevent the passage or entry of water

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANNIX PRIMEPOL	Polyols	Proprietary polyether polyol or polymer polyol	p69 p70 p71	liquid	<ul style="list-style-type: none"><li>PRIMEPOL has excellent reactivity because of its high ratio of primary hydroxyl group with approx. 70mol %/compatible water resistant which is a conflicting performance</li><li>Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li></ul>	 
SACRIS	Methacrylate/Acrylate-based	Water soluble acrylic polymer (ultrahigh molecular weight)	-	powder	<ul style="list-style-type: none"><li>Offering anionic, cationic &amp; amphoteric polymer</li><li>Thickener/gelling agent/flocculant/wastewater treatment/sizing-agent in paper making/sealant/excipient for dehumidifiers/sludge solidifying agent/seed binder for slope greening/soil modifier</li></ul>	
SANFRESH		Cross-linked acrylic acid polymer sodium salt	p72	powder	<ul style="list-style-type: none"><li>Crushed particulate superabsorbent polymer</li><li>Water absorbent &amp; retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for cosmetics &amp; medical use/thickener/ice packs</li></ul>	
CHEMIGUARD	Urethane series	Urethane prepolymer, solution	-	liquid, paste	<ul style="list-style-type: none"><li>Water-swellable sealant</li><li>CHEMIGUARD THINNER is also lined up as a diluent</li></ul>	
DOUBLE COAT S	Epoxides	Two-component type (main and curing agent) of reactive polymer	-	emulsion, powder	<ul style="list-style-type: none"><li>Forming a water-proof layer with excellent durability &amp; chemical resistance</li><li>Excellent adhesion &amp; workability</li><li>Permeable coating agent for water-proofing concrete</li></ul>	








For waterproofing for roofs



For sealants

17 Cold or Heat Insulating to keep cold/to prevent heat transmission to store heat

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
NEWPOL 50HB, 75H-90000, LB, NSQ, V	Ether-based nonionic surfactants	(Look at the page by composition)	p62 p63 p64	liquid	<ul style="list-style-type: none"><li>Offering a wide selection from water-soluble to -insoluble products</li><li>Wetting agent, moisturizer &amp; viscosity controller for cosmetics/releasing lubricant/lubricant for machinery, metals &amp; fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery &amp; metals/emulsion-breaker/heating-medium</li></ul>	
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"><li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>Low acute toxicity/low irritancy to eyes &amp; skins</li><li>Widely used in various applications</li></ul>	
SANNIX PRIMEPOL		Proprietary polyether polyol or polymer polyol	p69 p70 p71	liquid	<ul style="list-style-type: none"><li>PRIMEPOL has excellent reactivity because of its high ratio of primary hydroxyl group with approx. 70mol %/compatible water resistant which is a conflicting performance</li><li>Raw material for polyurethane foam &amp; resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li></ul>	 
SANFRESH	Methacrylate/Acrylate-based	Cross-linked acrylic acid polymer sodium salt	p72	powder	<ul style="list-style-type: none"><li>Crushed particulate superabsorbent polymer</li><li>Water absorbent &amp; retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for cosmetics &amp; medical use/thickener/ice packs</li></ul>	



For heat insulators of refrigerators








For heat insulators for houses



For ice packs

18 Antibacterial to destroy bacteria or suppress of their growth

As for the antibacterial agents for drugs or quasi-drugs use, please contact to our Sales & Marketing Dept.






Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
OSMORIN DA-50	Ammonium salt-based cationic surfactants	Didecyldimethylammonium adipate	p59	liquid	<ul style="list-style-type: none"><li>Halogen-free</li><li>Germicide for industrial use (food factory, fiber processing), detergent for food factory/wood &amp; metal-cleaning-bath preservative</li></ul>	  
CATION DDC		Didecyldimethyammonium chloride	p59	liquid	<ul style="list-style-type: none"><li>Wide spectrum antibacterial activities</li><li>Germicide, detergent for food factory/slime- &amp; algae-controlling agent/wood preservation/antifungal for coating</li></ul>	 



For disinfectants

Continued on the next page →



Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
LEBON TM-16, TM-16MS	Ammonium salt-based cationic surfactants	Cetyltrimethylammonium -chloride, -methyl sulfate	p59	liquid		<ul style="list-style-type: none"><li>• Having antibacterial &amp; antifungal effect even at low concentration</li><li>• For industrial use such as germicides for food factory, public facilities/slime control of coolant/antibacterial treatment for fibers/fungicide for coatings/wood preservation</li></ul>	
CATION G-50	Benzalkonium-based cationic surfactants	Benzalkonium chloride	p60	liquid		<ul style="list-style-type: none"><li>• Wide spectrum antibacterial activities</li><li>• Germicide, detergent for food factory/germicide for industrial use</li><li>• Hair conditioner &amp; treatment base</li></ul>	
LEBON S, T-2	Amino acid-type amphoteric surfactants	Dodecylaminoethylaminoethyl-glycine/Alkyldiaminoethyl-glycine hydrochloride	p66	liquid, solid		<ul style="list-style-type: none"><li>• Wide spectrum antibacterial activities/little deterioration of germicidal activity even in the presence of proteins</li><li>• Lower oval toxicity &amp; skin irritancy compared to cationic antibacterial agents</li><li>• Germicides &amp; detergents for food factory (industrial use)</li></ul>	
NEWPOL DDE-10	Ether-based nonionic surfactants	Polyoxyethylene lauryl glycol	p61	paste		<ul style="list-style-type: none"><li>• Alkanediol derivative of dodecanediol in which about 1 mol ethylene oxide is adducted in average</li><li>• Low irritancy to eyes &amp; skins</li><li>• Antibacterial-, antifungal-, thickening agent for hair shampoos, conditioners, cosmetics &amp; detergents</li></ul>	
NEWPOL EFP		Phenoxyethanol	p61	liquid		<ul style="list-style-type: none"><li>• Excellent solubility of fats &amp; oils</li><li>• Solvent of cosmetics, detergents/preservative for cosmetics</li></ul>	












Without treatment



With treatment

19 Rust Preventive

to avoid rusting

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
HIGHCLEAN	Anionic surfactants	Compound of lubricant & proprietary antibacterial surfactant	-	liquid (possibly jelly in winter)		<ul style="list-style-type: none"><li>• Chlorine free</li><li>• Imparting excellent cutting processability/anti-septicity</li><li>• Water-soluble cutting oil</li></ul>	
SANHIBITOR	Anionic or nonionic surfactants	Proprietary anionic or nonionic surfactant	-	liquid, paste		<ul style="list-style-type: none"><li>• Rust inhibitor for machinery &amp; metals</li></ul>	
	Acids/Acid Anhydrides	Alkenylsuccinic acid ester or Alkenylsuccinic anhydride	p68				
PROFAN	Amide-based nonionic surfactants	Alkylol amide based surfactants	p60	liquid, solid, flake		<ul style="list-style-type: none"><li>• Foaming agent, foam stabilizer, thickener &amp; detergency enhancer for shampoos, liquid detergents &amp; bactericidal detergent/rust preventive</li></ul>	
IONET S	Ester-based nonionic surfactants	Sorbitan mono- or di-fatty acid ester	p65	liquid, granule		<ul style="list-style-type: none"><li>• SPAN type lipophilic surfactants derived from plants</li><li>• Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent</li><li>• Viscosity modifier for coatings &amp; ink/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li></ul>	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p65	liquid		<ul style="list-style-type: none"><li>• TWEEN type hydrophilic surfactants derived from plants</li><li>• Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent &amp; softener for fibers/lubricant/machining oil/metalworking oil</li><li>• Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings &amp; ink</li></ul>	
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p69	liquid		<ul style="list-style-type: none"><li>• Imparting long pot life, excellent electrical insulating property, flexibility &amp; bending strength to resins</li><li>• Epoxy curing agent/rust preventive/corrosion inhibitor</li></ul>	
POLYIMIDE L	Nitrogen-Containing Compounds	Polyamideamine	p69	liquid		<ul style="list-style-type: none"><li>• Cured epoxy resin has rust prevention, excellent adhesion, toughness &amp; flexibility</li><li>• Curing agent for epoxy resin used to coatings, adhesives, civil engineering &amp; construction, laminating &amp; casting materials, etc.</li></ul>	
BFA-3	Non-disclosure	Proprietary compound	-	liquid		<ul style="list-style-type: none"><li>• Imparting antioxidative &amp; rust inhibiting properties</li><li>• Additive for brake fluids</li></ul>	





Without rust preventive



With rust preventive

20 Deterioration Preventive


to suppress undesirable reactions  
such as oxidation, combustion reactions &  
decomposition

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
BFA-3	Non-disclosure	Proprietary compound	-	liquid		<ul style="list-style-type: none"><li>Imparting antioxidative &amp; rust inhibiting properties</li><li>Additive for brake fluids</li></ul>	
TENKAZAI Y-24	Polyols	Phosphorus-containing polyol	-	liquid		<ul style="list-style-type: none"><li>Less deterioration of flame-retardant with time (low bleed-out property) because of the active hydrogen group to react isocyanate</li><li>Flame-retardant for rigid polyurethane foam</li></ul>	












21 Reaction Accelerating

to accelerate intend reactions

Beside, our subsidiary & affiliate; San-Apro Ltd. also provides related products (p91)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
SERABON DH-505	Anionic surfactants	Proprietary anionic surfactant	-	liquid		<ul style="list-style-type: none"><li>Dehydration promoting agent for metal sulfide concentration</li></ul>	

22 Other Functions

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)		Uses & Features (of all functions)	Major Applications
EMULMIN No.	Ether-based nonionic surfactants	Polyoxyethylene alkyl ether derived from natural higher alcohols	p61	liquid, solid, paste		<ul style="list-style-type: none"><li>Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable</li><li>Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/ gelling, foaming &amp; wetting agent/oiliness improver</li><li>Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent</li></ul>	
SANTOPEARL GE-70	Ester-based nonionic surfactants	Ethylene glycol distearate	p64	flake		<ul style="list-style-type: none"><li>Pearling agent for shampoos</li></ul>	
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p68	powder, pellet, etc.		<ul style="list-style-type: none"><li>Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for cosmetics/abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance &amp; releasability/ flattening agent/lubricant/fixing agent for agrichemicals</li></ul>	 
VISCOL		Low-molecular-weight polypropylene	p68	powder		<ul style="list-style-type: none"><li>Moderate hardness, low melt viscosity equivalent to polypropylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigment, filler dispersant/releasing agent for toner/improver for flowability, releasability, softening point &amp; abrasion-resistance/flattening agent/lubricant</li></ul>	 
SIPA, SIPE-40L, SIPM	Sodium-5-sulphoisophthalic acid/ Ethylene glycol solution of 1,3-Benzendicarboxylic acid, 5-sulfo-, 1-3-bis (2-hydroxyethyl) esters, monosodium salts/ 5-Sodium sulfo dimethyl isophthalate		p68/ -	granule, liquid, powder		<ul style="list-style-type: none"><li>Imparting cationic dyability, hydrophilicity &amp; antistatic property to polymers such as polyester, polyurethane &amp; polyamide</li></ul>	
PEG	Polyols	Polyethylene glycol	p70	liquid, wax, paste, flake, powder		<ul style="list-style-type: none"><li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li><li>Low acute toxicity/low irritancy to eyes &amp; skins</li><li>Widely used in various applications</li></ul>	  
POLYQUID	Methacrylate/Acrylate-based	Methacrylic acid - ethyl acrylate copolymer	p72	liquid		<ul style="list-style-type: none"><li>Aqueous dispersion</li><li>Enteric-soluble coating agent/masking pungency/binder for matrices</li><li>Corresponding to Pharmacopoeias in the USA, Japan &amp; some product are compatible to the ones in Europe</li></ul>	


















## 23 For Reacting/Forming

Raw materials for synthesis, polymerization reactions,  
excipients, forming or shaping

Beside, our subsidiary &amp; affiliate; San-Petrochemicals Co., Ltd. also provides related products (p91)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
TOXANON	Polycarboxylate	Excipient	-	liquid	<ul style="list-style-type: none"> <li>Imparting excellent spreading property to agrichemical granules</li> <li>Excellent binding property/enhancing hardness of granules</li> <li>Dispersant &amp; binder for agrichemical granules</li> </ul>	
SANMORIN OT	Sodium dioctyl sulfosuccinate	Excipient	p57	liquid	<ul style="list-style-type: none"> <li>Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- &amp; penetrating agent/dispersant &amp; binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization</li> <li>Suitable for aqueous (water-soluble, emulsion) coatings</li> </ul>	
NEWDET PE-85	Polyoxyethylene polyoxypropylene glycol	Excipient	p63	petrolatum jelly	<ul style="list-style-type: none"> <li>Corresponding to Japanese Pharmaceutical Excipients</li> <li>Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent)</li> <li>Cleaning agent for medical equipment</li> </ul>	
NEWPOL PE		Synthesis, Excipient	p63	liquid, flake, paste	<ul style="list-style-type: none"> <li>Low foaming property</li> <li>Detergent base/detergent/raw-material for quasi-drugs (wetting agent/solubilizer/gelling agent/binder/coating agent, etc.)/fiber treating agent (lubricant/desizing agent)/emulsifier/dispersant/solubilizer/antistatic agent</li> </ul>	
NEWPOL 50HB, 75H-90000, LB, NSQ, V	Polyols (Look at the page by composition)	Synthesis, Polymerization	p62 p63 p64	liquid	<ul style="list-style-type: none"> <li>Offering a wide selection from water-soluble to -insoluble products</li> <li>Wetting agent, moisturizer &amp; viscosity controller for cosmetics/releasing lubricant/lubricant for machinery, metals &amp; fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery &amp; metals/emulsion-breaker/heating-medium</li> </ul>	
NEWPOL PP	Polyoxypropylene glycol	Synthesis, Polymerization	p61	liquid	<ul style="list-style-type: none"> <li>Non-volatile/low freezing point</li> <li>Wetting agent &amp; moisturizer for cosmetics/raw material for cosmetics, surfactant &amp; synthetic lubricant/releasing lubricant</li> </ul>	  
NEWPOL GP	Polyoxypropylene triol	Synthesis, Polymerization	p64	liquid		
POLYSORBATE 80	Modified solbitan	Excipient	-	liquid	<ul style="list-style-type: none"> <li>Derived from plants/no animal ingredients nor genetically-modified ingredients</li> <li>For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant)</li> <li>Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> </ul>	
PEG	Polyethylene glycol	Synthesis, Polymerization, Excipient	p70	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Low acute toxicity/low irritancy to eyes &amp; skins</li> <li>Widely used in various applications</li> </ul>	
MACROGOL		Excipient	p70	liquid, flake, powder, paste	<ul style="list-style-type: none"> <li>Compatible with skin/water-soluble &amp; -retainable/non-volatile/free from greasiness</li> <li>Corresponding to the Japanese Pharmacopoeias &amp; Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing)</li> <li>Base material for ointments &amp; suppositories/lubricant &amp; binder for tablets or capsules/plasticizer &amp; solubilizer for manufacturing medicine</li> </ul>	
NEOMER	Acrylate/Methacrylate-monomer (Look at the page by composition)	Polymerization, Film formation	p72 p73	liquid	<ul style="list-style-type: none"> <li>Low odor &amp; low irritancy to skin</li> <li>Providing hard coating film with excellent solvent resistance</li> <li>Monomer for UV, EB curing resin</li> </ul>	 
ACRYLATE SMC-80H	Dimethylaminoethyl acrylate quaternary salt	Polymerization	p72	liquid	<ul style="list-style-type: none"> <li>Monomer for water-soluble cationic polymer/flocculant/papermaking chemicals</li> </ul>	
METHACRYLATE	Long-chain alkyl methacrylate or dialkylaminoalkyl methacrylate derivatives	Polymerization	p73	liquid	<ul style="list-style-type: none"> <li>Good copolymerizability with other vinyl monomers</li> <li>Polymer modifier/imparting hydrophilicity, antistatic or adsorptive property/drainage &amp; retention aid in paper making processes/polymer flocculant/electrodialysis or reverse osmosis membrane/ion-exchange resin/paper strengthening agent</li> </ul>	 
NEWPOL MP-5	Polypropylene glycol monomethacrylate	Polymerization	p73	liquid	<ul style="list-style-type: none"> <li>Containing a hydroxyl- &amp; a methacrylic group in a molecule</li> <li>Resin modifier</li> </ul>	





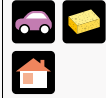














Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
<b>SOFIC W-802</b>	Acrylic resin solution	Polymerization, Film formation	-	liquid	<ul style="list-style-type: none"> <li>Excellent adhesion, glossiness, abrasion-resistance, blocking-resistance property &amp; pasting suitability</li> <li>Mixed solvent of water &amp; alcohol</li> <li>Gloss coating agent for printing paper</li> </ul>	
<b>POLYQUID</b>	Methacrylic acid - ethyl acrylate copolymer	Polymerization, Excipient	p72	liquid	<ul style="list-style-type: none"> <li>Aqueous dispersion</li> <li>Enteric-soluble coating agent/masking pungency/binder for matrices</li> <li>Corresponding to Pharmacopoeias in the USA, Japan &amp; some product are compatible to the ones in Europe</li> </ul>	
<b>GLYCIALE PP</b>	Polyoxypropylene glycol diglycidyl ether	Polymerization, Film formation	p67	liquid	<ul style="list-style-type: none"> <li>Imparting flexibility &amp; plasticity to resins</li> <li>Providing rust preventive coating film</li> <li>Raw material for epoxy resins &amp; electrodeposition coatings/resin modifier</li> </ul>	
<b>VCH</b>	4-Vinyl-1-cyclohexene	Synthesis, Polymerization	p68	liquid	<ul style="list-style-type: none"> <li>Monomer for resins/polymerization</li> <li>Mw 108.2, CAS No. 100-40-3, San-Petrochemicals Co., Ltd.'s products</li> </ul>	
<b>REGIT SM</b>	Styrene-maleic acid ester copolymer	Forming	-	granule	<ul style="list-style-type: none"> <li>Containing carboxyl groups in a molecule</li> <li>Dispersant for pigments &amp; fillers/imparting hardness, abrasion-resistance &amp; leveling property for floor polish coatings</li> </ul>	
<b>SANWAX</b>	Low-molecular-weight polyethylene	Forming, Excipient	p68	powder, pellet, etc.	<ul style="list-style-type: none"> <li>Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for cosmetics/abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance &amp; releasability/flatting agent/lubricant/fixing agent for agrichemicals</li> </ul>	
<b>VISCOL</b>	Low-molecular-weight polypropylene	Forming, Excipient	p68	powder	<ul style="list-style-type: none"> <li>Moderate hardness, low melt viscosity equivalent to polypropylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigment, filler dispersant/releasing agent for toner/improver for flowability, releasability, softening point &amp; abrasion-resistance/flatting agent/lubricant</li> </ul>	
<b>SANNIX AP-470, NE-240, NL</b>	Aliphatic amine-based polyol	Polymerization, Forming, Molding	p69	liquid	<ul style="list-style-type: none"> <li>Low viscosity/high reactivity</li> <li>Raw material for polyurethane foam</li> </ul>	
<b>SANNIX NP-300 NEWPOL NP-300</b>		Polymerization, Forming	p69/ -	liquid	<ul style="list-style-type: none"> <li>Little shrinkage of foaming</li> <li>Raw material for polyurethane foam</li> <li>Cross-linking agent</li> </ul>	
<b>SANNIX HM</b>	Aromatic amine-based polyol	Polymerization, Forming	p70	liquid	<ul style="list-style-type: none"> <li>Good compatibility with aromatic polyisocyanates</li> <li>Resulting foam has excellent compressive strength &amp; dimensional stability with fine-cells</li> <li>Raw material for polyurethane foam (rigid foam for injection panels or boards)</li> </ul>	
<b>MELPOL F-220</b>	Isocyanate modified polyether	Polymerization, Film formation	-	pellet	<ul style="list-style-type: none"> <li>Aqueous solution has surface activating ability/forming flexible &amp; elastic film</li> <li>Decomposing thermally at relatively low temperature &amp; hardly-leaving ash after incineration</li> <li>Sizing agent for glass-fibers (warp-yarn)/water-soluble polymer</li> </ul>	
<b>SANESTER</b>	Alkylene adipates	Polymerization, Film formation, Forming	p69	liquid to paste, solid, etc.	<ul style="list-style-type: none"> <li>Raw material for polyurethane resins (e.g. adhesives, coatings, elastomers &amp; sealants)</li> </ul>	
<b>NEWPOL BP</b>	Bisphenol A-propylene oxide adduct	Polymerization, Forming	p70	liquid	<ul style="list-style-type: none"> <li>Resulting resin has excellent corrosion resistance &amp; flexibility</li> <li>Raw material for resins, organic-intermediate/modifier for resin</li> </ul>	
<b>NEWPOL BPE</b>	Bisphenol A-ethylene oxide adduct	Polymerization, Forming	p70	liquid, block, etc.		
<b>SANNIX HS</b>	Sucrose-based polyether polyol	Polymerization, Forming	p70	liquid	<ul style="list-style-type: none"> <li>Low viscosity</li> <li>Resulting foam has excellent dimensional stability, mechanical properties &amp; heat resistance</li> <li>Raw material for polyurethane foam (high-density rigid foam)</li> </ul>	
<b>SANNIX FA</b>	Proprietary polyether polyol	Polymerization, Forming	-	liquid	<ul style="list-style-type: none"> <li>Offering a wide selection of molecular weight</li> <li>Raw material for polyurethane foam</li> <li>For polyurethane foam from flexible to semi-rigid</li> </ul>	
<b>SANNIX HD-402</b>	Pentaerythritol-based polyetherpolyol	Polymerization, Forming	p71	liquid	<ul style="list-style-type: none"> <li>Excellent mechanical property &amp; heat resistance</li> <li>Raw material for polyurethane foam (high density rigid foam)</li> </ul>	



For sofas

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANNIX PL-2100	Polyoxyethylene polyoxypropylene glycol	Polymerization, Forming	p70	liquid	• Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants)	
SANNIX PF-615	Polyether polyol	Polymerization, Forming	-	liquid	• Excellent flowability • Raw material for polyurethane foam (casting rigid foam)	
ECONIX PF-610	Polyetherpolyol compound	Polymerization, Forming	-	liquid	• Raw material for casting polyurethane foam	
SANNIX GL-3000	Polyoxyetylenepolyoxypropylene triol	Polymerization, Forming	p71	liquid	• High reactivity • Raw material for polyurethane foam (such as flexible mold foam)	
SANNIX GP, GH	Polyoxypropylene triol	Polymerization, Forming	p71/ -	liquid	• Offering a wide selection of molecular weight • The resulting foam has ideal balance of properties • Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants)	
SANNIX PP	Polyoxypropylene glycol	Polymerization, Forming	p71	liquid	• Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants)	
SANNIX SP-750	Polyoxypropylene sorbitol ether	Polymerization, Forming	p71	liquid		
SANNIX TP-400	Trimethylolpropane-based polyether polyol	Polymerization, Forming	p71	liquid		
PRIMEPOL	Polyoxypropylene glycol or triol	Polymerization, Forming	p71	liquid	• Excellent reactivity because of its high ratio of primary hydroxyl group with approx. 70mol %/ compatible water resistant which is a conflicting performance • Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants)	
SANNIX KC	Polyether polyol or polymer polyol	Polymerization, Forming	-	liquid	• Excellent curability and durability (moist heat resistance) • Raw material for polyurethane foam (high-resilient foam)	
SHARFLOW FS-7301	Polymer polyol	Polymerization, Forming	-	liquid	• Resulting foams have high hardness and good physical properties with good breathability • Raw material for flexible slabstock foam	
DSA, PDSA-DA	Alkenyl succinic anhydride	Synthesis, Polymerization	p69	liquid	• Imparting long pot life, excellent electrical insulating property, flexibility & bending strength to resins • Epoxy curing agent/rust preventive/corrosion inhibitor	
SANAMEEL TAP	Polyetheramine	Polymerization	-	liquid	• Low viscosity/high reactivity • Offering flexible & hydrophilic cured resin • Epoxy resin curing agent/raw material for epoxy resin emulsion	
POLYMIDE L	Polyamideamine	Polymerization, Film formation, Forming	p69	liquid	• Cured epoxy resin has rust prevention, excellent adhesion, toughness & flexibility • Curing agent for epoxy resin used to coatings, adhesives, civil engineering & construction, laminating & casting materials, etc.	
POLYMIDE S		Polymerization, Firm formation	p69	powder	• Resulting coating film has excellent water-, chemical-, abrasion-, weather-, oil-, blocking-resistance • Excellent glossiness & adhesion to polyolefin films • Resin for special gravure printing ink	
REACT CA-101	Modified aliphatic polyamine	Polymerization, Firm formation	-	liquid	• Excellent low-temperature curability/hardly susceptible to carbon dioxide & moisture on curing • Epoxy resin curing agent	
GREENMODUR	Polyurethanated product derived from biological materials	Shaping, Forming	-	board	• Tooling material (chemical board) for models or molds in various processes (designing, trial, & production) by cutting & milling • Excellent fine structure, dimensional stability, homogeneity & processability • Using biomass as raw materials	

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
<b>SANMODUR</b>	Synthetic/artificial wood (Polyurethanated product)	Shaping, Forming	-	board	<ul style="list-style-type: none"> <li>Tooling material (chemical board) for models &amp; molds in various processes (designing, trial &amp; production) by cutting &amp; milling</li> <li>Excellent fine structure, dimensional stability, homogeneity &amp; processability/ giving appropriate property according to the application</li> </ul>	
<b>PERMARIN</b>	Polyurethane emulsion	Film formation	p74	liquid	<ul style="list-style-type: none"> <li>Resulting coating film has excellent flexibility, water-, adhesion- &amp; chemical resistance</li> <li>Raw material for coatings, ink &amp; adhesives/binder for pigment printing</li> <li>Texture modifier/shrink-resistant finishing agent/imparting elastic repulsion/ pilling preventing agent</li> </ul>	
<b>UCOAT</b>		Film formation	p74	liquid	<ul style="list-style-type: none"> <li>Forming coating films has excellent yellowing-, water- &amp; chemical-resistance, flexibility &amp; adhesion</li> <li>Resin for aqueous coating materials</li> </ul>	
<b>UPRENE UXA-307</b>		Film formation	p74	liquid	<ul style="list-style-type: none"> <li>Forming film has excellent adhesion &amp; water-resistance</li> <li>Adhesive for plastics, fabrics &amp; woods/excels in adhesion with PVC sheet &amp; plywood</li> <li>Unavailable for use directly brought into contact with the skins because of containing N-methyl pyrrolidone</li> </ul>	
<b>SANFOAM (RC-1026, IC-559)</b>	Two-component type (main and curing agent) of polyurethane	Polymerization, Forming	p74	liquid	<ul style="list-style-type: none"> <li>Raw material for polyurethane foam (cushion for automobiles, etc./cold molding flexible foam)</li> </ul>	
<b>POLYMEDICA</b>	Two-component type polyurethane	Polymerization, Forming	-	liquid	<ul style="list-style-type: none"> <li>Potting material for dialyzer &amp; water purifiers</li> </ul>	
<b>COATRON</b>	Polyurethane solution	Film formation	p74	liquid	<ul style="list-style-type: none"> <li>Resin for coatings</li> </ul>	
<b>SANPRENE H</b>		Film formation	p74	liquid	<ul style="list-style-type: none"> <li>Resulting adhesion layer has excellent moisture permeability</li> <li>Top layer for moisture-permeable &amp; waterproofing fabrics (resulting film has the excellent moisture-permeability)</li> </ul>	
<b>SANPRENE HMP-17A</b>		Film formation	p74	liquid	<ul style="list-style-type: none"> <li>Top layer for moisture-permeable &amp; waterproofing fabrics (resulting film has the excellent moisture-permeability)</li> <li>For resin of artificial leather or synthetic leather</li> </ul>	
<b>SANPRENE IB</b>		Film formation	p74	liquid	<ul style="list-style-type: none"> <li>Resulting coating film has excellent weather-, water-, chemical-, abrasion-, blocking-resistance &amp; adhesion</li> <li>For resin of special gravure ink</li> </ul>	
<b>SANPRENE LQ</b>		Film formation	p74	liquid	<ul style="list-style-type: none"> <li>For resin of artificial leather &amp; synthetic leather</li> <li>Top layer for moisture-permeable &amp; waterproofing fabrics (resulting film has the excellent moisture permeability)</li> </ul>	
<b>THERPUS</b>	Polyurethane beads	Film formation	-	powder	<ul style="list-style-type: none"> <li>Skin material for automobile interiors (polyurethane beads for slush molding)</li> <li>Excellent in flowability, handling performance, moldability, heat-&amp; light resistance</li> </ul>	
<b>SANPRENE FLR-603</b>	Urethane prepolymer	Polymerization, Film formation	p73	liquid	<ul style="list-style-type: none"> <li>Cold curing/resulting coating film has excellent abrasion-resistance</li> <li>For floor coating (especially concrete floor)</li> </ul>	
<b>SANPRENE P</b>		Polymerization, Forming	p73	liquid	<ul style="list-style-type: none"> <li>Resulting elastomer has excellent abrasion resistance, mechanical properties &amp; low permanent compression set</li> <li>For polyurethane elastomer</li> </ul>	
<b>SANPRENE C</b>		Film formation	p73	liquid	<ul style="list-style-type: none"> <li>Resulting coating film has excellent abrasion-, shock-&amp; chemical-resistance, gloss-retention &amp; adhesion</li> <li>One-component moisture curing system</li> <li>Urethane clear lacquer</li> </ul>	
<b>SANPEX PA-55</b>	Glycidyl group-containing acrylic resin	Polymerization, Film formation	-	granule	<ul style="list-style-type: none"> <li>Used in combination with dibasic acid</li> <li>Resulting coating film has excellent pigment dispersibility, weather resistance/glossiness &amp; smoothness</li> <li>Resin for powder coating</li> </ul>	
<b>SANMODUR (two-component type)</b>	Two-component curing type epoxy resin	Polymerization, Forming, Shaping	-	liquid, paste	<ul style="list-style-type: none"> <li>Resin for models or molds made by cutting or casting from reverse molds in various processes for developing products/mounting &amp; molding resin/adhesive/mounting repairment</li> <li>Excellent fine structure, dimensional stability, homogeneity, processability, workability/ giving appropriate property according to the application</li> </ul>	



For tooling material (chemical board) for modeling



For automobile interiors

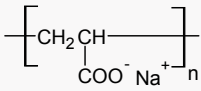
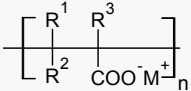


For synthetic leathers

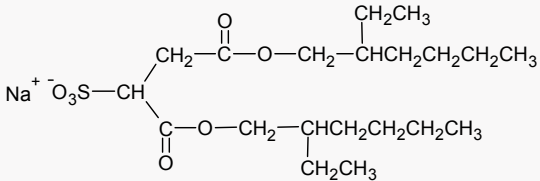


Anionic Surfactants

Carboxylic-based

Composition and Structure	Product Name	Function
Sodium polyacrylate 	ELEMINOL MBN-2	p9 Emulsifying
Sodium polyoxyethylene tridecyl ether carboxylate $C_{13}H_{27}O-(CH_2CH_2O)_n-CH_2COO^-Na^+$	BEAULIGHT ECA	p3 Cleaning p21 Foaming/-stabilizing
Polyoxyethylene lauryl ether carboxylic acid $C_{12}H_{25}O-(CH_2CH_2O)_n-CH_2COOH$	BEAULIGHT LCA-H	p3 Cleaning p21 Foaming/-stabilizing
Sodium polyoxyethylene lauryl ether carboxylate $C_{12}H_{25}O-(CH_2CH_2O)_n-CH_2COO^-Na^+$	BEAULIGHT LCA	p3 Cleaning p21 Foaming/-stabilizing
Polycarboxylate 	CARRYBON L-400	p15 Dispersing p35 Viscosity Controlling
Sodium [(2-hydroxydodecyl)-oxy] acetate $C_{10}H_{21}-CH(OH)CH_2O-CH_2COO^-Na^+$	BEAULIGHT SHAA	p3 Cleaning p21 Foaming/-stabilizing

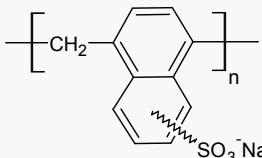
Sulfosuccinate-based

Composition and Structure	Product Name	Function
Disodium laureth sulfosuccinate $C_{12}H_{25}O-C(=O)-CH(SO_3^-Na^+)-CH_2COO^-Na^+$	BEAULIGHT SSS	p3 Cleaning p21 Foaming/-stabilizing
Sodium dioctyl sulfosuccinate 	CARABON DA-72	p5 Wetting/Penetrating p9 Emulsifying p15 Dispersing
	SANSEPARER 100	p15 Dispersing p23 Lubricating/Leveling
	SANMORIN OT	p5 Wetting/Penetrating p9 Emulsifying p15 Dispersing p49 For Reacting/Forming
Disodium polyoxyethylene lauryl sulfosuccinate $C_{12}H_{25}O-(CH_2CH_2O)_n-C(=O)-CH(SO_3^-Na^+)-CH_2COO^-Na^+$	BEAULIGHT LSS	p3 Cleaning p21 Foaming/-stabilizing
Sodium alkyl allyl sulfosuccinate $H_2C=CH-CH_2O-C(=O)-CH(SO_3^-Na^+)-CH_2OCOR$	ELEMINOL JS-20	p9 Emulsifying

Continued on the next page →

Composition and Structure	Product Name	Function
Disodium mono-(lauroylethanolamide polyoxyethylene) sulfosuccinate $C_{11}H_{23}C(=O)-NH-CH_2CH_2O-(CH_2CH_2O)_n-C(=O)-CH(SO_3^-Na^+)-CH_2COO^-Na^+$	BEAULIGHT A-5000	p3 Cleaning p21 Foaming/-stabilizing
Disodium polyoxyethylene alkyl sulfosuccinate $R-O-(CH_2CH_2O)_n-C(=O)-CH(SO_3^-Na^+)-CH_2COO^-Na^+$	BEAULIGHT ESS	p3 Cleaning p21 Foaming/-stabilizing

Sulfonate-based

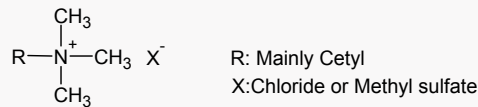
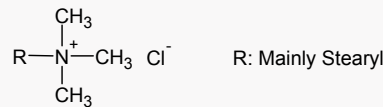
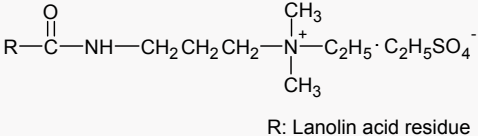
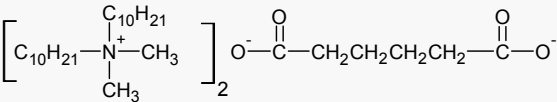
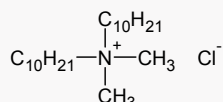
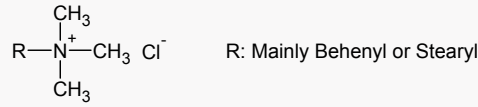
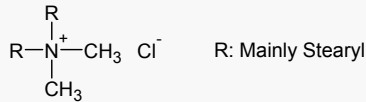
Composition and Structure	Product Name	Function
Sodium naphthalenesulfonate formalin condensate 	SANYO LEVELON PHL	p15 Dispersing

Sulfuric acid ester-based

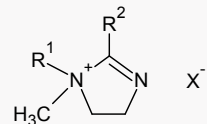
Composition and Structure	Product Name	Function
Sodium 2-ethylhexyl sulfate $CH_3CH_2CH_2CH_2-CH(CH_2CH_3)-CH_2O-SO_3^-Na^+$	SANDET ONA	p9 Emulsifying p15 Dispersing
Polyoxyalkylene alkyl ether ammonium sulfate $R-O-(AO)_n-SO_3^-NH_4^+$ AO: Alkylene oxide	ELEMINOL CLS-20	p9 Emulsifying
Sodium polyoxyethylene alkyl ether sulfate $R-O-(CH_2CH_2O)_n-SO_3^-Na^+$	SANDET END	p3 Cleaning p21 Foaming/-stabilizing
Sodium polyoxyethylene lauryl ether sulfate $C_{12}H_{25}O-(CH_2CH_2O)_n-SO_3^-Na^+$	SANDET EN	p3 Cleaning p9 Emulsifying p21 Foaming/-stabilizing
	BEAULIGHT NA-25S	p3 Cleaning p21 Foaming/-stabilizing
Polyoxyethylene lauryl ether sulfate triethanolamine $C_{12}H_{25}O-(CH_2CH_2O)_n-SO_3H \cdot N-(CH_2CH_2OH)_3$	SANDET ET	p3 Cleaning p21 Foaming/-stabilizing
Methacryloyloxy polyoxypropylene sodium sulfate $H_2C=C(CH_3)-C(=O)O-(CH_2CH(CH_3)-O)_n-SO_3^-Na^+$	ELEMINOL RS-3000	p9 Emulsifying

Cationic Surfactants

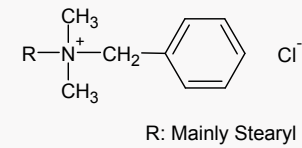
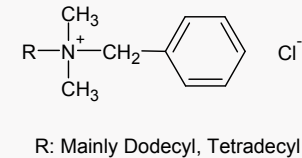
Ammonium salt-based

Composition and Structure	Product Name	Function
<b>Cetyltrimethylammonium chloride, Cetyltrimethylammonium methyl sulfate</b> 	<b>LEBON TM-16, 16MS</b>	p45 <span>Antibacterial</span>
<b>Stearyltrimethylammonium chloride</b> 	<b>LEBON TM-18, 18PA</b>	p23 <span>Lubricating/Leveling</span> p31 <span>Plasticizing/Softening</span> p39 <span>Antistatic</span>
<b>Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium</b> 	<b>CATION LQ</b>	p23 <span>Lubricating/Leveling</span> p31 <span>Plasticizing/Softening</span> p39 <span>Antistatic</span>
<b>Didecyldimethylammonium adipate</b> 	<b>OSMORIN DA-50</b>	p43 <span>Antibacterial</span>
<b>Didecyldimethylammonium chloride</b> 	<b>CATION DDC</b>	p43 <span>Antibacterial</span>
<b>Behenyltrimethylammonium chloride or Stearyltrimethylammonium chloride</b> 	<b>ECONOL</b>	p23 <span>Lubricating/Leveling</span> p31 <span>Plasticizing/Softening</span> p39 <span>Antistatic</span>
<b>Distearyltrimethylammonium chloride</b> 	<b>CATION DSV</b>	p23 <span>Lubricating/Leveling</span> p31 <span>Plasticizing/Softening</span> p39 <span>Antistatic</span>

Imidazolium salt-based

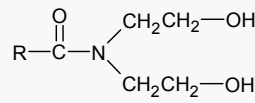
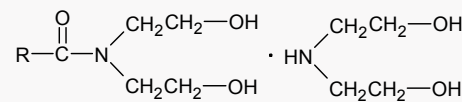
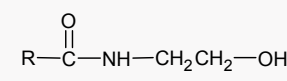
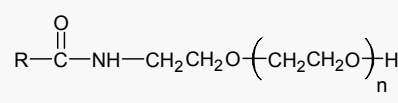
Composition and Structure	Product Name	Function
<b>Imidazoline compound</b> 	<b>CATION SF</b>	p23 <span>Lubricating/Leveling</span> p31 <span>Plasticizing/Softening</span> p39 <span>Antistatic</span>

Benzalkonium-based

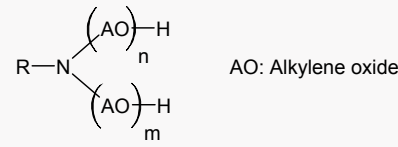
Composition and Structure	Product Name	Function
<b>Stearyltrimethylbenzylammonium chloride</b> 	<b>CATION S</b>	p23 <span>Lubricating/Leveling</span> p31 <span>Plasticizing/Softening</span> p39 <span>Antistatic</span>
<b>Benzalkonium chloride</b> 	<b>CATION G-50</b>	p5 <span>Wetting/Penetrating</span> p31 <span>Plasticizing/Softening</span> p45 <span>Antibacterial</span>

Nonionic Surfactants

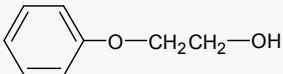
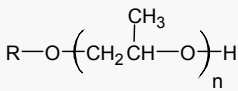
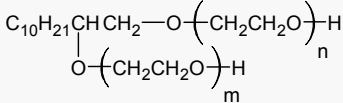
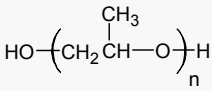
Amide-based

Composition and Structure	Product Name	Function
<b>Alkylol amide based surfactant</b> 	<b>PROFAN 128 EXTRA, AA-62EX, EXTRA 24</b>	p3 <span>Cleaning</span> p21 <span>Foaming/-stabilizing</span> p35 <span>Viscosity Controlling</span> p45 <span>Rust Preventive</span>
<b>Alkylol amide based surfactant</b> 	<b>PROFAN 2012E</b>	p3 <span>Cleaning</span> p21 <span>Foaming/-stabilizing</span> p35 <span>Viscosity Controlling</span> p45 <span>Rust Preventive</span>
<b>Alkylol amide based surfactant</b> 	<b>PROFAN AB-20, SME</b>	p3 <span>Cleaning</span> p21 <span>Foaming/-stabilizing</span> p35 <span>Viscosity Controlling</span> p45 <span>Rust Preventive</span>
<b>Alkylol amide based surfactant</b> 	<b>PROFAN ME-20</b>	p3 <span>Cleaning</span> p21 <span>Foaming/-stabilizing</span> p35 <span>Viscosity Controlling</span> p45 <span>Rust Preventive</span>

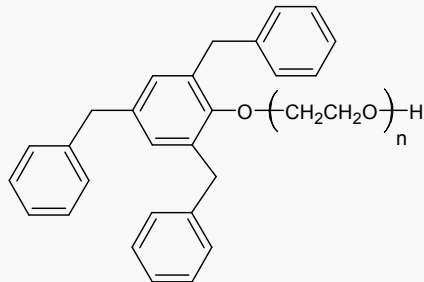
Ether-based (Amine type)

Composition and Structure	Product Name	Function
<b>Polyoxyalkylene alkyl amine</b> 	<b>PUREMEEL</b>	p3 <span>Cleaning</span>
	<b>EMULMIN LCA-10</b>	p3 <span>Cleaning</span> p21 <span>Foaming/-stabilizing</span>

Ether-based

Composition and Structure	Product Name	Function
Phenoxyethanol 	NEWPOL EFP	p13 Solubilizing
		p45 Antibacterial
Polyoxypropylene monobutyl ether 	COLORIN 104	p23 Defoaming
Polyoxyalkylene alkyl ether derived from synthetic alcohols $R-O-(AO)_n-H$ AO: Alkylene oxide	SANNONIC TN	p5 Cleaning
	SEDORAN FF	p5 Cleaning
	NAROACTY CL SANNONIC FN	p3, 5 Cleaning
		p7 Wetting/Penetrating
		p11 Emulsifying
		p17 Dispersing
	NAROACTY ID	p3 Cleaning
	NEWPOL B-12	p7 Wetting/Penetrating
	BLEMBER	p13 Solubilizing
		p23 Lubricating/Leveling
Polyoxyethylene alkyl ether $R-O-(CH_2CH_2O)_n-H$	ELEMINOL 200L	p11 Emulsifying
Polyoxyethylene lauryl glycol derived from synthetic alcohols 	NEWPOL DDE-10	p37 Viscosity Controlling
		p45 Antibacterial
Polyoxypropylene glycol 	NEWPOL PP	p7 Wetting/Penetrating
		p25 Lubricating/Leveling
		p49 For Reacting/Forming
Polyoxyalkylene glycol monoether or borate $R-O-(AO)_n-H$ or $[R-O-(AO)]_{n-3-m}B(OH)_m$ AO: Alkylene oxide	NEWPOL SBF	p13 Solubilizing
Polyoxyalkylene lauryl ether derived from natural higher alcohols $C_{12}H_{25}O-(AO)_n-H$ AO: Alkylene oxide	EMULMIN FL, HL	p3 Cleaning
		p5 Wetting/Penetrating
		p11 Emulsifying
		p13 Solubilizing
		p17 Dispersing
Polyoxyethylene alkyl ether derived from natural higher alcohols $R-O-(CH_2CH_2O)_n-H$	EMULMIN No.	p3 Cleaning
		p5 Wetting/Penetrating
		p9 Emulsifying
		p13 Solubilizing
		p17 Dispersing
		p21 Foaming/-stabilizing
		p47 Other Functions

Continued on the next page →

Composition and Structure	Product Name	Function
Polyoxyalkylene alkyl ether derived from synthetic alcohols <div><math display="block">R-O-(CH_2CH_2O)_n-H</math></div>	SANMORIN 11	p7 <div>Wetting/Penetrating</div>
	SANNONIC DE-70	p5 <div>Cleaning</div>
		p7 <div>Wetting/Penetrating</div>
	SANNONIC SS	p5 <div>Cleaning</div>
		p7 <div>Wetting/Penetrating</div>
		p11 <div>Emulsifying</div>
p17 <div>Dispersing</div>		
Polyoxyethylene alkyl ether with limonene <div><math display="block">R-O-(CH_2CH_2O)_n-H + H_3C-C_6H_9-CH=CH_2</math></div>	CHEMICLEAN DLE-20	p5 <div>Cleaning</div>
Polyoxyethylene cetyl ether derived from natural higher alcohols <div><math display="block">C_{16}H_{33}O-(CH_2CH_2O)_n-H</math></div>	EMULMIN CC	p11 <div>Emulsifying</div>
		p13 <div>Solubilizing</div>
		p17 <div>Dispersing</div>
		p21 <div>Foaming/-stabilizing</div>
		p35 <div>Viscosity Controlling</div>
Polyoxyethylene tribenzyl phenyl ether <div></div>	ELEMINOL HB-29	p11 <div>Emulsifying</div>
Polyoxyethylene polyoxypropylene polyol <div><math display="block">R-\left[ \left( OCH_2CH_2 \right)_n - \left( O-CH_2-\overset{\overset{CH_3}{ }}{CH} \right)_m - OH \right]_x</math></div>	NEWPOL NSQ	p7 <div>Wetting/Penetrating</div>
		p23 <div>Defoaming</div>
		p25 <div>Lubricating/Leveling</div>
		p37 <div>Viscosity Controlling</div>
		p43 <div>Cold or Heat Insulating</div>
		p49 <div>For Reacting/Forming</div>
	NEWPOL V	p7 <div>Wetting/Penetrating</div>
		p23 <div>Defoaming</div>
		p25 <div>Lubricating/Leveling</div>
		p37 <div>Viscosity Controlling</div>
		p43 <div>Cold or Heat Insulating</div>
		p49 <div>For Reacting/Forming</div>

Continued on the next page →



Composition and Structure	Product Name	Function		
<div>Polyoxyethylene polyoxypropylene glycol</div> <div><math display="block">\text{H}-\left(\text{OCH}_2\text{CH}_2\right)_x\left(\text{O}-\text{CH}_2\overset{\text{CH}_3}{\text{CH}}\right)_y\left(\text{OCH}_2\text{CH}_2\right)_z\text{OH}</math></div>	NEWDET PE-85	p7 <div>Wetting/Penetrating</div>		
		p13 <div>Solubilizing</div>		
		p23 <div>Lubricating/Leveling</div>		
		p27 <div>Adhesive</div>		
		p37 <div>Viscosity Controlling</div>		
		p49 <div>For Reacting/Forming</div>		
	NEWPOL PE	p5 <div>Cleaning</div>		
		p7 <div>Wetting/Penetrating</div>		
		p11 <div>Emulsifying</div>		
		p13 <div>Solubilizing</div>		
		p17 <div>Dispersing</div>		
		p23 <div>Lubricating/Leveling</div>		
		p27 <div>Adhesive</div>		
		p31 <div>Plasticizing/Softening</div>		
		p37 <div>Viscosity Controlling</div>		
		p41 <div>Antistatic</div>		
		p49 <div>For Reacting/Forming</div>		
		<div>Polyoxyethylene polyoxypropylene triol</div> <div><math display="block">\begin{array}{c} \text{H}-\left(\text{O}-\text{CH}_2\overset{\text{CH}_3}{\text{CH}}\right)_n-\left(\text{OCH}_2\text{CH}_2\right)_m-\text{O}-\text{CH}_2-\overset{\text{CH}_3}{\text{CH}}-\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_p-\left(\text{CH}_2\overset{\text{CH}_3}{\text{CH}}-\text{O}\right)_q\text{H} \\ \text{H}-\left(\text{O}-\text{CH}_2\overset{\text{CH}_3}{\text{CH}}\right)_x-\left(\text{OCH}_2\text{CH}_2\right)_y-\text{O}-\text{CH}_2-\overset{\text{CH}_3}{\text{CH}}-\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_p-\left(\text{CH}_2\overset{\text{CH}_3}{\text{CH}}-\text{O}\right)_q\text{H} \end{array}</math></div>	NEWPOL GEP-2800	p7 <div>Wetting/Penetrating</div>
				p23 <div>Defoaming</div>
p25 <div>Lubricating/Leveling</div>				
p37 <div>Viscosity Controlling</div>				
<div>Polyoxyethylene polyoxypropylene trimethylolpropane</div> <div><math display="block">\begin{array}{c} \text{H}_2\text{C}-\text{O}-\left(\text{CH}_2\overset{\text{CH}_3}{\text{CH}}-\text{O}\right)_n-\left(\text{CH}_2\text{CH}_2\text{O}\right)_m\text{H} \\ \text{CH}_3\text{CH}_2-\text{C}-\text{CH}_2-\text{O}-\left(\text{CH}_2\overset{\text{CH}_3}{\text{CH}}-\text{O}\right)_p-\left(\text{CH}_2\text{CH}_2\text{O}\right)_q\text{H} \\ \text{H}_2\text{C}-\text{O}-\left(\text{CH}_2\overset{\text{CH}_3}{\text{CH}}-\text{O}\right)_x-\left(\text{CH}_2\text{CH}_2\text{O}\right)_y\text{H} \end{array}</math></div>	NEWPOL TL		p7 <div>Wetting/Penetrating</div>	
		p23 <div>Defoaming</div>		
		p25 <div>Lubricating/Leveling</div>		
		p37 <div>Viscosity Controlling</div>		
<div>Polyoxyethylene polyoxypropylene butyl ether</div> <div><math display="block">\text{C}_4\text{H}_9\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_n-\left(\text{CH}_2\overset{\text{CH}_3}{\text{CH}}-\text{O}\right)_m-\text{H}</math></div>	NEWPOL 50HB	p7 <div>Wetting/Penetrating</div>		
		p23 <div>Defoaming</div>		
		p25 <div>Lubricating/Leveling</div>		
		p37 <div>Viscosity Controlling</div>		
		p43 <div>Cold or Heat Insulating</div>		
<div>Polyoxyethylene polyoxypropylene hexylene glycol ether</div> <div><math display="block">\text{H}-\left(\text{O}-\overset{\text{CH}_3}{\text{CH}}\text{CH}_2\right)_p-\left(\text{OCH}_2\text{CH}_2\right)_q-\text{O}-\text{C}_6\text{H}_{12}-\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_n-\left(\text{CH}_2\overset{\text{CH}_3}{\text{CH}}-\text{O}\right)_m-\text{H}</math></div>	NEWPOL 75H-90000	p7 <div>Wetting/Penetrating</div>		
		p23 <div>Defoaming</div>		
		p25 <div>Lubricating/Leveling</div>		
		p37 <div>Viscosity Controlling</div>		
		p43 <div>Cold or Heat Insulating</div>		
		p49 <div>For Reacting/Forming</div>		

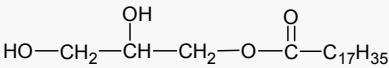
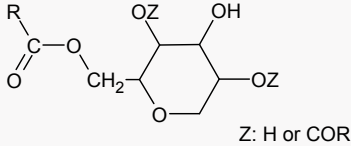
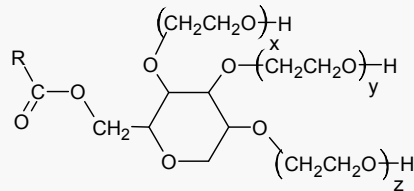
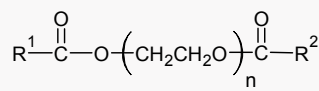
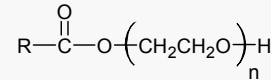
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Composition and Structure	Product Name	Function
Polyoxyethylene lauryl ether derived from natural higher alcohols $\text{C}_{12}\text{H}_{25}\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_n\text{H}$	EMULMIN L	p3 <span>Cleaning</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p21 <span>Foaming/-stabilizing</span>
		p37 <span>Viscosity Controlling</span>
	EMULMIN LS	p3 <span>Cleaning</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p21 <span>Foaming/-stabilizing</span>
		p37 <span>Viscosity Controlling</span>
	EMULMIN NL	p3 <span>Cleaning</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p21 <span>Foaming/-stabilizing</span>
		p37 <span>Viscosity Controlling</span>
	LAUROMACROGOL 100	p5 <span>Cleaning</span>
		p7 <span>Wetting/Penetrating</span>
Polyoxypropylene triol $\begin{array}{c} \text{H}-\left(\text{O}-\underset{\text{CH}_3}{\text{CH}}\text{CH}_2\right)_l-\text{O}-\text{CH}_2-\underset{\text{CH}_3}{\text{CH}}-\text{O}-\left(\text{CH}_2\underset{\text{CH}_3}{\text{CH}}-\text{O}\right)_m\text{H} \\ \text{H}-\left(\text{O}-\underset{\text{CH}_3}{\text{CH}}\text{CH}_2\right)_n-\text{O}-\text{CH}_2-\underset{\text{CH}_3}{\text{CH}}-\text{O}-\left(\text{CH}_2\underset{\text{CH}_3}{\text{CH}}-\text{O}\right)_m\text{H} \end{array}$	NEWPOL GP	p7 <span>Wetting/Penetrating</span>
		p25 <span>Lubricating/Leveling</span>
		p49 <span>For Reacting/Forming</span>
Polyoxypropylene butyl ether $\text{C}_4\text{H}_9\text{O}-\left(\underset{\text{CH}_3}{\text{CH}}\text{CH}_2-\text{O}\right)_n\text{H}$	NEWPOL LB	p7 <span>Wetting/Penetrating</span>
		p23 <span>Defoaming</span>
		p25 <span>Lubricating/Leveling</span>
		p37 <span>Viscosity Controlling</span>
		p43 <span>Cold or Heat Insulating</span>
		p49 <span>For Reacting/Forming</span>

■ Ester-based

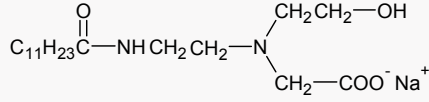
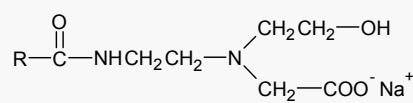
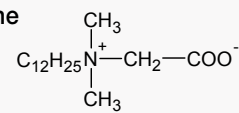
Composition and Structure	Product Name	Function
Ethylene glycol distearate $\text{C}_{17}\text{H}_{35}\text{C}(=\text{O})-\text{O}-\text{CH}_2\text{CH}_2-\text{O}-\text{C}(=\text{O})-\text{C}_{17}\text{H}_{35}$	SANTOPEARL GE-70	p47 <span>Other Functions</span>
Polyoxyethylene distearate $\text{C}_{17}\text{H}_{35}\text{C}(=\text{O})-\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_n-\text{C}(=\text{O})-\text{C}_{17}\text{H}_{35}$	EMULMIN 862	p37 <span>Viscosity Controlling</span>

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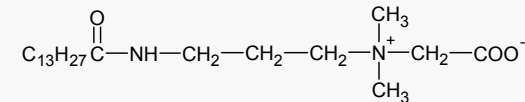
Composition and Structure	Product Name	Function
Glyceryl monostearate 	TG-C	p7 <span>Wetting/Penetrating</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p25 <span>Lubricating/Leveling</span>
		p33 <span>Plasticizing/Softening</span>
Sorbitan mono- or di-fatty acid ester 	IONET S	p7 <span>Wetting/Penetrating</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p23 <span>Defoaming</span>
		p25 <span>Lubricating/Leveling</span>
		p33 <span>Plasticizing/Softening</span>
		p37 <span>Viscosity Controlling</span>
Polyoxyethylene sorbitan monofatty acid ester 	IONET T	p7 <span>Wetting/Penetrating</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p25 <span>Lubricating/Leveling</span>
		p33 <span>Plasticizing/Softening</span>
		p37 <span>Viscosity Controlling</span>
		p45 <span>Rust Preventive</span>
Polyoxyethylene fatty acid diester 	IONET DL-200	p5 <span>Cleaning</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p25 <span>Lubricating/Leveling</span>
	IONET DO, DS	p5 <span>Cleaning</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p25 <span>Lubricating/Leveling</span>
Polyoxyethylene fatty acid monoester 	IONET MO, MS	p5 <span>Cleaning</span>
		p11 <span>Emulsifying</span>
		p13 <span>Solubilizing</span>
		p17 <span>Dispersing</span>
		p25 <span>Lubricating/Leveling</span>

## Amphoteric Surfactants

### Amino Acid-type

Composition and Structure	Product Name	Function
N- lauroyl-N'- carboxymethyl -N'- hydroxyethyl ethylenediamine sodium solution 	LEBON 101-H	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>
Sodium laurylaminodipropionate $C_{12}H_{25}NHCH_2CH_2COO^-Na^+$	LEBON APL	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>
Sodium cocaminopropionate $R-NHCH_2CH_2COO^-Na^+$ R: Coconut fatty acid residue	LEBON APL-D	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>
Alkyl carboxymethyl hydroxyethyl imidazolium betaine 	LEBON 105	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>
	LEBON CIB	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>
Dodecylaminoethylaminoethylglycine $C_{12}H_{25}NHCH_2CH_2NHCH_2CH_2NHCH_2COOH$	LEBON S	p45 <span>Antibacterial</span>
Lauryldimethylaminoacetic acid betaine 	LEBON LD-36	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>
Alkyldiaminoethylglycine hydrochloride $R-NHCH_2CH_2NHCH_2CH_2NHCH_2COOH \quad HCl$ R: Mainly Dodecyl, Tetradecyl	LEBON T-2	p45 <span>Antibacterial</span>

### Betaine-type

Composition and Structure	Product Name	Function
Myristic acid amide propyl betaine 	LEBON MY-30W	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>

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Composition and Structure	Product Name	Function
<b>Coconut oil fatty acid amide propyl betaine</b>  R: Coconut fatty acid residue	<b>LEBON HC-30W, 2000, 2000HG</b>	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>
<b>Lauric acid amidopropyl betaine</b> 	<b>LEBON 2000L</b>	p5 <span>Cleaning</span>
		p21 <span>Foaming/-stabilizing</span>

Functional bases, intermediates, additives

Esters

Composition and Structure	Product Name	Function
<b>Bisphenol-A type unsaturated polyester</b> 	<b>CHEMITYLEN PEB-13ST</b>	p27 <span>Adhesive</span>
<b>Polyethyleneglycol dibenzoate</b> 	<b>SANFLEX EB EB-200</b>	p33 <span>Plasticizing/Softening</span>
<b>Esterified multi-functional polyetherpolyol</b> 	<b>SANFLEX GPA-3000, LBU-25, SPX-80N</b>	p33 <span>Plasticizing/Softening</span>
<b>Polyoxyalkylene monoalkylether acetate</b>  AO: Alkylene oxide	<b>SANFLEX SK-500</b>	p33 <span>Plasticizing/Softening</span>

Epoxides

Composition and Structure	Product Name	Function
<b>Polyoxypropylene glycol diglycidyl ether</b> 	<b>GLYCIALE PP</b>	p33 <span>Plasticizing/Softening</span>
		p51 <span>For Reacting/Forming</span>

Olefin or Styrene-based

Composition and Structure	Product Name	Function
<b>4-Vinyl-1-cyclohexene</b> 	<b>VCH</b>	p51 <span>For Reacting/Forming</span>
<b>Low-molecular-weight polyethylene</b> 	<b>SANWAX</b>	p17 <span>Dispersing</span>
		p25 <span>Lubricating/Leveling</span>
		p33 <span>Plasticizing/Softening</span>
		p37 <span>Viscosity Controlling</span>
		p47 <span>Other Functions</span>
		p51 <span>For Reacting/Forming</span>
<b>Low-molecular-weight polypropylene</b> 	<b>VISCOL</b>	p17 <span>Dispersing</span>
		p25 <span>Lubricating/Leveling</span>
		p33 <span>Plasticizing/Softening</span>
		p37 <span>Viscosity Controlling</span>
		p47 <span>Other Functions</span>
		p51 <span>For Reacting/Forming</span>
<b>Acid modified low-molecular-weight polypropylene</b> 	<b>UMEX</b>	p17 <span>Dispersing</span>
		p27 <span>Adhesive</span>
<b>Low-molecular-weight polystyrene</b> 	<b>HIMER SB</b>	p19 <span>Dispersing</span>
	<b>HIMER ST</b>	p19 <span>Dispersing</span>
	<b>REGIT S-94</b>	p19 <span>Dispersing</span>

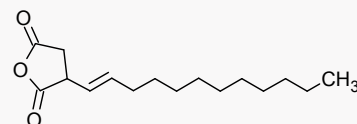
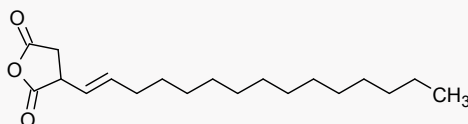
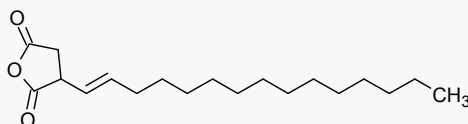
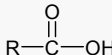
Acids/Acid Anhydrides

Z: Proprietary functional group

Composition and Structure	Product Name	Function
<b>Alkenylsuccinic acid ester</b> 	<b>SANHIBITOR</b>	p45 <span>Rust Preventive</span>
<b>Alkenylsuccinic anhydride</b> 		p45 <span>Rust Preventive</span>
<b>Sodium-5-sulphoisophthalic acid</b> 	<b>SIPA</b>	p41 <span>Antistatic</span>
		p47 <span>Other Functions</span>

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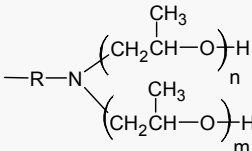
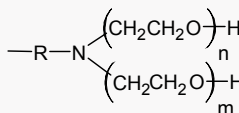
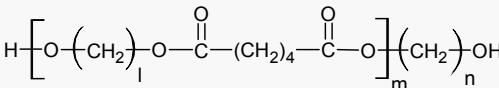
Composition and Structure	Product Name	Function	
Dodecenyl succinic anhydride 	DSA	p27 <div>Adhesive</div>	
		p33 <div>Plasticizing/Softening</div>	
		p37 <div>Viscosity Controlling</div>	
		p45 <div>Rust Preventive</div>	
		p53 <div>For Reacting/Forming</div>	
Pentadecenyl succinic anhydride	PDSA-DA	p27 <div>Adhesive</div>	
		p33 <div>Plasticizing/Softening</div>	
		p37 <div>Viscosity Controlling</div>	
		p45 <div>Rust Preventive</div>	
		p53 <div>For Reacting/Forming</div>	
Fatty acid compound 	SANFRIC	p25 <div>Lubricating/Leveling</div>	

Nitrogen-Containing Compounds

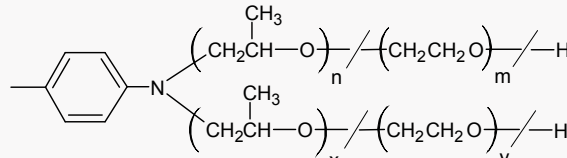
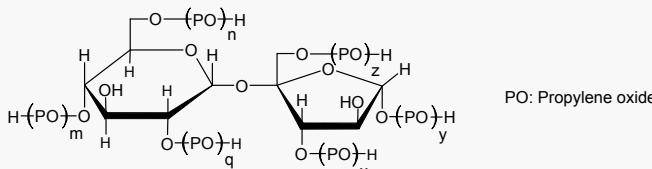
Z: Proprietary functional group

Composition and Structure	Product Name	Function	
Liquid polyamideamine $H_2N-Z^1-NH-Z^2-NH\left(\overset{O}{\parallel}C-Z^3-\overset{O}{\parallel}C-NH-Z^4-NH-Z^5-NH\right)_n-H$	POLYMIDE L	p27 <div>Adhesive</div>	
		p45 <div>Rust Preventive</div>	
		p53 <div>For Reacting/Forming</div>	
Powdery polyamideamine $H_2N-Z^1-NH-Z^2-NH\left(\overset{O}{\parallel}C-Z^3-\overset{O}{\parallel}C-NH-Z^4-NH-Z^5-NH\right)_n-H$	POLYMIDE S	p27 <div>Adhesive</div>	
		p53 <div>For Reacting/Forming</div>	
Higher fatty acid bisamide $\overset{O}{\parallel}C-NH-Z-NH-\overset{O}{\parallel}C-$	SANTHIXO 5001	p37 <div>Viscosity Controlling</div>	

Polyols

Composition and Structure	Product Name	Function
Aliphatic amine-based polyol 	SANNIX AP	p41 <span>Water Absorbent</span>
		p43 <span>Cold or Heat Insulating</span>
		p51 <span>For Reacting/Forming</span>
	SANNIX NP	p41 <span>Water Absorbent</span>
		p43 <span>Sealing/Waterproofing</span>
p43 <span>Cold or Heat Insulating</span>		
p51 <span>For Reacting/Forming</span>		
Aliphatic amine-based polyol 	SANNIX NE	p41 <span>Water Absorbent</span>
		p43 <span>Cold or Heat Insulating</span>
		p51 <span>For Reacting/Forming</span>
Polyethylene adipate (there are some other polyester polyols, too) 	SANESTER	p51 <span>For Reacting/Forming</span>

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Composition and Structure	Product Name	Function
<div>Polyethylene glycol</div> <div><math>HO-(CH_2CH_2O)_n-H</math></div>	PEG	p9 <div>Wetting/Penetrating</div>
		p15 <div>Solubilizing</div>
		p19 <div>Dispersing</div>
		p25 <div>Lubricating/Leveling</div>
		p29 <div>Adhesive</div>
		p33 <div>Plasticizing/Softening</div>
		p39 <div>Viscosity Controlling</div>
		p41 <div>Antistatic</div>
		p43 <div>Cold or Heat Insulating</div>
		p47 <div>Other Functions</div>
	p49 <div>For Reacting/Forming</div>	p9 <div>Wetting/Penetrating</div>
	MACROGOL	p15 <div>Solubilizing</div>
		p25 <div>Lubricating/Leveling</div>
		p29 <div>Adhesive</div>
		p33 <div>Plasticizing/Softening</div>
		p39 <div>Viscosity Controlling</div>
		p49 <div>For Reacting/Forming</div>
<div>Aromatic amine-based polyol</div> <div></div>	SANNIX HM	p41 <div>Water Absorbent</div>
		p43 <div>Cold or Heat Insulating</div>
		p51 <div>For Reacting/Forming</div>
<div>Bisphenol A-propylene oxide adduct</div> <div><math>H-(O-\overset{\overset{CH_3}{ }}{CH}-CH_2)_n-O-\text{C}_6\text{H}_4-\overset{\overset{CH_3}{ }}{C}(\overset{\overset{CH_3}{ }}{CH_3})-\text{C}_6\text{H}_4-O-(CH_2-\overset{\overset{CH_3}{ }}{CH}-O)_m-H</math></div>	NEWPOL BP	p35 <div>Plasticizing/Softening</div>
		p51 <div>For Reacting/Forming</div>
<div>Bisphenol A-ethylene oxide adduct</div> <div><math>H-(OCH_2CH_2)_n-O-\text{C}_6\text{H}_4-\overset{\overset{CH_3}{ }}{C}(\overset{\overset{CH_3}{ }}{CH_3})-\text{C}_6\text{H}_4-O-(CH_2CH_2O)_m-H</math></div>	NEWPOL BPE	p35 <div>Plasticizing/Softening</div>
		p51 <div>For Reacting/Forming</div>
<div>Sucrose-based polyether polyol</div> <div></div> <div>PO: Propylene oxide</div>	SANNIX HS	p41 <div>Water Absorbent</div>
		p43 <div>Cold or Heat Insulating</div>
		p51 <div>For Reacting/Forming</div>
<div>Polyoxyethylene polyoxypropylene glycol</div> <div><math>H-(OCH_2CH_2)_x-(O-\overset{\overset{CH_3}{ }}{CH_2}-CH_2)_y-(OCH_2CH_2)_z-OH</math></div>	SANNIX PL-2100	p29 <div>Adhesive</div>
		p35 <div>Plasticizing/Softening</div>
		p43 <div>Sealing/Waterproofing</div>
		p53 <div>For Reacting/Forming</div>

Continued on the next page →

Composition and Structure	Product Name	Function
<b>Polyoxypropylene sorbitol ether</b> <div> <math display="block">  \begin{array}{c}  \text{H}-(\text{PO})_n-\text{O}-\begin{array}{l} \text{O}-(\text{PO})_1-\text{H} \\ \text{O}-(\text{PO})_m-\text{H} \\ \text{O}-(\text{PO})_1-\text{H} \\ \text{O}-(\text{PO})_x-\text{H} \\ \text{O}-(\text{PO})_y-\text{H} \\ \text{O}-(\text{PO})_z-\text{H} \end{array}  \end{array}  </math> <p>PO: Propylene oxide</p> </div>	<b>SANNIX SP-750</b>	<p>p29 <b>Adhesive</b></p> <p>p41 <b>Water Absorbent</b></p> <p>p43 <b>Sealing/Waterproofing</b></p> <p>p43 <b>Cold or Heat Insulating</b></p> <p>p53 <b>For Reacting/Forming</b></p>
<b>Trimethylolpropane-based polyether polyol</b> <div> <math display="block">  \begin{array}{c}  \text{H}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_x-\text{O}-\text{C}(\text{CH}_3)_2-\text{O}-\text{CH}_2-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_y-\text{H} \\  \text{H}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_y-\text{O}-\text{C}(\text{CH}_3)_2-\text{O}-\text{CH}_2-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_z-\text{H}  \end{array}  </math> </div>	<b>SANNIX TP-400</b>	<p>p29 <b>Adhesive</b></p> <p>p35 <b>Plasticizing/Softening</b></p> <p>p41 <b>Water Absorbent</b></p> <p>p43 <b>Sealing/Waterproofing</b></p> <p>p43 <b>Cold or Heat Insulating</b></p> <p>p53 <b>For Reacting/Forming</b></p>
<b>Pentaerythritol-based polyetherpolyol</b> <div> <math display="block">  \begin{array}{c}  \text{H}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_x-\text{O}-\text{C}(\text{CH}_3)_4-\text{O}-\text{CH}_2-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_n-\text{H} \\  \text{H}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_y-\text{O}-\text{C}(\text{CH}_3)_4-\text{O}-\text{CH}_2-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_m-\text{H}  \end{array}  </math> </div>	<b>SANNIX HD</b>	<p>p41 <b>Water Absorbent</b></p> <p>p43 <b>Cold or Heat Insulating</b></p> <p>p51 <b>For Reacting/Forming</b></p>
<b>Polyoxypropylene glycol</b> <div> <math display="block">  \text{HO}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-\text{H}  </math> </div>	<b>SANNIX PP</b>	<p>p29 <b>Adhesive</b></p> <p>p35 <b>Plasticizing/Softening</b></p> <p>p41 <b>Water Absorbent</b></p> <p>p43 <b>Sealing/Waterproofing</b></p> <p>p43 <b>Cold or Heat Insulating</b></p> <p>p53 <b>For Reacting/Forming</b></p>
<b>Polyoxypropylene glycol or Polyoxypropylene triol</b> <div> <math display="block">  \begin{array}{c}  \text{XO}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_n-\text{X} \quad \text{or} \quad \begin{array}{c} \text{X}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_1-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_m-\text{X} \\ \text{X}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_n-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_m-\text{X} \end{array} \\  \text{X: } \begin{array}{c} \text{CH}_3 \\   \\ \text{H}-(\text{O}-\text{CH}-\text{CH}_2-\text{O})_p-\text{H} \quad \text{approx. 70\%} \end{array} \quad / \quad \begin{array}{c} \text{CH}_3 \\   \\ \text{H}-(\text{CH}_2\text{CH}-\text{O})_q-\text{H} \quad \text{approx. 30\%} \end{array}  \end{array}  </math> <p>Some PRIMEPOL are further ethylene oxide added</p> </div>	<b>PRIMEPOL</b>	<p>p29 <b>Adhesive</b></p> <p>p35 <b>Plasticizing/Softening</b></p> <p>p41 <b>Water Absorbent</b></p> <p>p43 <b>Sealing/Waterproofing</b></p> <p>p43 <b>Cold or Heat Insulating</b></p> <p>p53 <b>For Reacting/Forming</b></p>
<b>Polyoxyetylenepolyoxypropylene triol</b> <div> <math display="block">  \begin{array}{c}  \text{H}-(\text{OCH}_2\text{CH}_2)_x-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_1-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_m-(\text{CH}_2\text{CH}_2\text{O})_z-\text{H} \\  \text{H}-(\text{OCH}_2\text{CH}_2)_y-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_n-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_m-(\text{CH}_2\text{CH}_2\text{O})_z-\text{H}  \end{array}  </math> </div>	<b>SANNIX GL</b>	<p>p41 <b>Water Absorbent</b></p> <p>p43 <b>Cold or Heat Insulating</b></p> <p>p53 <b>For Reacting/Forming</b></p>
<b>Polyoxypropylene triol</b> <div> <math display="block">  \begin{array}{c}  \text{H}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_1-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_m-\text{H} \\  \text{H}-(\text{O}-\text{CH}(\text{CH}_3)\text{CH}_2)_n-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2\text{CH}(\text{CH}_3)-\text{O})_m-\text{H}  \end{array}  </math> <p>Some SANNIX GP are copolymer with ethylene oxide</p> </div>	<b>SANNIX GP, GH</b>	<p>p29 <b>Adhesive</b></p> <p>p33 <b>Plasticizing/Softening</b></p> <p>p41 <b>Water Absorbent</b></p> <p>p43 <b>Sealing/Waterproofing</b></p> <p>p43 <b>Cold or Heat Insulating</b></p> <p>p53 <b>For Reacting/Forming</b></p>

### ■ Methacrylates/Acrylates-based

Composition and Structure	Product Name	Function
<b>Cross-linked acrylic acid polymer sodium salt</b> $\left( \begin{array}{c} \text{CH}-\text{CH}_2 \\   \\ \text{C}=\text{O} \\   \\ \text{OH} \end{array} \right)_x \left( \begin{array}{c} \text{CH}-\text{CH}_2 \\   \\ \text{C}=\text{O} \\   \\ \text{O}^-\text{Na}^+ \end{array} \right)_y$ SANWET IM is a graft copolymer with a starch	<b>AQUAPEARL</b>	p41 <span>Water Absorbent</span>
	<b>SANWET IM</b>	p41 <span>Water Absorbent</span>
	<b>SANFRESH</b>	p9 <span>Wetting/Penetrating</span>
		p39 <span>Viscosity Controlling</span>
		p41 <span>Water Absorbent</span>
		p43 <span>Sealing/Waterproofing</span>
		p43 <span>Cold or Heat Insulating</span>
<b>Methacrylic acid - ethyl acrylate copolymer</b> $\left( \begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_2-\text{C} \\   \\ \text{COOH} \end{array} \right)_n \left( \begin{array}{c} \text{CH}_2-\text{CH} \\   \\ \text{COOC}_2\text{H}_5 \end{array} \right)_m$	<b>POLYQUID</b>	p29 <span>Adhesive</span>
		p47 <span>Other Functions</span>
		p51 <span>For Reacting/Forming</span>
<b>Methacrylate copolymer and refined mineral oil</b> $\left( \begin{array}{c} \text{R}^1 \\   \\ \text{C}-\text{CH}_2 \\   \\ \text{C}=\text{O} \\   \\ \text{O} \\   \\ \text{R}^2 \end{array} \right)_n \left( \begin{array}{c} \text{CH}_3 \\   \\ \text{C}-\text{CH}_2 \\   \\ \text{C}=\text{O} \\   \\ \text{O} \\   \\ \text{R}^3 \end{array} \right)_m \quad \begin{array}{l} \text{R}^1: \text{H or CH}_3 \\ \text{R}^2: \text{Alkyl} \\ \text{R}^3: \text{Alkyl} \end{array}$	<b>ACLUBE</b>	p27 <span>Lubricating/Leveling</span>
		p39 <span>Viscosity Controlling</span>
<b>Dipentaerythritol hexaacrylate</b> $\begin{array}{c} \text{H}_2\text{C}=\text{CH}-\text{C}(=\text{O})-\text{O}-\text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{H}_2\text{C}=\text{CH}-\text{C}(=\text{O})-\text{O} \end{array} \text{---} \text{CH}_2 \text{---} \text{CH}_2 \text{---} \text{O} \text{---} \text{CH}_2 \text{---} \text{CH}_2 \text{---} \text{O} \text{---} \text{C}(=\text{O})-\text{CH}=\text{CH}_2 \begin{array}{c}   \\ \text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{O}-\text{C}(=\text{O})-\text{CH}=\text{CH}_2 \end{array}$	<b>NEOMER DA-600</b>	p49 <span>For Reacting/Forming</span>
<b>Dimethylaminoethyl acrylate quaternary salt</b> $\text{H}_2\text{C}=\text{CH}-\text{C}(=\text{O})-\text{O}-\text{CH}_2\text{CH}_2-\text{N}^+(\text{CH}_3)_2\text{R} \quad \text{X}^-$	<b>ACRYLATE SMC-80H</b>	p19 <span>Flocculating</span>
		p49 <span>For Reacting/Forming</span>
<b>Triethylene glycol dimethacrylate</b> $\text{H}_2\text{C}=\text{C}(\text{CH}_3)-\text{C}(=\text{O})-\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_3-\text{C}(=\text{O})-\text{C}(\text{CH}_3)=\text{CH}_2$	<b>NEOMER PM-201</b>	p49 <span>For Reacting/Forming</span>
<b>Ethoxylated trimethylolpropane triacrylate</b> $\text{H}_2\text{C}=\text{CH}-\text{C}(=\text{O})-\left(\text{OCH}_2\text{CH}_2\right)_z-\text{O}-\text{CH}_2-\text{C}(\text{CH}_3)_2-\text{CH}_2-\text{O}-\left(\text{CH}_2\text{CH}_2\text{O}\right)_x-\text{C}(=\text{O})-\text{CH}=\text{CH}_2$	<b>NEOMER TA-401</b>	p49 <span>For Reacting/Forming</span>
<b>Propoxylated neopentylglycol diacrylate</b> $\text{H}_2\text{C}=\text{CH}-\text{C}(=\text{O})-\left(\text{O}-\text{CH}(\text{CH}_3)-\text{CH}_2\right)_n-\text{O}-\text{CH}_2-\text{C}(\text{CH}_3)_2-\text{CH}_2-\text{O}-\left(\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}\right)_m-\text{C}(=\text{O})-\text{CH}=\text{CH}_2$	<b>NEOMER NA-305</b>	p49 <span>For Reacting/Forming</span>

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Composition and Structure	Product Name	Function
<b>Propoxylated trimethylolpropane triacrylate</b> 	<b>NEOMER TA-505</b>	p49 <span>For Reacting/Forming</span>
<b>Ethoxylated bisphenol A diacrylate</b> 	<b>NEOMER BA-641</b>	p49 <span>For Reacting/Forming</span>
<b>Polypropyleneglycol diacrylate</b> 	<b>NEOMER PA-305</b>	p49 <span>For Reacting/Forming</span>
<b>Polypropylene glycol monomethacrylate</b> 	<b>NEWPOL MP-5</b>	p49 <span>For Reacting/Forming</span>
<b>Dialkylaminoalkyl methacrylate derivatives</b> 	<b>METHACRYLATE</b>	p9 <span>Wetting/Penetrating</span>
<b>Long-chain alkyl methacrylate</b> 		p19 <span>Flocculating</span>
		p35 <span>Plasticizing/Softening</span>
		p49 <span>For Reacting/Forming</span>

Others

Composition and Structure	Product Name	Function
<b>Polyoxyethylene dimethyl ether</b> 	<b>SANFINE DM-200</b>	p15 <span>Solubilizing</span>

Functional compounds, polymers

Urethane Series

Composition and Structure	Product Name	Function
<b>Urethane prepolymer</b> 	<b>SANPRENE C</b>	p55 <span>For Reacting/Forming</span>
	<b>SANPRENE FLR-603</b>	p55 <span>For Reacting/Forming</span>
	<b>SANPRENE P</b>	p55 <span>For Reacting/Forming</span>

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Z: Proprietary functional group

Composition and Structure	Product Name	Function		
<b>Polyurethane emulsion</b> <div><math display="block">\left[ \text{C} \begin{array}{c} \text{O} \\ \parallel \end{array} \text{NH} - \text{R}^1 - \text{NH} - \text{C} \begin{array}{c} \text{O} \\ \parallel \end{array} \text{O} - \text{R}^2 - \text{O} \right]_n</math></div>	<b>CHEMITYLEN GA-500</b>	p29	Adhesive	
	<b>PERMARIN</b>	p27	Lubricating/Leveling	
		p29	Adhesive	
		p35	Plasticizing/Softening	
		p55	For Reacting/Forming	
	<b>UCOAT</b>	p29	Adhesive	
		p35	Plasticizing/Softening	
		p55	For Reacting/Forming	
	<b>UPRENE UXA-307</b>	p29	Adhesive	
		p55	For Reacting/Forming	
	<b>Polyurethane solution</b> <div><math display="block">\left[ \text{C} \begin{array}{c} \text{O} \\ \parallel \end{array} \text{NH} - \text{R}^1 - \text{NH} - \text{C} \begin{array}{c} \text{O} \\ \parallel \end{array} \text{O} - \text{R}^2 - \text{O} \right]_n</math></div>	<b>COATRON</b>	p31	Adhesive
		<b>SANPRENE H</b>	p55	For Reacting/Forming
p31			Adhesive	
<b>SANPRENE HMP-17A</b>		p55	For Reacting/Forming	
		p31	Adhesive	
<b>SANPRENE IB</b>		p55	For Reacting/Forming	
		p55	For Reacting/Forming	
<b>SANPRENE LQ</b>		p55	For Reacting/Forming	
		<b>SANFOAM RC-1026</b>	p55	For Reacting/Forming
<b>SANFOAM IC-559</b>			p55	For Reacting/Forming
	<b>POLYBOND</b>	p31	Adhesive	
<b>UNOFLEX</b>		p31	Adhesive	

Methacrylate/Acrylate-based

Composition and Structure	Product Name	Function
<b>Acrylic resin or acrylic resin solution</b> 	<b>POLYTHICK</b>	p29 <span>Adhesive</span>

IONET Products

<IONET M, D>

- IONET M are Polyoxyethylene monofatty acid esters  
IONET D are Polyoxyethylene difatty acid esters
- Widely used in various industries such as agrichemical, metal, cosmetic, paper, pulp or textile as emulsifiers, dispersants and leveling agents
- L: Lauric acid  
S: Stearic acid  
O: Oleic acid

<IONET S, T>

- Nonionic and lipophilic surfactant of sorbitan derivatives
- IONET S are Sorbitan mono- or di-fatty acid esters known as SPAN type surfactants  
IONET T are ethylene oxide adducts of IONET S and more hydrophilic, known as TWEEN type surfactants
- Used as emulsifiers, solubilizer, dispersants and rust preventives
- IONET S can be used as a defoaming agent

Product Name	Appearance (20±5°C)	HLB	pH <sup>*1</sup>	Cloud Point <sup>*2</sup> °C
IONET DL-200	Yellow liquid	6.6	6.5	<20
IONET DO-400	Pale straw-colored liquid	8.4	7.0	<20
IONET DO-600	Brown liquid	10.4	6.5	<20
IONET DO-1000	Pale yellow solid	12.9	6.5	35
IONET DS-300	Pale yellow-white solid	7.3	7.0	<20
IONET DS-400	Pale yellow-white solid	8.5	7.0	<20
IONET DS-4000	Pale straw-colored solid	17.0	6.5	-
IONET MO-200	Pale brown liquid	8.4	7.0	<20
IONET MO-400	Pale straw-colored liquid	11.8	7.0	<20
IONET MO-600	Pale straw-colored liquid	13.7	7.0	53
IONET MS-400	Pale yellow solid	11.9	7.0	<20
IONET MS-1000	Pale yellow-white solid	15.7	6.5	>100
IONET S-20	Straw-colored liquid	8.6	7.0	<20
IONET S-60V	Pale yellow-white granule	4.7	8.0	-
IONET S-80	Straw-colored liquid	4.3	7.0	-
IONET S-80S	Straw-colored liquid	4.2	7.0	-
IONET S-85	Straw-colored liquid	1.8	-	-
IONET T-20C	Yellow liquid	16.7	-	>100
IONET T-60V	Yellow liquid	14.9	-	>100
IONET T-80V	Yellow liquid	15.0	7.0 <sup>*3</sup>	>100

\*1 1 wt % aq solution    \*2 2 wt % aq solution    \*3 5 wt % aq solution

EMULMIN Products

- Used as emulsifiers for creams, lotions, emulsion polymerization of resins or pigment dispersant for coatings because of their excellent emulsifying property
- Having lubricating property and protecting the surfaces of metals.  
Effective as emulsifiers for reducing the coefficient of friction of machine oils; especially mineral oils

<EMULMIN No.>

- Besides, used for foaming agent, thickener for cosmetic, oiliness improver, moisturizer, solubilizer, raw material for chemical reaction, pulp cooking aid and leveling dyeing agent

<EMULMIN L, LS, NL>

- Besides, applicable for foaming agents, thickener or solubirizer for cosmetics

<EMULMIN FL, HL>

- Excellent low-temperature fluidity and detergency compared to the other nonionic surfactants with similar HLB

<EMULMIN LCA>

- Used as detergent base. Excellent lowering property of surface tension and foam stabilizing property

Product Name	Composition	Appearance (20±5°C)	HLB	pH <sup>*1</sup>
EMULMIN 40	Polyoxyethylene oleyl ether or cetyl ether	Pale yellow liquid	8.0	7.0
EMULMIN 50		Straw-colored liquid	9.0	6.5
EMULMIN 70		Pale straw-colored liquid	10.8	5.0
EMULMIN 110		Pale yellow paste	13.2	7.0
EMULMIN 140		Pale yellow paste to solid	14.2	7.0
EMULMIN 180		White to pale yellow paste	15.1	7.0
EMULMIN 200		Pale yellow solid	15.5	7.0
EMULMIN 240		White to pale yellow solid	16.1	7.0
EMULMIN CC-100	Polyoxyethylene cetyl ether	White to pale yellow wax	13.3	6.5 <sup>*2</sup>
EMULMIN CC-130		White to pale yellow solid	14.1	6.0
EMULMIN CC-150		White to pale yellow wax	15.1	6.5 <sup>*2</sup>
EMULMIN CC-200		White to pale yellow wax	15.7	6.0 <sup>*2</sup>
EMULMIN FL-80	Polyoxyalkylene lauryl ether	Colorless to pale yellow liquid	-	6.5
EMULMIN FL-100		Colorless to pale yellow liquid	-	7.0
EMULMIN HL-80		Colorless to pale yellow liquid	-	7.0
EMULMIN HL-100		Colorless to pale yellow liquid	-	7.0
EMULMIN L-380	Polyoxyethylene lauryl ether	White solid	17.7	7.0
EMULMIN L-90-S		White solid to pale yellow liquid	13.2	7.0
EMULMIN LS-80		Colorless to pale yellow paste	13.1	7.0
EMULMIN LS-90		Colorless to pale yellow paste	13.6	6.5
EMULMIN NL-70		Colorless to pale yellow liquid	12.4	6.5
EMULMIN NL-80		Pale yellow liquid	13.1	6.5
EMULMIN NL-90		Pale yellow liquid	13.6	6.5
EMULMIN NL-100		Pale yellow liquid	14.0	6.5
EMULMIN NL-110		White solid	14.4	6.5
EMULMIN LCA-10	Polyoxyalkylene alkylamine	Straw-colored to brown liquid	-	8.0

\*1 1 wt % aq solution    \*2 5 wt % aq solution



SANWAX, VISCOL Products

SANWAX (polyethylene-type wax) and VISCOL (polypropylene-type wax) have moderate hardness & high softening point equivalent to those of polyethylene or polypropylene and excellent dispersibility of pigments. Generally incompatible with resins except polyolefins. Having low melt viscosities approximately equal to those of paraffin wax. Widely used as dispersant for pigments or fillers, binders for ink, anti-sagging agent for coatings, abrasive and flowability improver, releasing agent, softening point enhancer, abrasion resistance improver, flattini agent and lubricants, etc.

Product Name	Appearance (20±5°C)	Color <sup>*1</sup>	Viscosity mPa · s (140°C)	Softening Point <sup>*2</sup> °C	Penetration Hardness <sup>*3</sup>	Acid Value	Specific Gravity <sup>*4</sup> (20°C)	Mn <sup>*5</sup>
SANWAX 171-P	White powder	30	180	107	4.5	-	0.92	1,500
SANWAX 151-P	White powder	30	290	107	4	-	0.92	2,000
SANWAX 131-P	White powder	30	1,000	108	3.5	-	0.92	3,500
SANWAX 161-P	White powder	30	4,200	111	2	-	0.92	5,000
SANWAX LEL-250	Pale yellow pellet	50	600	124	<1	-	0.95	3,000
SANWAX LEL-400P(EX)	White powder	50	650	128	1	1	0.96	4,000
SANWAX E-310	Pale yellow pellet	100	300	100	5	15	0.93	2,000
SANWAX E-330	Pale yellow pellet	100	850	104	4	17	0.94	2,000
SANWAX E-250P	Pale yellow powder	1 <sup>*6</sup>	320	106	5	16	0.95	2,000 <sup>*8</sup>
VISCOL 330-P	White powder	200	4,000 <sup>*7</sup>	153	<1	-	0.89	15,000 <sup>*8</sup>
VISCOL 440-P	White powder	200	1,800 <sup>*7</sup>	153	<1	-	0.89	9,000 <sup>*8</sup>
VISCOL 550-P	White powder	200	200 <sup>*7</sup>	152	<1	-	0.89	4,000
VISCOL 660-P	White powder	1 <sup>*6</sup>	70 <sup>*7</sup>	145	1.5	-	0.89	3,000

<sup>\*1</sup> Molten, APHA    <sup>\*2</sup> Measured according to ASTM E28 (ring and ball method)    <sup>\*3</sup> Measured according to ASTM D 1321 (100g, 5s, 25°C)  
<sup>\*4</sup> Measured according to ASTM D 792    <sup>\*5</sup> Number average molecular weight/vapor pressure osmometry    <sup>\*6</sup> Molten, gardner  
<sup>\*7</sup> Measured at 160°C    <sup>\*8</sup> GPC method

UMEX Products

UMEX products are a series of acid modified low-molecular-weight polyolefin containing carboxylic anhydride groups as the functional groups. These products have higher degrees of modification and lower melt viscosity compared with conventional acid modified polyolefin. Polyolefins blended with UMEX excel in dispersibility of both pigments and fillers in resins, readily adhere to other materials, and make paints readily adherable to resulting resins. Moreover, the products are very effective as modifiers for hot melt adhesives.

Product Name	Main Chain Composition <sup>*1</sup>	Appearance (20±5°C)	Viscosity mPa · s (160°C)	Softening Point <sup>*2</sup> °C	Acid Value <sup>*3</sup>	Specific Gravity <sup>*4</sup> (20°C)
UMEX 100TS	PP	Pale yellow powder	120	148	3.5	0.89
UMEX 110TS	PP	Pale yellow powder	135	145	7	0.89
UMEX 1001	PP	Yellow granule	15,000	153	26	0.95
UMEX 1010	PP	Yellow granule	6,000	145	52	0.95

<sup>\*1</sup> PP: Polypropylene    <sup>\*2</sup> Measured according to ASTM E28 (ring and ball method)    <sup>\*3</sup> Measured according to ASTM D1386    <sup>\*4</sup> ASTM D 792

PELESTAT Products

Proprietary block copolymer composed of hydrophilic and lipophilic segments. Permanent antistatic agent. Imparting a permanent antistatic property independent on humidity right after molding (e.g. injection molding and extrusion molding). We offer wide selections of PELESTAT for polystyrenes such as ABS, polyolefins or others.

Product Name	Appearance (20±5°C)	mp <sup>*1</sup> °C (°F)	MFR <sup>*2</sup> g (10min)	Surface Resistivity <sup>*3</sup> Ω	Td <sup>*4</sup> °C (°F)	Typical Applied Resins
PELESTAT NC6321	Pale yellow pellet	203 (397)	20 (215°C)	1×10 <sup>9</sup>	285 (545)	ABS, HIPS, PBT, Nylon, PC/ABS-alloy
PELESTAT NC7530	Pale yellow pellet	176 (349)	10 (190°C)	2×10 <sup>9</sup>	280 (536)	Polystyrenes such as MS
PELESTAT 300	Pale yellow pellet	135 (275)	30 (190°C)	1×10 <sup>8</sup>	240 (464)	Polyolefins
PELESTAT 230	Pale yellow pellet	163 (325)	12 (190°C)	5×10 <sup>7</sup>	250 (482)	Polyolefins
PELESTAT VH230	Pale yellow pellet	163 (325)	9 (190°C)	5×10 <sup>7</sup>	250 (482)	For films or sheets of polyolefins, etc.

<sup>\*1</sup> Melting point    <sup>\*2</sup> ASTM D 1238 (under 21.18N)    <sup>\*3</sup> ASTM D 257    <sup>\*4</sup> Starting thermal degradation temperature measured by TG-DTA, in the air

PELECTRON Products

Permanent antistatic agent with lower-resistivity type of PELESTAT. Imparting excellent antistatic properties to electrostatic diffusion region (surface resistivity 10<sup>8</sup>-10<sup>9</sup>Ω) and preventing problems caused by static electricity including destruction of electronic circuits, electric shock, appliance malfunctions and dust adhesion.

Product Name	Appearance (20±5°C)	mp <sup>*1</sup> °C (°F)	MFR <sup>*2</sup> g (10min)	Surface Resistivity <sup>*3</sup> Ω	Td <sup>*4</sup> °C (°F)	Typical Applied Resins
PELECTRON AS	Pale yellow pellet	195 (383)	30 (215°C)	4×10 <sup>6</sup>	285 (545)	ABS, HIPS, PBT, Nylon, PC/ABS-alloy
PELECTRON PVL	Pale yellow pellet	135 (275)	15 (190°C)	3×10 <sup>6</sup>	250 (482)	For films or sheets of polyolefins, etc.

<sup>\*1</sup> Melting point    <sup>\*2</sup> ASTM D 1238 (under 21.18N)    <sup>\*3</sup> ASTM D 257    <sup>\*4</sup> Starting thermal degradation temperature, measured by TG-DTA, in the air

■ SANNIX Products

"SANNIX" is the trade name of the first polyether polyols for polyurethane foam in Japan that we developed in 1960.  
We offer a wide variety of SANNIX for various applications such as super flexible, flexible, semi-rigid and rigid polyurethane foams.

FG <sup>*1</sup>	Product Name	Composition		No.	Number Average Molecular Weight (Mn)						Property	
		Active Hydrogen Compound	Alkylene Oxide <sup>*2</sup>		- 300	300 - 600	600 - 1000	1000 - 2000	2000 - 3000	> 3000	OHV	Viscosity mPa · s (25°C)
2	SANNIX PL	Propylene glycol	EO/PO	2100					●		44	450
	SANNIX PP	Propylene glycol	PO	200	●						560	60
				400		●					280	70
				600		●					187	85
				950			●				118	140
				1000			●				112	145
				1200				●			98	165
				2000				●			56	305
				3000					●		35	590
				4000						●	27	990
3	SANNIX GL	Glycerin	EO/PO	3000					●		54	520
	SANNIX GP	Glycerin	PO or EO/PO	250	●						670	950
				400		●					400	365
				600		●					280	275
				700			●				240	250
				1000			●				160	255
				1500				●			112	300
				3000					●		56	500
				3000V					●		56	510
				3030					●		55	475
				3700M						●	45	645
				4000						●	42	660
	SANNIX TP	Trimethylol propane	PO	400		●					395	700
	SANNIX AP	Aliphatic amine	PO	470		●					360	350

Continued on the next page →

FG <sup>*1</sup>	Product Name	Composition		No.	Number Average Molecular Weight (Mn)						Property	
		Active Hydrogen Compound	Alkylene Oxide <sup>*2</sup>		- 300	300 - 600	600 - 1000	1000 - 2000	2000 - 3000	> 3000	OHV	Viscosity mPa · s (25°C)
6	SANNIX SP	Sorbitol	PO	750			●				490	16,000 <sup>*3</sup>
Non-disclosure	SANNIX HS	Sucrose	PO	209							452	6,000
				211							380	1,590
	SANNIX HM	Aromatic amine-based	EO/PO	551							400	22,500
	SANNIX NE	Apliphatic amine-based	EO	240							970	3,700
	SANNIX NP	Apliphatic amine-based	PO	300							755	1,680 <sup>*4</sup>
	SANNIX HD	Pentaerythritol-based	PO	402							404	1,800
	SANNIX FA	Proprietary active hydrogen compound	-	103							50	730
				226							60	450
				311E							42	970
				702							38	900
				703							33	910
				718							29	800
				757							32	1,100
				921							28	1,155
				951							34	800
				7030							28	1,300
	SANNIX KC	-	-	714							31	1,270
				720							34	880
				745							34	900
				900 <sup>*5</sup>							22	4,800

Besides, we developed "PRIMEPOL", which are propylene oxide adducts of propylene glycol or glycerin with high primary hydroxyl content, more than 70% by only propylene oxide.

\*1 Number of functional group    \*2 EO: Ethylene oxide/PO: Propylene oxide    \*3 Viscosity[mPa · s (30°C)]

\*4 Kinetic viscosity[mm<sup>2</sup>/s (50°C)]    \*5 Polymer polyol

NEWPOL 50HB, LB, 75H-90000, V Products

Used for wetting agent, moisturizer, releasing lubricant, deformer, raw material for lubricant or hydraulic oil, emulsion breaker or heating medium.

FG <sup>*1</sup>	Product Name	Composition		No.	Property			
		Active Hydrogen Compound	Alkylene Oxide <sup>*2</sup>		Mn <sup>*3</sup>	Kinetic Viscosity mm <sup>2</sup> /s		Pour Point °C
						(20°C)	(40°C)	
1	NEWPOL 50HB	Monoalcohol	EO/PO	55	300	16	8	≦-50
				100	510	43	19	≦-50
				260	970	119	51	-49
				400	1,340	192	80	-48
				660	1,800	343	127	-45
				2000	3,200	1,004	398	-35
				5100	3,750	2,263	925	-30
	NEWPOL LB	Monoalcohol	PO	65	340	18	9	≦-50
				285	1,170	161	59	≦-50
				300X	1,170	171	65	≦-50
				385	1,480	190	80	-43
				625	1,870	325	120	-40
				650X	1,870	344	130	-40
				1715	2,390	980	335	-38
				1800X	2,390	1,014	351	-38
				3000	3,070	1,665	610	-30
2	NEWPOL 75H	Hexylene glycol	EO/PO	90000	14,000	56,200	19,000	-3
-	NEWPOL V	Multi-functional alcohol	EO/PO	10-C	22,400	-	3,300 <sup>*4</sup>	-10
				22F <sup>*5</sup>	-	-	1,950	-

\*1 Number of functional group    \*2 EO: Ethylene oxide/PO: Propylene oxide    \*3 Number average molecular weight

\*4 100°C Kinetic viscosity[mm<sup>2</sup>/s(100°C)]    \*5 50 wt % aq solution

NEWPOL PE Products

Used for detergent, raw-material for detergent, quasi-drugs, textile agent, emulsifier, dispersant, solubilizer or antistatic agent.

FG <sup>*1</sup>	Product Name	Composition	No.	Property				
				Appearance (20±5°C)	Color (hazen)	Cloud Point (°C) 1% aq sol.	Fleezing Point °C	Mn <sup>*4</sup>
2	NEWPOL PE	Polyoxyethylene - Polyoxypropylene Block Polymer	34	Colorless liquid	10	63	-1	1,700
			61	Colorless liquid	10	24	-30	2,000
			62	Colorless liquid	10	30	-4	2,400
			64	Colorless paste	10	59	15	3,100
			68	White flake	10 <sup>*2</sup>	113 <sup>*3</sup>	53	8,000
			71	Colorless liquid	10	20	-30	2,200
			74	Colorless paste	10	56	15	3,100
			75	Colorless paste	10	69	17	3,500
			78	White flake	10 <sup>*2</sup>	110 <sup>*3</sup>	54	9,400
			108	White flake	10 <sup>*2</sup>	105 <sup>*3</sup>	57	16,000

\*1 Number of functional group    \*2 25 wt % aq solution    \*3 Measured in a sealed tube    \*4 Number average molecular weight

NEWPOL BP, BPE Products

Used for raw material for resins or organic intermediate, resin improver, etc.

FG <sup>*1</sup>	Product Name	Composition		No.	Property				
		Active Hydrogen Compound	Alkylene Oxide <sup>*2</sup>		Mn <sup>*3</sup>	Appearance (20±5°C)	OHV	Color (hazen)	Viscosity mPa · s (60°C)
2	NEWPOL BP	Bisphenol A	PO	2P	350	Pale yellow liquid <sup>*4</sup>	322	40	1,600
				23P	400	Colorless liquid <sup>*4</sup>	310	20	1,230
				3P	530	Colorless liquid	280	20	800
				5P	560	Colorless liquid	211	10	180
	NEWPOL BPE		EO	20	330	White block	343	30 <sup>*5</sup>	
				20NK	325	White block	345	30 <sup>*5</sup>	
				20T	320	White granule	349	10 <sup>*5</sup>	
				40	410	Colorless liquid	276	20	278
				60	490	Colorless liquid	228	10	174
				100	670	Colorless liquid	167	10	120
				180	1,020	Colorless liquid	110	10	130

\*1 Number of functional group    \*2 PO: Propylene oxide/EO: Ethylene oxide    \*3 Number average molecular weight/calculated by OHV

\*4 Solid at 20°C    \*5 Molten, measured at 110°C

NEWPOL PP, GP Products

Used as wetting agent for cosmetics, moisturizer, surfactants, raw material for cosmetics, surfactants, synthetic lubricants or releasing lubricant

FG <sup>*1</sup>	Product Name	Composition	No.	Property				
				Appearance (20±5°C)	pH	Viscosity mPa · s (25°C)	Mn <sup>*2</sup>	Specific Gravity (20/20°C)
2	NEWPOL PP	Propylene oxide adduct of propylene glycol	200	Colorless liquid	6.0	60	200	1.015
			400	Colorless liquid	6.0	70	400	1.013
			600	Colorless liquid	6.5	85	600	1.020
			950	Colorless liquid	6.5	140	950	1.009
			1000	Colorless liquid	6.5	145	1,000	1.009
			1200	Colorless liquid	6.5	165	1,150	1.008
			2000	Colorless liquid	6.5	305	2,000	1.006
			3000	Colorless liquid	6.5	590	3,200	1.005
			4000	Colorless liquid	6.5	950	4,150	1.004
3	NEWPOL GP	Propylene oxide adduct of glycerin	250	Colorless liquid	6.0	950	250	1.088
			400	Colorless liquid	6.5	365	420	1.055
			600	Colorless liquid	6.5	275	600	1.042
			1000	Colorless liquid	6.5	255	1,050	1.025
			3000	Colorless liquid	6.5	500	3,000	1.012
			4000	Colorless liquid	6.5	660	4,000	1.011

\*1 Number of functional group    \*2 Number average molecular weight/calculated by OHV

■ PEG Products (Polyethylene glycol)

Used in many industries, such as intermediates for the manufacture of surfactants, plasticizers, lubricants, etc.

Product Name	Mn <sup>*1</sup>	OHV <sup>*2</sup>	Color (hazen)	Appearance (20±5°C)	pH <sup>*3</sup>	Fleezing Point °C
PEG-200	200	563	10	Colorless liquid	5.5	<-35
PEG-300	300	372	10	Colorless liquid	5.5	-10
PEG-400	400	281	10	Colorless liquid	5.5	7
PEG-600	600	187	10	Colorless liquid	5.5	20
PEG-1000	1,000	112	10 <sup>*4</sup>	Wax	6.5	37
PEG-1500	550	207	10 <sup>*4</sup>	Paste	5.5	40
PEG-1540	1,450	79	10 <sup>*4</sup>	Wax	6.0	45
PEG-2000	2,000	56	10 <sup>*4</sup>	Wax	5.5	51
PEG-4000N	3,100	36	10 <sup>*4</sup>	White flake	6.5	55
PEG-4000S	3,400	33	10 <sup>*4</sup>	White flake	6.5	56
PEG-6000P	8,300	14	10 <sup>*4</sup>	White powder	7.0	61 <sup>*5</sup>
PEG-6000S	8,300	14	10 <sup>*4</sup>	White flake	6.5	61 <sup>*5</sup>
PEG-10000	11,000	10	10 <sup>*4</sup>	White flake	6.5	62 <sup>*5</sup>
PEG-13000	13,000	8.6	10 <sup>*4</sup>	White flake	6.5	62 <sup>*5</sup>
PEG-20000	20,000	5.6	10 <sup>*4</sup>	White flake	7.0	63 <sup>*5</sup>
PEG-20000P	20,000	5.6	10 <sup>*4</sup>	White powder	7.0	63 <sup>*5</sup>

<sup>\*1</sup> Number average molecular weight/calculated by OHV    <sup>\*2</sup> Hydroxyl value by acetylation    <sup>\*3</sup> 5 wt % aq solution

<sup>\*4</sup> 25 wt % aq solution    <sup>\*5</sup> Melting point

\*Details are described in following leaflets (PRODUCT OUTLINE) depending industries.  
Besides, some products have Individual brochure or Products brochures. (Please refer to the INDEX)

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

3 PERFORMANCE CHEMICALS FOR POLYURETHANE AND POLYURETHANE-RELATED INDUSTRIES

- 1. Polyether Polyols for Flexible Slabstock Polyurethane Foams
- 2. Polyether Polyols for Automobile Hot Molded Seat Cushions
- 3. Polyether Polyols for Automobile High-Resilient Molded Seat Cushions
- 4. Polyether Polyols for Crushpad Foams
- 5. Polyether Polyols for Rigid Polyurethane Foams
- 6. Multi Functional Polyols
- 7. Example of Polyurethane Foam System
- 8. Polyether Polyols for CASE
- 9. Prepolymers and Raw Materials for Polyurethane Elastomers
- 10. Base Materials for Synthetic Leathers
- 11. Water-Borne Polyurethanes for Textile Processing
- 12. Polyurethane Emulsions for Coatings

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. Waterproofing Agents
- 5. Concrete Admixtures
- 6. Dispersant for Manufacturing Cement Boards by Extrusion Molding
- 7. Foaming Agent for Foam Concrete
- 8. Agents for Drilling Mud
- 9. Waste Mud Solidification
- 10. Polymer Flocculants for Gravel Washing Wastewater Treatment
- 11. Binder for Ceramics

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



Examples of Sanyo Chemical Nonionic Surfactants    The List of their HLB



HLB (Hydrophile-Lipophile Balance) is a numerical value which represents a balance between hydrophilic groups and lipophilic groups in molecules of surfactants from 0 to 20.  
The higher the HLB value, the more hydrophilic (water-soluble) the surfactant.

	HLB	Synthetic Alcohol-based					
		NAROACTY		SANNONIC		SEDORAN	
		Primary Alcohol		Primary Alcohol	Secondary Alcohol	Primary Alcohol	Secondary Alcohol
Lipophilic	1.8 - 2.0						
	4.0 - 4.3						
	4.7						
	5.7		CL-20				
	6.0 - 6.2						SF-506
	6.6						
	7.3						
	8.0 - 8.2	ID-40			SS-30		
	8.3 - 8.6						
	8.9 - 9.0		CL-40				
	10.0 - 10.2		CL-50				
	10.5 - 10.6				SS-50		
	10.9						
	11.7		CL-70	FN-80		FF-180	
Hydrophilic	12.0				SS-70		
	12.3 - 12.4	ID-60				FF-200	
	12.6		CL-85	FN-100			
	12.9 - 13.0					FF-210	
	13.1 - 13.2	ID-70	CL-95	DE-70	SS-90		
	13.3 - 13.4		CL-100				
	13.6						
	13.8 - 14.0			FN-140		FF-220	
	14.1 - 14.3		CL-120				
	14.5				SS-120		
	14.7 - 14.9		CL-140				
	15.0 - 15.3		CL-160				
	15.5 - 15.7						
	16.0		CL-200				
16.6 - 16.7							
17.8		CL-400					

**How to see the table**  
The second line shows the trade names of products, and each product number is in the corresponding cell in the following lines after line 4.  
For example, the cell at column 3/line 11 represents NAROACTY ID-40. The cell at column 6/line 11 represents SANNONIC SS-30.

Natural Alcohol-based					Fatty Acid Ester-based		Pluronic
EMULMIN					IONET		NEWPOL
-C12-	C12-C14	-C16-	C16-C18	-C18-	PEG Ester	Sorbitan	
						S-85	PE-61 PE-71
						S-80	PE-62
						S-60V	
					DL-200		
					DS-300		
			40		DS-400		PE-34 PE-64 PE-74
					MO-200 DO-400	S-20	
			50	CO-50			
							PE-75
					DO-600		
			70				
					MO-400		
					MS-400		
NL-70				CO-100			
FL-80 HL-80							
FL-100 HL-100		CC-100			DO-1000		
LS-80 NL-80	L-90-S		110				
LS-90 NL-90							
NL-100					MO-600		
		CC-130	140				
NL-110							
		CC-150				T-60V	
			180			T-80V	PE-108 PE-128
		CC-200	200		MS-1000		PE-68 PE-78
			240				
					DS-4000	T-20C	
	L-380						

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AQUAPEARL	p41, 72	Products brochure

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BEAULIGHT SSS	p3, 21, 57	PRODUCT OUTLINE 2 Individual brochure
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<b>C</b>		
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CHEMIOX	p31	PRODUCT OUTLINE 9

Product Name	Page	Reference
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