



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

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.

This catalog has been prepared solely for information purposes. Sanyo Chemical Industries, Ltd. extends no warranties and makes no representations as to the accuracy or completeness of the information contained herein, and assumes no responsibility regarding the suitability of this information for any intended purposes or for any consequences of using this information. Any product information in this brochure is without obligation and commitment, and is subject to change at any time without prior notice. Consequently anyone acting on information contained in this brochure does so entirely at his/her own risk. In particular, final determination of suitability of any material described in this brochure, including patent liability for intended applications, is the sole responsibility of the user. Such materials may present unknown health hazards and should be used with caution. Although certain hazards may be described in this brochure, Sanyo Chemical Industries, Ltd. can not guarantee that these are the only hazards that exist.

Sanyo Chemical Industries, Ltd.

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

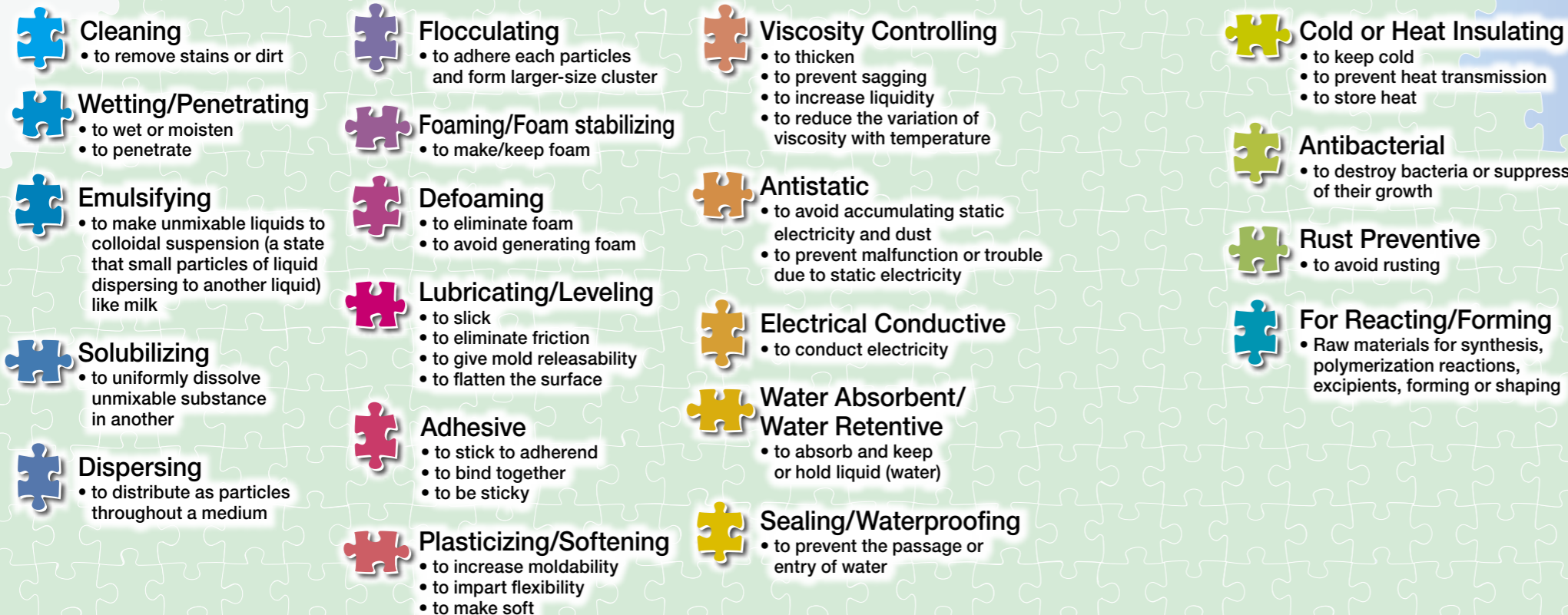


SANYO CHEMICAL INDUSTRIES, LTD.

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

Contents

	Page
A Matrix Chart of Performance (function)-Application	1
List by Performance (Function)	
1 Cleaning	3
2 Wetting/Penetrating	5
3 Emulsifying	9
4 Solubilizing	13
5 Dispersing	15
6 Flocculating	17
7 Foaming/Foam stabilizing	19
8 Defoaming	21
9 Lubricating/Leveling	21
10 Adhesive	25
11 Plasticizing/Softening	29
12 Viscosity Controlling	33
13 Antistatic	35
14 Electrical Conductive	37
15 Water Absorbent/Water Retentive	37
16 Sealing/Waterproofing	37
17 Cold or Heat Insulating	39
18 Antibacterial	39
19 Rust Preventive	41
20 Other Functions	41
21 For Reacting/Forming	43
List by Composition	
Anionic Surfactants	49
Cationic Surfactants	50
Nonionic Surfactants	51
Amphoteric Surfactants	57
Functional bases, intermediates, additives (to add, mix, react with something else)	
Ethers	58
Esters	58
Olefin or Styrene-based	58
Acids/Acid Anhydrides	59
Nitrogen-Containing Compounds	59
Polyols	60
Methacrylate/Acrylate-based	62
Functional compounds, polymers (to react or use almost just themselves)	
Urethane Series	63
Methacrylate/Acrylate-based	63
Typical Properties of Representative Products 64	
Examples of our Nonionic Surfactants The List of their HLB	75
INDEX (Product Name-reference brochure or product list) 77	
Information (Subsidiaries and Affiliates/Contact) 79	

↓ The each page of the Performance (function) introduces our products to concern

Application Performance		Page		Toiletries and Health Care					Petroleum and Automotives					Plastics and Textiles					Information & Electrics/ Electronics		Environmental Protection, Construction & Others			Polyurethanes* ¹		Application Performance	
				Cosmetics (Hair care, Skin care)	Detergents, Softeners	Pharmaceuticals/ Quasi-Drugs/ Medical-Supplies	Food Manufacturing/ -Distribution	Agrichemicals/ Horticulture Supplies	Automobiles	Lubricants	Machinery/ Metals	Petroleum & Industries	Synthetic Resins & Rubbers	Adhesives	Paints/Coatings	Textiles	Paper Making	Printing/Ink	Electrics/ Electronics Parts	Housing/ Environmental Protection	Civil Engineering/ Construction	Others	Foam* ²	Resins* ³			
1 Cleaning	3	●	●	●					●			●					●								1 Cleaning		
2 Wetting/Penetrating	5	●	●	●		●			●	●		●								●						2 Wetting/ Penetrating	
3 Emulsifying	9	●	●	●	●	●			●	●		●														3 Emulsifying	
4 Solubilizing	13	●	●	●				●	●																	4 Solubilizing	
5 Dispersing	15	●	●	●		●				●	●						●			●						5 Dispersing	
6 Flocculating	17																	●								6 Flocculating	
7 Foaming/Foam stabilizing	19	●	●	●																●						7 Foaming/Foam stabilizing	
8 Defoaming	21	●		●	●				●	●	●						●									8 Defoaming	
9 Lubricating/Leveling	21	●	●	●					●	●	●									●						9 Lubricating/ Leveling	
10 Adhesive	25	●	●	●		●		●									●		●	●	●		●			10 Adhesive	
11 Plasticizing/Softening	29	●	●	●																		●	●			11 Plasticizing/ Softening	
12 Viscosity Controlling	33	●	●	●					●											●						12 Viscosity Controlling	
13 Antistatic	35	●	●					●									●									13 Antistatic	
14 Electrical Conductive	37							●									●									14 Electrical Conductive	
15 Water Absorbent/Water Retentive	37			●	●	●											●				●					15 Water Absorbent/ Water Retentive	
16 Sealing/Waterproofing	37																		●	●		●	●			16 Sealing/ Waterproofing	
17 Cold or Heat Insulating	39				●														●							17 Cold or Heat Insulating	
18 Antibacterial	39	●	●	●	●					●			●	●	●						●					18 Antibacterial	
19 Rust Preventive	41							●	●	●																19 Rust Preventive	
20 Other Functions	41		●	●																	●					20 Other Functions	
21 For Reacting/Forming	43	●		●		●		●	●										●	●		●	●			21 For Reacting/ Forming	

* The compositions are described in common names of main components. Registered names for official compendia or for more details, please contact us.

*1 Polyurethanes:
Polyurethanes are produced through reactions of polyols with isocyanates.
Polyols (polyhydric alcohols) are such as polyether polyols (sometimes it may also refer to PPG as an acronym of polypropylene glycol for convenience), polyester polyols and polymer polyols.











*2 Foam:
Polyurethane Foam is a polyurethane matrix containing micro-pores or cells by blowing reaction.
It is used for seat cushioning materials, mattresses and heat insulators.

*3 Resins:
Polyurethanes excepting foam. They are used for sealants, caulking agents, water-proofing coatings, elastomers, synthetic leather, paintings, adhesives and so on.

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.

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 LCA	Carboxylic-based anionic surfactants	Sodium polyoxyethylene lauryl ether carboxylate	p49	liquid, paste	<ul style="list-style-type: none"> Excellent foaming property, prevents excessive degreasing Low irritancy to eyes & skin Base material for weak acid hair shampoos & face washes 	
BEAULIGHT SHAA		Sodium [(2-hydroxydodecyl)-oxy] acetate	p49	liquid	<ul style="list-style-type: none"> Excellent foaming property and foam stability even under weak acidity Low irritancy to eyes & skin Base material for hair shampoos, body shampoos, facial cleansers Listed in the International Nomenclature Cosmetic Ingredient Name 	
BEAULIGHT ESS	Sulfosuccinate-based anionic surfactants	Disodium polyoxyethylene alkyl sulfosuccinate	p49	liquid	<ul style="list-style-type: none"> Excellent foaming property Low irritancy to eyes & skin, prevents excessive degreasing Base material for hair care products 	
BEAULIGHT SSS		Disodium laureth sulfosuccinate	p49	paste	<ul style="list-style-type: none"> Excellent foaming property and foam stability even under weak acidity Provides a pleasant feeling Low irritancy to eyes & skin, prevents excessive degreasing Base material for hair care products 	
NSA-400L	Carboxylic-based anionic surfactants	Polycarboxylate	-	liquid	<ul style="list-style-type: none"> Excellent calcium-ion trapping capability, high pH buffering & soil-dispersion abilities Builder for powdered detergent 	
SANDET EN, END	Sulfuric acid ester-based anionic surfactants	Sodium polyoxyethylene alkyl ether sulfate	p50	liquid	<ul style="list-style-type: none"> Excellent solubility to water, hard-water resistance, foaming property & detergency Low irritation to skin Detergent base/emulsifier for emulsion polymerization 	
BEAULIGHT NA-25S			p50	liquid	<ul style="list-style-type: none"> Low irritancy to eyes & skin because of its low content of sodium lauryl sulfate Base material for hair or body shampoos & detergents 	
PROFAN	Amide-based nonionic surfactants	Alkylol amide based surfactants	p51 p52	liquid, solid, flake	<ul style="list-style-type: none"> Foaming agent, foam stabilizer, thickener & detergency enhancer liquid detergents & bactericidal detergents/rust preventive 	
PUREMEEL	Ether-based (Amine type) nonionic surfactants	Polyoxyalkylene alkyl amine	p52	liquid	<ul style="list-style-type: none"> Excellent detergency of fats & oils/low-temperature fluidity Liquid detergent base 	
NSA-17	Ether-based nonionic surfactants	Proprietary nonionic surfactant	-	powder	<ul style="list-style-type: none"> Reinforcing detergency of powdered detergents/fluidity improver for powder 	
EMULMIN AF-101		Polyoxyalkylene alkyl ether derived from synthetic alcohols	p52	liquid	<ul style="list-style-type: none"> The alkylene oxide adduct of natural higher alcohol (mainly myristyl alcohol) Suitable for powder detergents and liquid detergent bases because its pour point is low and the dissolution rate in cold water is fast 	
EMULMIN CS-100W		Polyoxyalkylene alkyl ether derived from natural higher alcohols	p52	liquid	<ul style="list-style-type: none"> A liquid detergent base for clothing that has good biodegradability and excellent detergency 	
EMULMIN FL, HL		Polyoxyalkylene lauryl ether derived from natural higher alcohols	p53	liquid	<ul style="list-style-type: none"> Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB Detergent/emulsifier/dispersant/wetting agent/solubilizer 	  
EMULMIN LS		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	 
EMULMIN NL, L		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	liquid, solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant EMULMIN NL, L can be emulsifiers for emulsion polymerization 	 
EMULMIN No.		Polyoxyethylene alkyl ether derived from natural higher alcohols	p53	liquid, solid, paste	<ul style="list-style-type: none"> Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming & wetting agent/oiliness improver Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent 	



For shampoos



For kitchen detergents



For laundry

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 alcohol	p52	liquid, solid, flake, paste	<ul style="list-style-type: none"> Alkylene oxide adducts with narrow molecular weight distribution Excellent detergency, emulsifiability Detergent base/detergent/emulsifier/dispersant/wetting agent 		
NAROACTY ID			p52	liquid	<ul style="list-style-type: none"> Alkylene oxide adducts with narrow molecular weight distribution Excellent penetrating property Detergent base 		
SANNONIC TN SEDORAN FF, SF		Polyoxyalkylene alkyl ether derived from synthetic alcohols SANNONIC SS, DE-70 are Polyoxyethylene alkyl ether	p52	liquid, paste	<ul style="list-style-type: none"> Low foaming property Excellent detergency Metal cleaners 		
SANNONIC FN, SS			p52 p53	liquid	<ul style="list-style-type: none"> SANNONIC FN: Excellent fluidity at low temperature SANNONIC SS: Excellent penetrating property Detergent/emulsifier/dispersant/wetting agent 	 	
SANNONIC DE-70			p53	liquid	<ul style="list-style-type: none"> Excellent penetrating property Detergent base 		
CHEMICLEAN DLE-20			Polyoxyethylene alkyl ether with limonene	p53	liquid	<ul style="list-style-type: none"> Excellent detergency Household cleaners base Removing stubborn stains of electrical appliances, bathtubs, toilet tools 	
NEWPOL PE			Polyoxyethylene polyoxypropylene glycol	p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
LAUROMACROGOL 100			Polyoxyethylene lauryl ether derived from natural higher alcohol	p55	petrolatum jelly	<ul style="list-style-type: none"> Ethylene oxide adducts with narrow molecular weight distribution derived from natural alcohols Excellent penetrating property & detergency Corresponding to the Japanese Pharmacopoeias & exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing 	
IONET DL-200, DO, DS, MO, MS	Ester-based nonionic surfactants	Polyoxyethylene fatty acid diester or monoester	p56	liquid, solid	<ul style="list-style-type: none"> Offering a wide selection from lipophilic to hydrophilic products Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent 	 	
PIUSERIA AMC	Amino acid-type amphoteric surfactants	Sodium lauramino propionate	p57	liquid	<ul style="list-style-type: none"> Prevents itching caused by amino acid type shampoo. Suitable for shampoo and body soap Improves protection from skin troubles such as itching when combined with amino acid-based anionic surfactants Amino acid-type amphoteric surfactants derived from laurylamine 		
LEBON CIB	Imidazolinium salt-based amphoteric surfactants	Alkyl carboxymethyl hydroxyethyl imidazolium betaine	p57	liquid	<ul style="list-style-type: none"> Low irritancy, excellent foaming property, foam stability, hard-water resistance Capable of imparting a moist feeling to hairs after washing Base material for hair shampoos & body shampoos, thickens by combination with anionic surfactants 		
LEBON 2000, 2000HG, 2000L, HC-30W, MY-30W, LD-36	Betaine-type amphoteric surfactants	(Look at the page by composition)	p57	liquid	<ul style="list-style-type: none"> Excellent foaming property & hard-water resistance Thickens by combination with anionic surfactants Base material for hair shampoos & body shampoos 		



For metal cleaners








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
SANMORIN OT	Sulfosuccinate-based anionic surfactants	Sodium dioctyl sulfosuccinate	p49	liquid	<ul style="list-style-type: none"> Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- & penetrating agent/dispersant & binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization Suitable for aqueous (water-soluble, emulsion) coatings 	
CATION G-50	Benzalkonium-based cationic surfactants	Benzalkonium chloride	p51	liquid	<ul style="list-style-type: none"> Wide spectrum antibacterial activities Germicide, detergent for food factory/germicide for industrial use 	
EMULMIN FL, HL	Ether-based nonionic surfactants	Polyoxyalkylene lauryl ether derived from natural higher alcohols	p53	liquid	<ul style="list-style-type: none"> Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB Detergent/emulsifier/dispersant/wetting agent/solubilizer 	



For coating agents

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	p53	liquid, solid, paste	<ul style="list-style-type: none"> Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/ gelling, foaming & wetting agent/oiliness improver Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent 	 
NAROACTY CL		Polyoxyalkylene alkyl ether derived from synthetic higher alcohols SANNONIC SS, DE-70, SANMORIN 11 are Polyoxyethylene alkyl ether	p52	liquid, solid, flake, paste	<ul style="list-style-type: none"> Alkylene oxide adducts with narrow molecular weight distribution Excellent detergency, emulsifiability Detergent base/detergent/emulsifier/dispersant/wetting agent 	
NAROACTY ID			p52	liquid	<ul style="list-style-type: none"> Alkylene oxide adducts with narrow molecular weight distribution Excellent penetrating property Detergent base 	
SANNONIC FN, SS			p52 p53	liquid	<ul style="list-style-type: none"> SANNONIC FN: Excellent fluidity at low temperature SANNONIC SS: Excellent penetrating property Detergent/emulsifier/dispersant/wetting agent 	 
SANNONIC DE-70			p53	liquid	<ul style="list-style-type: none"> Excellent penetrating property Detergent base 	
SANMORIN 11			p53	liquid	<ul style="list-style-type: none"> Particularly excellent penetrating property among surfactants Wetting- & penetrating agent 	
NEWDET PE-85			p54	petrolatum jelly	<ul style="list-style-type: none"> Corresponding to Japanese Pharmaceutical Excipients Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/ suppository base/gelling agent/binder for tablets/coating agent) Cleaning agent for medical equipment 	
NEWPOL PE		p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 		
LAUROMACROGOL 100		p55	petrolatum jelly	<ul style="list-style-type: none"> Ethylene oxide adducts with narrow molecular weight distribution derived from natural alcohols Excellent penetrating property & detergency Corresponding to the Japanese Pharmacopoeias & exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing 		
NEWPOL 50HB, LB		p54 p55	liquid	<ul style="list-style-type: none"> Offering a wide selection from water-soluble to -insoluble products Wetting agent, moisturizer & viscosity controller/releasing lubricant/lubricant for machinery, metals & fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/ quenching oil for machinery & metals/emulsion-breaker/heating-medium 	 	
NEWPOL 75H-90000, V		p54 p55	liquid			
NEWPOL TL		p54	liquid	<ul style="list-style-type: none"> Excellent lubricating effect to skin & hair Wetting agent, moisturizer & viscosity modifier for cosmetics/defoaming agent 		
NEWPOL GP		p55	liquid	<ul style="list-style-type: none"> Non-volatile/low freezing point Wetting agent & moisturizer/raw material for surfactant & synthetic lubricant/releasing lubricant 	 	
NEWPOL PP		p52	liquid	<ul style="list-style-type: none"> Non-volatile/low freezing point Wetting agent & moisturizer for cosmetics/raw material for cosmetics, surfactant & synthetic lubricant/releasing lubricant 	 	
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p56	flake	<ul style="list-style-type: none"> Softener, emulsifier, solubilizer, moisturizer & oiliness improver, creams, lotions & quasi drugs Lubricant & stabilizer of sustained drug releasing agents, tablets, pills & capsules of medicine 	
IONET S		Sorbitan mono- or di-fatty acid ester	p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/ machining oil/metalworking oil 	 

Continued on the next page →



For skincare lotions

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
IONET T	Ester-based nonionic surfactants	Polyoxyethylene sorbitan monofatty acid ester	p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
MACROGOL			p60	liquid, flake, powder, paste	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Corresponding to the Japanese Pharmacopoeias & Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) Base material for ointments & suppositories/lubricant & binder for tablets or capsules/plasticizer & solubilizer for manufacturing medicine 	
METHACRYLATE	Methacrylate/Acrylate-based	Long-chain alkyl methacrylate or dialkylaminoalkyl methacrylate derivatives	p62	liquid	<ul style="list-style-type: none"> 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 	
SALANJUL	Methacrylate/Acrylate-based	Starch/acrylic acid graft copolymer sodium salt	p63	powder	<ul style="list-style-type: none"> Water soluble thickeners for cosmetics: cross-linked acrylic acid polymers derived from starches originated from corns Swells in water easily, Suppress stickiness and fit comfortably to skins 	
SANFRESH		Cross-linked acrylic acid polymer sodium salt	p63	powder	<ul style="list-style-type: none"> Crushed particulate superabsorbent polymer Water absorbent & retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for medical use/thickener/ice packs 	



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 (p79)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
ELEMINOL JS-20	Sulfosuccinate-based anionic surfactants	Sodium alkyl allyl sulfosuccinate	p49	liquid	<ul style="list-style-type: none"> Reactive emulsifier for emulsion polymerization 	
SANMORIN OT		Sodium dioctyl sulfosuccinate	p49	liquid	<ul style="list-style-type: none"> Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- & penetrating agent/dispersant & binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization Suitable for aqueous (water-soluble, emulsion) coatings 	
ELEMINOL CLS-20, SANDET ONA	Sulfuric acid ester-based anionic surfactants	(Look at the page by composition)	p49 p50	liquid	<ul style="list-style-type: none"> Emulsifier for emulsion polymerization Suitable for large-particle-size emulsion polymerization 	
ELEMINOL NS-5S		Nondisclosure	-	liquid	<ul style="list-style-type: none"> Emulsifier for emulsion polymerization 	
SANDET EN		Sodium polyoxyethylene lauryl ether sulfate	p50	liquid	<ul style="list-style-type: none"> Excellent solubility to water, hard-water resistance, foaming property & detergency Low irritation to skin Detergent base/emulsifier for emulsion polymerization 	
NAROACTY CL	Ether-based nonionic surfactants	Polyoxyalkylene alkyl ether derived from synthetic higher alcohols	p52	liquid, solid, flake, paste	<ul style="list-style-type: none"> Alkylene oxide adducts with narrow molecular weight distribution Excellent detergency, emulsifiability Detergent base/detergent/emulsifier/dispersant/wetting agent 	

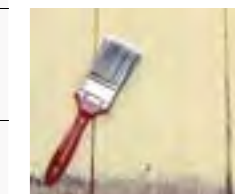


For emulsifiers for emulsion polymerization

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANNONIC FN, SS	Ether-based nonionic surfactants	Polyoxyalkylene alkyl ether derived from synthetic higher alcohols SANNONIC SS is Polyoxyethylene alkyl ether	p52 p53	liquid	<ul style="list-style-type: none"> SANNONIC FN: Excellent fluidity at low temperature SANNONIC SS: Excellent penetrating property Detergent/emulsifier/dispersant/wetting agent 	
EMULMIN No.		Polyoxyethylene alkyl ether derived from natural higher alcohols	p53	liquid, solid, paste	<ul style="list-style-type: none"> Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming & wetting agent/oiliness improver Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent 	
EMULMIN CCE-130			p53	solid	<ul style="list-style-type: none"> Emulsifier for emulsion polymerization, pigment dispersant for paint 	
EMULMIN CC		Polyoxyethylene cetyl ether derived from natural higher alcohols	p53	solid, wax	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
ELEMINOL HB-29		Polyoxyethylene tribenzyl phenyl ether	p53	liquid	<ul style="list-style-type: none"> Emulsion stabilizer for emulsion & latex 	
EMULMIN LS		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
EMULMIN NL, L			p55	liquid, solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant EMULMIN NL, L can be used as emulsifiers for emulsion polymerization 	
EMULMIN FL, HL		Polyoxyalkylene lauryl ether derived from natural higher alcohols	p53	liquid	<ul style="list-style-type: none"> Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB Detergent/emulsifier/dispersant/wetting agent/solubilizer 	
ELEMINOL 200L		Polyoxyethylene alkyl ether	p52	liquid	<ul style="list-style-type: none"> Emulsifier for emulsion polymerization 	
NEWPOL PE		Polyoxyethylene polyoxypropylene glycol	p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p56	flake	<ul style="list-style-type: none"> Softener, emulsifier, solubilizer, moisturizer & oiliness improver, creams, lotions & quasi drugs Lubricant & stabilizer of sustained drug releasing agents, tablets, pills & capsules of medicine 	
IONET DL-200, DO, DS, MO, MS		Polyoxyethylene fatty acid diester or monoester	p56	liquid, solid	<ul style="list-style-type: none"> Offering a wide selection from lipophilic to hydrophilic products Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent 	
IONET S		Sorbitan mono- or di-fatty acid ester	p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil 	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	



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	p53	liquid	<ul style="list-style-type: none"> Exhibiting excellent low-temperature fluidity compared to other nonionic surfactants with the same HLB Detergent/emulsifier/dispersant/wetting agent/solubilizer 	
EMULMIN No.		Polyoxyethylene alkyl ether derived from natural higher alcohols	p53	liquid, solid, paste	<ul style="list-style-type: none"> Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming & wetting agent/oiliness improver Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent 	
EMULMIN CC		Polyoxyethylene cetyl ether derived from natural higher alcohols	p53	solid, wax	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
EMULMIN LS		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
EMULMIN NL, L			p55	liquid, solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant EMULMIN NL, L can be used as emulsifiers for emulsion polymerization 	
NEWDET PE-85		Polyoxyethylene polyoxypropylene glycol	p54	petrolatum jelly	<ul style="list-style-type: none"> Corresponding to Japanese Pharmaceutical Excipients Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent) Cleaning agent for medical equipment 	
NEWPOL PE			p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
NEWPOL B-12			Polyoxyalkylene alkyl ether	p52	liquid	<ul style="list-style-type: none"> Excellent solubility of fats & oils Solvent of detergent
NEWPOL SBF		Polyoxyalkylene glycol monoether or borate	p52	liquid	<ul style="list-style-type: none"> High boiling point, excellent fluidity at low temperature Solvent for brake oils 	
TG-C		Ester-based nonionic surfactants	Glyceryl monostearate	p56	flake	<ul style="list-style-type: none"> Softener, emulsifier, solubilizer, moisturizer & oiliness improver, creams, lotions & quasi drugs Lubricant & stabilizer of sustained drug releasing agents, tablets, pills & capsules of medicine
IONET DL-200, DO, DS, MO, MS	Polyoxyethylene fatty acid diester or monoester		p56	liquid, solid	<ul style="list-style-type: none"> Offering a wide selection from lipophilic to hydrophilic products Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent 	
IONET S	Sorbitan mono- or di-fatty acid ester		p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil 	
IONET T	Polyoxyethylene sorbitan monofatty acid ester		p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	
POLYSORBATE 80	Modified sorbitan		-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	






To dissolve uniformly



As a solvent for detergents














For brake fluids

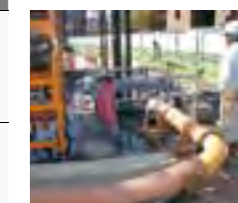
Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
MACROGOL			p60	liquid, flake, powder, paste	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Corresponding to the Japanese Pharmacopoeias & Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) Base material for ointments & suppositories/lubricant & binder for tablets or capsules/plasticizer & solubilizer for manufacturing medicine 	
SANFINE DM-200	Others	Polyoxyethylene dimethyl ether	p62	liquid	<ul style="list-style-type: none"> Excellent solubility of fats & oils Solvent for detergent 	

5 Dispersing

to distribute as particles throughout a medium

Beside, our subsidiary & affiliate; San Nopco Limited also provides related products (p79)












Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
CARRYBON L-400	Carboxylic-based anionic surfactants	Polycarboxylate	p49	liquid	<ul style="list-style-type: none"> Providing low-viscosity pigment slurry with high dispersion stability Dispersant for pigment slurry of water-soluble or emulsion coatings 	
TOXANON			-	liquid	<ul style="list-style-type: none"> Imparting excellent spreading property to agrichemical granules Excellent binding property/enhancing hardness of granules Dispersant & binder for agrichemical granules 	
SANMORIN OT	Sulfosuccinate-based anionic surfactants	Sodium dioctyl sulfosuccinate	p49	liquid	<ul style="list-style-type: none"> Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- & penetrating agent/dispersant & binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization Suitable for aqueous (water-soluble, emulsion) coatings 	
SANDET ONA	Sulfuric acid ester-based anionic surfactants	Sodium 2-ethylhexyl sulfate	p49	liquid	<ul style="list-style-type: none"> Emulsifier for emulsion polymerization Suitable for large-particle-size emulsion polymerization 	
NSA-17	Ether-based nonionic surfactants	Proprietary nonionic surfactant	-	powder	<ul style="list-style-type: none"> Reinforcing detergency of powdered detergents/fluidity improver for powder 	
EMULMIN No.		Polyoxyethylene alkyl ether derived from natural higher alcohols	p53	liquid, solid, paste	<ul style="list-style-type: none"> Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming & wetting agent/oiliness improver Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent 	
EMULMIN CCE-130		Polyoxyethylene cetyl ether derived from natural higher alcohols	p53	solid	<ul style="list-style-type: none"> Emulsifier for emulsion polymerization, pigment dispersant for paint 	
EMULMIN CC		Polyoxyethylene cetyl ether derived from natural higher alcohols	p53	solid, wax	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
EMULMIN FL, HL		Polyoxyalkylene lauryl ether derived from natural higher alcohols	p53	liquid	<ul style="list-style-type: none"> Exhibiting better low-temperature fluidity compared to other nonionic surfactants with the same HLB Detergent/emulsifier/dispersant/wetting agent/solubilizer 	
EMULMIN LS		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
EMULMIN NL, L	Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	liquid, solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant EMULMIN NL, L can be used as emulsifiers for emulsion polymerization 		



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
NEWPOL PE	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
NAROACTY CL		Polyoxyalkylene alkyl ether derived from synthetic higher alcohols	p52	liquid, solid, flake, paste	<ul style="list-style-type: none"> Alkylene oxide adducts with narrow molecular weight distribution Excellent detergency, emulsifiability Detergent base/detergent/emulsifier/dispersant/wetting agent 	
SANNONIC FN, SS		SANNONIC SS is Polyoxyethylene alkyl ether	p52 p53	liquid	<ul style="list-style-type: none"> SANNONIC FN: Excellent fluidity at low temperature SANNONIC SS: Excellent penetrating property Detergent/emulsifier/dispersant/wetting agent 	
IONET DL-200, DO, DS, MO, MS	Ester-based nonionic surfactants	Polyoxyethylene fatty acid diester or monoester	p56	liquid, solid	<ul style="list-style-type: none"> Offering a wide selection from lipophilic to hydrophilic products Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent 	
IONET S		Sorbitan mono- or di-fatty acid ester	p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil 	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	
POLYSORBATE 80		Modified sorbitan	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	
SANWAX		Olefin or Styrene-based compounds	Low-molecular-weight polyethylene	p58	powder, pellet, etc.	<ul style="list-style-type: none"> Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance & releasability/flatting agent/lubricant/fixing agent for agrichemicals
VISCOL	Low-molecular-weight polypropylene		p58	powder	<ul style="list-style-type: none"> 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 & abrasion-resistance/flatting agent/lubricant 	
UMEX	Acid modified polyolefin		p58	granule, powder, etc.	<ul style="list-style-type: none"> Dispersant for pigments, fillers & wood-flour/hot-melt adhesives Resin modifier for polyolefins (such as improving adhesion) 	
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
SANRETAN TIM-2011A	Urethane Series	Polyurethane solution (caprolactone type)	-	liquid	<ul style="list-style-type: none"> Forming tough film/excellent dispersibility of magnetic powders & hydrolysis resistance Caprolactone type Binder for magnetic tapes 	




For uniform coloring of plastics



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
CATIOMER 300	Methacrylate/Acrylate-based	Water soluble cationic polymer	-	liquid	<ul style="list-style-type: none"> Organic coagulant for industrial wastewater treatment 	



For flocculation/settling

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANFLOC AH, AS, N, NOP, SW	Methacrylate/Acrylate-based	Anionic or Nonionic polyacryl amide	-	powder	<ul style="list-style-type: none"> Wastewater treatment Promotion of sedimentation filtration Applications for flocculation/sedimentation/filtering speed improver of organic flocculant 	
SANFLOC C		Acrylic cationic polymer	-	liquid, powder	<ul style="list-style-type: none"> Promotion of dewatering of organic sludge 	
METHACRYLATE		Long-chain alkyl methacrylate or dialkylaminoalkyl methacrylate derivatives	p62	liquid	<ul style="list-style-type: none"> 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 	 
SANFLOC 700	Others	Dicyandiamide type cationic resin	-	liquid, powder	<ul style="list-style-type: none"> Organic coagulant Dyeing factory wastewater treatment/sludge and sewage treatment 	

















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
BEAULIGHT LCA	Carboxylic-based anionic surfactants	Sodium polyoxyethylene lauryl ether carboxylate	p49	liquid, paste	<ul style="list-style-type: none"> Excellent foaming property, prevents excessive degreasing Low irritancy to eyes & skin Base material for weak acid hair shampoos & face washes 	
BEAULIGHT SHAA		Sodium [(2-hydroxydodecyl)-oxy] acetate	p49	liquid	<ul style="list-style-type: none"> Excellent foaming property and foam stability even under weak acidity Low irritancy to eyes & skin Base material for hair shampoos, body shampoos, facial cleansers Listed in the International Nomenclature Cosmetic Ingredient Name 	
BEAULIGHT ESS	Sulfosuccinate-based anionic surfactants	Disodium polyoxyethylene alkyl sulfosuccinate	p49	liquid	<ul style="list-style-type: none"> Excellent foaming property Low irritancy to eyes & skin, prevents excessive degreasing Base material for hair care products 	
BEAULIGHT SSS		Disodium laureth sulfosuccinate	p49	paste	<ul style="list-style-type: none"> Excellent foaming property and foam stability even under weak acidity Provides a pleasant feeling Low irritancy to eyes & skin, prevents excessive degreasing Base material for hair care products 	
SANDET EN, END	Sulfuric acid ester-based anionic surfactants	Sodium polyoxyethylene alkyl ether sulfate	p50	liquid	<ul style="list-style-type: none"> Excellent solubility to water, hard-water resistance, foaming property & detergency Low irritation to skin Detergent base/emulsifier for emulsion polymerization 	
BEAULIGHT NA-25S			p50	liquid	<ul style="list-style-type: none"> Low irritancy to eyes & skin because of its low content of sodium lauryl sulfate Base material for hair or body shampoos & detergents 	
PROFAN	Amide-based nonionic surfactants	Alkylol amide based surfactants	p51 p52	liquid, solid, flake	<ul style="list-style-type: none"> Foaming agent, foam stabilizer, thickener & detergency enhancer liquid detergents & bactericidal detergents/rust preventive 	
EMULMIN No.	Ether-based nonionic surfactants	Polyoxyethylene alkyl ether derived from natural higher alcohols	p53	liquid, solid, paste	<ul style="list-style-type: none"> Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming & wetting agent/oiliness improver Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent 	
EMULMIN CC		Polyoxyethylene cetyl ether derived from natural higher alcohols	p53	solid, wax	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	 
EMULMIN LS		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	 
EMULMIN NL, L		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	liquid, solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant EMULMIN NL, L can be used as emulsifiers for emulsion polymerization 	 



For fine foaming

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
FROTHMEISTER SP-10	Ether-based nonionic surfactants	Polyoxypropylene solbit	-	liquid	<ul style="list-style-type: none"> Generates fine foams having more resilient characteristic by combination with anionic surfactants which are used for shampoos & face washes Foam improver, foam stabilized of shampoos & body washes 	
FROTHMEISTER HG-375		Polyoxyethylene polyoxypropylene hexyleneglycol ether	-	liquid		
FROTHMEISTER GC-48		Polyoxyethylene polyoxypropylene glyceryl ether	-	liquid		
PIUSERIA AMC	Amino acid-type amphoteric surfactants	Sodium lauramino propionate	p57	liquid	<ul style="list-style-type: none"> Prevents itching caused by amino acid type shampoo. Suitable for shampoo and body soap Improves protection from skin troubles such as itching when combined with amino acid-based anionic surfactants Amino acid-type amphoteric surfactants derived from laurylamine 	
LEBON CIB	Imidazolium salt-based amphoteric surfactants	Alkyl carboxymethyl hydroxyethyl imidazolium betaine	p57	liquid	<ul style="list-style-type: none"> Low irritancy, excellent foaming property, foam stability, hard-water resistance Capable of imparting a moist feeling to hairs after washing Base material for hair shampoos & body shampoos, thickens by combination with anionic surfactants 	
LEBON 2000, 2000HG, 2000L, HC-30W, MY-30W, LD-36	Betaine-type amphoteric surfactants	(Look at the page by composition)	p57	liquid	<ul style="list-style-type: none"> Excellent foaming property & hard-water resistance Thickens by combination with anionic surfactants Base material for hair shampoos & body shampoos 	



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 (p79)

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	-	liquid	<ul style="list-style-type: none"> Defoaming agent for the fermentation industries Defoaming agent for other industrial use such as latex manufacturing process 	
NEWPOL 50HB, LB		Polyoxyethylene polyoxypropylene butyl ether, Polyoxypropylene butyl ether	p54 p55	liquid	<ul style="list-style-type: none"> Offering a wide selection from water-soluble to -insoluble products Wetting agent, moisturizer & viscosity controller/releasing lubricant/lubricant for machinery, metals & fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/ quenching oil for machinery & metals/emulsion-breaker/heating-medium 	
NEWPOL 75H-90000, V		Polyoxyethylene polyoxypropylene hexylene glycol ether, Polyoxyethylene polyoxypropylene polyol	p54 p55	liquid		
NEWPOL TL		Polyoxyethylene polyoxypropylene trimethylolpropane	p54	liquid	<ul style="list-style-type: none"> Excellent lubricating effect to skin & hair Wetting agent, moisturizer & viscosity modifier for cosmetics/defoaming agent 	
IONET S	Ester-based nonionic surfactants	Sorbitan mono- or di-fatty acid ester	p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/ machining oil/metalworking oil 	



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 (p79)

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"> Chlorine free Imparting excellent cutting processability/anti-septicity Water-soluble cutting oil 	
ECONOL	Ammonium salt-based cationic surfactants	Alkyltrimethylammonium chloride	p51	liquid, solid	<ul style="list-style-type: none"> Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair Hair conditioner & treatment base 	



For cutting oils

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
CATION DSV	Ammonium salt-based cationic surfactants	Distearyldimethylammonium chloride	p51	flake	<ul style="list-style-type: none"> Imparting excellent flexibility & antistaticity to hair and fibers Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair Softener for fabrics/hair conditioner & treatment base 	
LEBON TM-16, TM-18		Cetyltrimethylammonium chloride, Stearyltrimethylammonium chloride	p50	liquid	<ul style="list-style-type: none"> Having antibacterial & antifungal effect even at low concentration For industrial use such as germicides for food factory, public facilities/slime control of coolant/antibacterial treatment for fibers/fungicide for coatings/wood preservation 	
CATION LQ		Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium	p50	paste	<ul style="list-style-type: none"> 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 SF	Imidazolinium salt-based cationic surfactants	Imidazoline compound	p51	liquid to paste	<ul style="list-style-type: none"> Imparting excellent flexibility, antistaticity & water-absorbing effect Softener for fabrics 	
BLEMBER	Ether-based nonionic surfactants	Polyoxyalkylene alkyl ether	p52	liquid	<ul style="list-style-type: none"> Excellent lubricity, oil separation performance/low foaming property Water-soluble cutting oil base 	 
NEWDET PE-85		Polyoxyethylene polyoxypropylene glycol	p54	petrolatum jelly	<ul style="list-style-type: none"> Corresponding to Japanese Pharmaceutical Excipients Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent) Cleaning agent for medical equipment 	
NEWPOL PE			p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	 
NEWPOL 50HB, LB		Polyoxyethylene polyoxypropylene butyl ether, Polyoxypropylene butyl ether	p54 p55	liquid	<ul style="list-style-type: none"> Offering a wide selection from water-soluble to -insoluble products Wetting agent, moisturizer & viscosity controller/releasing lubricant/lubricant for machinery, metals & fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery & metals/emulsion-breaker/heating-medium 	 
NEWPOL 75H-90000, V		Polyoxyethylene polyoxypropylene hexylene glycol ether, Polyoxyethylene polyoxypropylene polyol	p54 p55	liquid		 
NEWPOL TL		Polyoxyethylene polyoxypropylene trimethylolpropane	p54	liquid	<ul style="list-style-type: none"> Excellent lubricating effect to skin & hair Wetting agent, moisturizer & viscosity modifier for cosmetics/defoaming agent 	
NEWPOL GEP-2800		Poly (oxyethylene, oxypropylene) glyceryl ether	p54	liquid	<ul style="list-style-type: none"> Polyether for brake oil base Provides lubricity, improves viscosity index, and increases residual evaporation components Lubricants, hydraulic oil raw material/base material for machinery and metal quenching oil/demulsifier/heat medium 	 
NEWPOL GP		Polypropylene triol	p55	liquid	<ul style="list-style-type: none"> Non-volatile/low freezing point Wetting agent & moisturizer/raw material for surfactant & synthetic lubricant/releasing lubricant 	 
NEWPOL PP		Polypropylene glycol	p52	liquid	<ul style="list-style-type: none"> Non-volatile/low freezing point Wetting agent & moisturizer for cosmetics/raw material for cosmetics, surfactant & synthetic lubricant/releasing lubricant 	 
TG-C		Ester-based nonionic surfactants	Glyceryl monostearate	p56	flake	<ul style="list-style-type: none"> Softener, emulsifier, solubilizer, moisturizer & oiliness improver, creams, lotions & quasi drugs Lubricant & stabilizer of sustained drug releasing agents, tablets, pills & capsules of medicine
IONET DL-200, DO, DS, MO, MS	Polyoxyethylene fatty acid diester or monoester		p56	liquid, solid	<ul style="list-style-type: none"> Offering a wide selection from lipophilic to hydrophilic products Emulsifier/dispersant/solubilizer/detergent base/fiber-leveling agent 	
IONET S	Sorbitan mono- or di-fatty acid ester		p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil 	 
IONET T	Polyoxyethylene sorbitan monofatty acid ester		p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	 



For lubricant for fibers

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
POLYSORBATE 80	Ester-based nonionic surfactants	Modified sorbitan	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p58	powder, pellet, etc.	<ul style="list-style-type: none"> Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance & releasability/flattening agent/lubricant/fixing agent for agrichemicals 	
VISCOL		Low-molecular-weight polypropylene	p58	powder	<ul style="list-style-type: none"> 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 & abrasion-resistance/flattening agent/lubricant 	
SANFRIC	Acids/Acid Anhydrides	Fatty acid formulation	p59	liquid	<ul style="list-style-type: none"> Friction reducer/anti-wear agent/lubricity improver for fuel oil 	
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
MACROGOL			p60	liquid, flake, powder, paste	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Corresponding to the Japanese Pharmacopoeias & Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) Base material for ointments & suppositories/lubricant & binder for tablets or capsules/plasticizer & solubilizer for manufacturing medicine 	
ACLUBE	Methacrylate/Acrylate-based	Methacrylate copolymer & refined mineral oil	p62	liquid	<ul style="list-style-type: none"> Contributing to a reduction of fuel consumption to reduce the viscosity of lubricants depending on temperature Viscosity Index Improver/Viscosity Modifier (VII/VM) or pour point depressant for lubricants, hydraulic & engine oils/dewaxing aid during the production of lubricants 	



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"> Imparting excellent spreading property to agrichemical granules Excellent binding property/enhancing hardness of granules Dispersant & binder for agrichemical granules 	
NEWDET PE-85	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p54	petrolatum jelly	<ul style="list-style-type: none"> Corresponding to Japanese Pharmaceutical Excipients Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent) Cleaning agent for medical equipment 	
NEWPOL PE			p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
NEWPOL T-240U		Modified polyether	-	block	<ul style="list-style-type: none"> Freezing point (55-60°C)/slow dissolution to water Binder for aromatic deodorant toilet cleaner 	
POLYSORBATE 80	Ester-based nonionic surfactants	Modified sorbitan	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	



For excipients for tablets

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
CHEMITYLEN PEB-13ST	Esters	Bisphenol-A type unsaturated polyester	p58	powder	<ul style="list-style-type: none"> Binder for glass chopped strand mats for FRP 	
ACROBINDER BG-7	Olefin-based compounds	Butadiene & maleic acid copolymer	-	liquid	<ul style="list-style-type: none"> Binder for fiberglasses Especially suitable for FRTR (Fiber-Rainforced Thermo Plastic) 	
UMEX		Acid modified polyolefin	p58	granule, powder, etc.	<ul style="list-style-type: none"> Dispersant for pigments, fillers & wood-flour/hot-melt adhesives Resin modifier for polyolefins (such as improving adhesion) 	
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p59	liquid	<ul style="list-style-type: none"> Imparting long pot life, excellent electrical insulating property, flexibility & bending strength to resins Epoxy curing agent/rust preventive/corrosion inhibitor 	
POLYMIDE L	Nitrogen-Containing Compounds	Polyamideamine	p59	liquid	<ul style="list-style-type: none"> 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. 	
MELPOL F-220	Polyols	Isocyanate modified polyether	-	pellet	<ul style="list-style-type: none"> 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 	
PEG		Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
MACROGOL				liquid, flake, powder, paste	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Corresponding to the Japanese Pharmacopoeias & Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) Base material for ointments & suppositories/lubricant & binder for tablets or capsules/ plasticizer & solubilizer for manufacturing medicine 	
SANNIX PL-2100, PP		Polyoxyethylene polyoxypropylene glycol/ Polyoxypropylene glycol	p61	liquid	<ul style="list-style-type: none"> Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants) 	
SANNIX GP		Polyoxypropylene triol	p61	liquid	<ul style="list-style-type: none"> 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 TP-400		Trimethylolpropane-based polyether polyol	p61	liquid	<ul style="list-style-type: none"> Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants) 	
SANNIX SP-750		Polyoxypropylene sorbitol ether	p61	liquid		
CB-1	Methacrylate/ Acrylates-based	Acrylic resin	-	powder	<ul style="list-style-type: none"> Binder for injection molding ceramics High thermal decomposition Excellent shape retention and hardness of ceramics 	
POLYQUID		Methacrylic acid - ethyl acrylate copolymer	p62	liquid	<ul style="list-style-type: none"> Aqueous dispersion Enteric-soluble coating agent/masking pungency/binder for matrices Corresponding to Pharmacopoeias in the USA, Japan & some product are compatible to the ones in Europe 	
POLYTHICK	Methacrylate/ Acrylates-based	Acrylic resin or acrylic resin solution	p63	liquid	<ul style="list-style-type: none"> Excellent transparency/weather-, heat resistance Tackifier (pressure-sensitive adhesive) For various tapes (surgical, surface protection, electrical insulating, double-sided)/ paper making/automobile interiors/sealant for polypropylene bags 	
POLYTHICK SC-75		Proprietary urethane prepolymer	-	liquid	<ul style="list-style-type: none"> Curing agent for acrylic adhesives (isocyanate-based) 	

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
UPRENE UXA-307	Urethane series	Polyurethane emulsion	p63	liquid	<ul style="list-style-type: none"> Forming film has excellent adhesion & water-resistance Adhesive for plastics, fabrics & woods/excels in adhesion with PVC sheet & plywood Unavailable for use directly brought into contact with the skins because of containing N-methyl pyrrolidone 	
SANPRENE H		Polyurethane solution	p63	liquid	<ul style="list-style-type: none"> Resulting film has excellent moisture permeability Adhesive layer & coating agent to skin layer for moisture permeable waterproofing cloth 	
SANRETAN TIM-2011A		Polyurethane solution (caprolactone type)	-	liquid	<ul style="list-style-type: none"> Forming tough film/excellent dispersibility of magnetic powders & hydrolysis resistance Caprolactone type Binder for magnetic tapes 	
POLYMEDICA		Two-component type polyurethane	-	liquid	<ul style="list-style-type: none"> Potting material for dialyzer & water purifiers 	

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	Ammonium salt-based cationic surfactants	Alkyltrimethylammonium chloride	p51	liquid, solid	<ul style="list-style-type: none"> Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair Hair conditioner & treatment base 	
LEBON TM-16, TM-18		Cetyltrimethylammonium chloride, Stearyltrimethylammonium chloride	p50	liquid	<ul style="list-style-type: none"> Having antibacterial & antifungal effect even at low concentration For industrial use such as germicides for food factory, public facilities/slime control of coolant/antibacterial treatment for fibers/fungicide for coatings/wood preservation 	
CATION LQ		Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium	p50	paste	<ul style="list-style-type: none"> 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	p51	flake	<ul style="list-style-type: none"> Imparting excellent flexibility & antistaticity to hair and fibers Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair Softener for fabrics/hair conditioner & treatment base 	
CATION SF	Imidazolinium salt-based cationic surfactants	Imidazoline compound	p51	liquid to paste	<ul style="list-style-type: none"> Imparting excellent flexibility, antistaticity & water-absorbing effect Softener for fabrics 	
CATION G-50	Benzalkonium-based cationic surfactants	Benzalkonium chloride	p51	liquid	<ul style="list-style-type: none"> Wide spectrum antibacterial activities Germicide, detergent for food factory/germicide for industrial use 	
NEWPOL PE	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
TG-C	Ester-based nonionic surfactants	Glyceryl monostearate	p56	flake	<ul style="list-style-type: none"> Softener, emulsifier, solubilizer, moisturizer & oiliness improver, creams, lotions & quasi drugs Lubricant & stabilizer of sustained drug releasing agents, tablets, pills & capsules of medicine 	
IONET S		Sorbitan mono- or di-fatty acid ester	p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil 	
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	



For hair conditioners



For softeners

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications	
POLYSORBATE 80	Ester-based nonionic surfactants	Modified sorbitan	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 		
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p58	powder, pellet, etc.	<ul style="list-style-type: none"> Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance & releasability/flattening agent/lubricant/fixing agent for agrichemicals 		
VISCOL		Low-molecular-weight polypropylene	p58	powder	<ul style="list-style-type: none"> 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 & abrasion-resistance/flattening agent/lubricant 		
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p59	liquid	<ul style="list-style-type: none"> Imparting long pot life, excellent electrical insulating property, flexibility & bending strength to resins Epoxy curing agent/rust preventive/corrosion inhibitor 		
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 		
MACROGOL			p60	liquid, flake, powder, paste	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Corresponding to the Japanese Pharmacopoeias & Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) Base material for ointments & suppositories/lubricant & binder for tablets or capsules/plasticizer & solubilizer for manufacturing medicine 		
SANNIX GP		Polyoxypropylene triol	p61	liquid	<ul style="list-style-type: none"> 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 PL-2100		Polyoxyethylene polyoxypropylene glycol	p61	liquid	<ul style="list-style-type: none"> Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants) 		
SANNIX PP, TP-400		Polyoxypropylene glycol/Trimethylolpropane-based polyether polyol	p61	liquid			
NEWPOL BP		Bisphenol A-propylene oxide adduct	p60	liquid	<ul style="list-style-type: none"> Resulting resin has excellent corrosion resistance & flexibility Raw material for resins, organic-intermediate/modifier for resin 		
NEWPOL BPE		Bisphenol A-ethylene oxide adduct	p61	liquid, block, etc.			
SANFLEX EB	Ethers	Polyethyleneglycol dibenzoate	p58	liquid	<ul style="list-style-type: none"> Hardly bleeding out Plasticizer for polyurethane resin 		
SANFLEX GPA-3000, LUB		Polyether	p58/-	liquid		<ul style="list-style-type: none"> Inactive to isocyanate Hardly bleed out because of their blanched structures Plasticizer for polyurethane resin 	
MELPOL F-220		Polyether water-soluble polymer	-	pellet		<ul style="list-style-type: none"> 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	p62	liquid	<ul style="list-style-type: none"> 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 		



For ointment

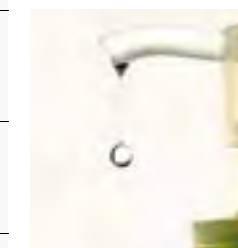


For plastics or rubbers

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
CARRYBON L-400	Carboxylic-based anionic surfactants	Polycarboxylate	p49	liquid	<ul style="list-style-type: none"> Providing low-viscosity pigment slurry with high dispersion stability Dispersant for pigment slurry of water-soluble or emulsion coatings 	
PROFAN	Amide-based nonionic surfactants	Alkylol amide based surfactants	p51 p52	liquid, solid, flake	<ul style="list-style-type: none"> Foaming agent, foam stabilizer, thickener & detergency enhancer liquid detergents & bactericidal detergents/rust preventive 	
EMULMIN CC	Ether-based nonionic surfactants	Polyoxyethylene cetyl ether derived from natural higher alcohols	p53	solid, wax	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
NEWDET PE-85		Polyoxyethylene polyoxypropylene glycol	p54	petrolatum jelly	<ul style="list-style-type: none"> Corresponding to Japanese Pharmaceutical Excipients Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent) Cleaning agent for medical equipment 	
NEWPOL PE			p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
EMULMIN LS		Polyoxyethylene lauryl ether derived from natural higher alcohols	p55	solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant 	
EMULMIN NL, L			p55	liquid, solid to paste	<ul style="list-style-type: none"> Hardly hydrolyzed even in the presence of acidity or alkalinity Detergent/emulsifier for creams & lotions/solubilizer/gelling & foaming agent/dispersant EMULMIN NL, L can be used as emulsifiers for emulsion polymerization 	
NEWPOL DDE-10		Polyoxyethylene lauryl glycol	p52	paste	<ul style="list-style-type: none"> Alkanediol derivative of dodecanediol in which about 1 mol ethylene oxide is adducted in average Low irritancy to eyes & skins Antibacterial-, antifungal-, thickening agent for hair shampoos, conditioners, cosmetics & detergents 	
NEWPOL 50HB, LB		Polyoxyethylene polyoxypropylene butyl ether, Polyoxypropylene butyl ether	p54 p55	liquid	<ul style="list-style-type: none"> Offering a wide selection from water-soluble to -insoluble products Wetting agent, moisturizer & viscosity controller/releasing lubricant/lubricant for machinery, metals & fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery & metals/emulsion-breaker/heating-medium 	
NEWPOL 75H-90000, V			p54 p55	liquid		
NEWPOL TL		Polyoxyethylene polyoxypropylene trimethylolpropane	p54	liquid	<ul style="list-style-type: none"> Excellent lubricating effect to skin & hair Wetting agent, moisturizer & viscosity modifier for cosmetics/defoaming agent 	
NEWPOL GEP-2800		Poly(oxyethylene, oxypropylene) glyceryl ether	p54	liquid	<ul style="list-style-type: none"> Polyether for brake oil base Provides lubricity, improves viscosity index, and increases residual evaporation components Lubricants, hydraulic oil raw material/base material for machinery and metal quenching oil/demulsifier/heat medium 	
EMULMIN 862		Ester-based nonionic surfactants	Polyoxyethylene distearate	p56	powder	<ul style="list-style-type: none"> Thickener, gelling agent for cosmetics, shampoos & hair conditioners
IONET S	Sorbitan mono- or di-fatty acid ester		p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil 	
IONET T	Polyoxyethylene sorbitan monofatty acid ester		p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	



To control viscosity of liquids

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
POLYSORBATE 80	Ester-based nonionic surfactants	Modified sorbitan	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p58	powder, pellet, etc.	<ul style="list-style-type: none"> Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance & releasability/flattening agent/lubricant/fixing agent for agrichemicals 	
VISCOL		Low-molecular-weight polypropylene	p58	powder	<ul style="list-style-type: none"> 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 & abrasion-resistance/flattening agent/lubricant 	
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p59	liquid	<ul style="list-style-type: none"> Imparting long pot life, excellent electrical insulating property, flexibility & bending strength to resins Epoxy curing agent/rust preventive/corrosion inhibitor 	
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
MACROGOL			p60	liquid, flake, powder, paste	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Corresponding to the Japanese Pharmacopoeias & Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) Base material for ointments & suppositories/lubricant & binder for tablets or capsules/plasticizer & solubilizer for manufacturing medicine 	
ACLUBE	Methacrylate/Acrylate-based	Methacrylate copolymer & refined mineral oil	p62	liquid	<ul style="list-style-type: none"> Contributing to a reduction of fuel consumption to reduce the viscosity of lubricant depending on temperature Viscosity Index Improver/Viscosity Modifier (VII/VM) or pour point depressant for lubricants, hydraulic & engine oils/dewaxing aid during the production of lubricants 	
SALANJUL	Methacrylate/Acrylate-based	Starch/acrylic acid graft copolymer sodium salt	p63	powder	<ul style="list-style-type: none"> Water soluble thickeners for cosmetics: cross-linked acrylic acid polymers derived from starches originated from corns Swells in water easily, Suppress stickiness and fit comfortably to skins 	
SANFRESH		Cross-linked acrylic acid polymer sodium salt	p63	powder	<ul style="list-style-type: none"> Crushed particulate superabsorbent polymer Water absorbent & retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for medical use/thickener/ice packs 	



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"> Imparting long-lasting excellent antistatic property independent of humidity Permanent antistatic agent for resins (preventing dust adhesion & troubles by static electricity, destruction of electronic circuit, electric shock & appliance malfunctions, etc.) Causing almost no resin deterioration/especially PELECTRON shows lower resistivity 	
CHEMISTAT	Anionic or nonionic surfactants	Proprietary nonionic surfactant	-	liquid, powder, etc.	<ul style="list-style-type: none"> Antistatic agent for synthetic resins Offering coating, kneading or reactive type 	
ECONOL	Ammonium salt-based cationic surfactants	Alkyltrimethylammonium chloride	p51	liquid, solid	<ul style="list-style-type: none"> Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair Hair conditioner & treatment base 	
LEBON TM-16, TM-18		Cetyltrimethylammonium chloride, Stearyltrimethylammonium chloride	p50	liquid	<ul style="list-style-type: none"> Having antibacterial & antifungal effect even at low concentration For industrial use such as germicides for food factory, public facilities/slime control of coolant/antibacterial treatment for fibers/fungicide for coatings/wood preservation 	



For protective films



To prevent dust

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
CATION DSV	Ammonium salt-based cationic surfactants	Distearyldimethylammonium chloride	p51	flake	<ul style="list-style-type: none"> Imparting excellent flexibility & antistaticity to hair and fibers Imparting smoothness, pliability & tenseness-stiffness finished feeling to hair Softener for fabrics/hair conditioner & treatment base 	
CATION LQ		Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium	p50	paste	<ul style="list-style-type: none"> 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 SF	Imidazolinium salt-based cationic surfactants	Imidazoline compound	p51	liquid to paste	<ul style="list-style-type: none"> Imparting excellent flexibility, antistaticity & water-absorbing effect Softener for fabrics 	
NEWPOL PE	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene glycol	p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
SIPA, SIPM	Sodium-5-sulphoisophthalic acid/ 5-Sodium sulfo dimethyl isophthalate	Polyethylene glycol	p59	granule, liquid, powder	<ul style="list-style-type: none"> Imparting cationic dyability, hydrophilicity & antistatic property to polymers such as polyester, polyurethane & polyamide 	
PEG					Polyols	p60



To avoid static electricity by brushing

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"> Significant high degree of ionic dissociation/high electric conductivity High durability (less temperature-dependency of electric conductivity) Electrolyte for aluminum electrolytic capacitors 	



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 (p79)

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANWET IM	Methacrylate/Acrylate-based	Cross-linked acrylic acid polymer sodium salt	p63	powder	<ul style="list-style-type: none"> Crushed particulate superabsorbent polymer/high water-absorbency, retentivity Corresponding to Japanese Pharmaceutical Excipients Thickener, gelling, absorbing agent for wound dressing, under pads, poultices or other supplies for medical use 	
SANFRESH		(SANWET IM: Starch/acrylic acid graft copolymer sodium salt)	p63	powder	<ul style="list-style-type: none"> Crushed particulate superabsorbent polymer Water absorbent & retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for medical use/thickener/ice packs 	
SANYO SEEDBED	Methacrylate/Acrylate-based	Cross-linked acrylic acid polymer sodium salt	-	sheet	<ul style="list-style-type: none"> Seeding sheet for reducing soil of nursery beds 	



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	Polyols	Proprietary polyether polyol or polymer polyol	p60 p61	liquid	<ul style="list-style-type: none"> Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants) 	



For waterproofing for roofs







Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANFRESH	Methacrylate/Acrylate-based	Cross-linked acrylic acid polymer sodium salt	p63	powder	<ul style="list-style-type: none"> Crushed particulate superabsorbent polymer Water absorbent & retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for cosmetics & medical use/thickener/ice packs 	
SANPRENE SEL No.3	Urethane series	Urethane prepolymer	p63	liquid	<ul style="list-style-type: none"> Possible to obtain sealants with excellent water resistance, weather resistance, and flexibility Room temperature curing sealant 	



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, LB	Ether-based nonionic surfactants	Polyoxyethylene polyoxypropylene butyl ether, Polyoxypropylene butyl ether	p54 p55	liquid	<ul style="list-style-type: none"> Offering a wide selection from water-soluble to -insoluble products Wetting agent, moisturizer & viscosity controller/releasing lubricant/lubricant for machinery, metals & fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery & metals/emulsion-breaker/heating-medium 	
NEWPOL 75H-90000, V		Polyoxyethylene polyoxypropylene hexylene glycol ether, Polyoxyethylene polyoxypropylene polyol	p54 p55	liquid		
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
SANNIX		Proprietary polyether polyol or polymer polyol	p60 p61	liquid		 
SANFRESH	Methacrylate/Acrylate-based	Cross-linked acrylic acid polymer sodium salt	p63	powder	<ul style="list-style-type: none"> Crushed particulate superabsorbent polymer Water absorbent & retention agent (soil conditioners/seedbeds/portable toilets/dog toilet sheets/gel-type air fresheners/under pads/disposable body warmers)/additive for cosmetics & medical use/thickener/ice packs 	



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	p50	liquid	<ul style="list-style-type: none"> Halogen-free Germicide for industrial use (food factory, fiber processing), detergent for food factory/wood & metal-cleaning-bath preservative 	 
LEBON TM-16MS		Cetyltrimethylammonium -chloride, -methyl sulfate	p50	liquid		<ul style="list-style-type: none"> Having antibacterial & antifungal effect even at low concentration For industrial use such as germicides for food factory, public facilities/slime control of coolant/antibacterial treatment for fibers/fungicide for coatings/wood preservation
GEM	Benzalkonium-based cationic surfactants	Benzalkonium chloride (special grade for medical use)	-	liquid	<ul style="list-style-type: none"> Powerful antibacterial effect Low odor Germicide exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing 	 
CATION G-50		Benzalkonium chloride	p51	liquid		<ul style="list-style-type: none"> Wide spectrum antibacterial activities Germicide, detergent for food factory/germicide for industrial use
LEBON T-2	Amino acid-type amphoteric surfactants	Dodecylaminoethylaminoethyl-glycine/Alkyldiaminoethyl-glycine hydrochloride	p57	liquid, solid	<ul style="list-style-type: none"> Wide spectrum antibacterial activities/little deterioration of germicidal activity even in the presence of proteins Lower oval toxicity & skin irritancy compared to cationic antibacterial agents Germicides & detergents for food factory (industrial use) 	
NEWPOL DDE-10	Ether-based nonionic surfactants	Polyoxyethylene lauryl glycol	p52	paste	<ul style="list-style-type: none"> Alkanediol derivative of dodecanediol in which about 1 mol ethylene oxide is adducted in average Low irritancy to eyes & skins Antibacterial-, antifungal-, thickening agent for hair shampoos, conditioners, cosmetics & detergents 	



Without treatment















With treatment



For disinfectants

19 Rust Preventive

to avoid rusting

Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANHIBITOR	Anionic or nonionic surfactants	Proprietary anionic or nonionic surfactant	-	liquid, paste	<ul style="list-style-type: none"> Rust inhibitor for machinery & metals 	 
	Acids/Acid Anhydrides	Alkenylsuccinic acid ester or Alkenylsuccinic anhydride	p59			
HIGHCLEAN	Anionic surfactants	Compound of lubricant & proprietary antibacterial surfactant	-	liquid (possibly jelly in winter)	<ul style="list-style-type: none"> Chlorine free Imparting excellent cutting processability/anti-septicity Water-soluble cutting oil 	
PROFAN	Amide-based nonionic surfactants	Alkylol amide based surfactants	p51 p52	liquid, solid, flake	<ul style="list-style-type: none"> Foaming agent, foam stabilizer, thickener & detergency enhancer for liquid detergents & bactericidal detergent/rust preventive 	
IONET S	Ester-based nonionic surfactants	Sorbitan mono- or di-fatty acid ester	p56	liquid, granule	<ul style="list-style-type: none"> SPAN type lipophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/defoaming agent Viscosity modifier for coatings & ink/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil 	 
IONET T		Polyoxyethylene sorbitan monofatty acid ester	p56	liquid	<ul style="list-style-type: none"> TWEEN type hydrophilic surfactants derived from plants Emulsifier/dispersant/wettability modifier/rust inhibitor/solubilizer/leveling agent & softener for fibers/lubricant/machining oil/metalworking oil Plasticizer for enteric-soluble coating agents, etc./ointment bases/viscosity modifier for coatings & ink 	 
DSA, PDSA-DA	Acids/Acid Anhydrides	Alkenyl succinic anhydride	p59	liquid	<ul style="list-style-type: none"> Imparting long pot life, excellent electrical insulating property, flexibility & bending strength to resins Epoxy curing agent/rust preventive/corrosion inhibitor 	 
POLYIMIDE L	Nitrogen-Containing Compounds	Polyamideamine	p59	liquid	<ul style="list-style-type: none"> 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. 	 











Without rust preventive



With rust preventive

20 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	p53	liquid, solid, paste	<ul style="list-style-type: none"> Offering a wide selection from HLB (lipophilicity/hydrophilicity parameter)/biodegradable Detergent/emulsifier/dispersant/solubilizer/emulsifier for emulsion polymerization/gelling, foaming & wetting agent/oiliness improver Sulfation, phosphorylation base/pulp cooking aid/leveling, soaping agent 	
SANWAX	Olefin-based compounds	Low-molecular-weight polyethylene	p58	powder, pellet, etc.	<ul style="list-style-type: none"> Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance & releasability/flattening agent/lubricant/fixing agent for agrichemicals 	 
VISCOL		Low-molecular-weight polypropylene	p58	powder	<ul style="list-style-type: none"> 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 & abrasion-resistance/flattening agent/lubricant 	 
SIPA, SIPM	Sodium-5-sulphoisophthalic acid/ 5-Sodium sulfo dimethyl isophthalate		p59	granule, liquid, powder	<ul style="list-style-type: none"> Imparting cationic dyability, hydrophilicity & antistatic property to polymers such as polyester, polyurethane & polyamide 	
PEG	Polyols	Polyethylene glycol	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	 

Continued on the next page →


















Product Name	Composition Classification	Principal Component	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
POLYQUID	Methacrylate/Acrylate-based	Methacrylic acid - ethyl acrylate copolymer	p62	liquid	<ul style="list-style-type: none"> Aqueous dispersion Enteric-soluble coating agent/masking pungency/binder for matrices Corresponding to Pharmacopoeias in the USA, Japan & some product are compatible to the ones in Europe 	

21 For Reacting/Forming

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

Beside, our subsidiary & affiliate; San-Petrochemicals Co., Ltd. also provides related products (p79)

Product Name	Principal Component	Application	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
TOXANON	Polycarboxylate	Excipient	-	liquid	<ul style="list-style-type: none"> Imparting excellent spreading property to agrichemical granules Excellent binding property/enhancing hardness of granules Dispersant & binder for agrichemical granules 	
SANMORIN OT	Sodium dioctyl sulfosuccinate	Excipient	p49	liquid	<ul style="list-style-type: none"> Particularly excellent penetrating property among surfactants/excellent wettability to hydrophobic materials/wetting- & penetrating agent/dispersant & binder for granules/penetrating agent for agrichemical spreading/dispersant/emulsifier for emulsion polymerization Suitable for aqueous (water-soluble, emulsion) coatings 	
NEWDET PE-85	Polyoxyethylene polyoxypropylene glycol	Excipient	p54	petrolatum jelly	<ul style="list-style-type: none"> Corresponding to Japanese Pharmaceutical Excipients Pharmaceutical excipients (solubilizer for liquid medicine/stabilizer/wetting agent for ointment/suppository base/gelling agent/binder for tablets/coating agent) Cleaning agent for medical equipment 	
NEWPOL PE		Synthesis, Excipient	p54	liquid, flake, paste	<ul style="list-style-type: none"> 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 	
NEWPOL 50HB, LB	Polyoxyethylene polyoxypropylene butyl ether, Polyoxypropylene butyl ether	Synthesis, Polymerization	p54 p55	liquid	<ul style="list-style-type: none"> Offering a wide selection from water-soluble to -insoluble products Wetting agent, moisturizer & viscosity controller/releasing lubricant/lubricant for machinery, metals & fabrics/defoaming agent/raw materials for lubricant, hydraulic oils/quenching oil for machinery & metals/emulsion-breaker/heating-medium 	
NEWPOL 75H-90000, V	Polyoxyethylene polyoxypropylene hexylene glycol ether, Polyoxyethylene polyoxypropylene polyol	Synthesis, Polymerization	p54 p55	liquid		
NEWPOL PP	Polyoxypropylene glycol	Synthesis, Polymerization	p52	liquid	<ul style="list-style-type: none"> Non-volatile/low freezing point Wetting agent & moisturizer for cosmetics/raw material for cosmetics, surfactant & synthetic lubricant/releasing lubricant 	
NEWPOL GP	Polyoxypropylene triol	Synthesis, Polymerization	p55	liquid	<ul style="list-style-type: none"> Non-volatile/low freezing point Wetting agent & moisturizer/raw material for surfactant & synthetic lubricant/releasing lubricant 	
POLYSORBATE 80	Modified solbitan	Excipient	-	liquid	<ul style="list-style-type: none"> Derived from plants/no animal ingredients nor genetically-modified ingredients For pharmaceutical preparations (plasticizer/lubricant/solubilizer/wetting agent/emulsifier/thickener/dispersant/binder/base material/auxiliary disintegrant) Corresponding to the pharmacopoeias (JP, USP/NF, EP) (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) 	
PEG	Polyethylene glycol	Synthesis, Polymerization, Excipient	p60	liquid, wax, paste, flake, powder	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Low acute toxicity/low irritancy to eyes & skins Widely used in various applications 	
MACROGOL		Excipient	p60	liquid, flake, powder, paste	<ul style="list-style-type: none"> Compatible with skin/water-soluble & -retainable/non-volatile/free from greasiness Corresponding to the Japanese Pharmacopoeias & Pharmaceutical Excipients (Exclusively used in medical drug manufacturing/medical drug for exclusive use in manufacturing) Base material for ointments & suppositories/lubricant & binder for tablets or capsules/plasticizer & solubilizer for manufacturing medicine 	
METHACRYLATE	Long-chain alkyl methacrylate or dialkylaminoalkyl methacrylate derivatives	Polymerization	p62	liquid	<ul style="list-style-type: none"> 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 	

Product Name	Principal Component	Application	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
POLYQUID	Methacrylic acid - ethyl acrylate copolymer	Polymerization, Excipient	p62	liquid	<ul style="list-style-type: none"> Aqueous dispersion Enteric-soluble coating agent/masking pungency/binder for matrices Corresponding to Pharmacopoeias in the USA, Japan & some product are compatible to the ones in Europe 	
VCH	4-Vinyl-1-cyclohexene	Synthesis, Polymerization	p58	liquid	<ul style="list-style-type: none"> Monomer for resins/polymerization Mw 108.2, CAS No. 100-40-3, San-Petrochemicals Co., Ltd.'s products 	
REGIT SM	Styrene-maleic acid ester copolymer	Forming	-	granule	<ul style="list-style-type: none"> Containing carboxyl groups in a molecule Dispersant for pigments & fillers/imparting hardness, abrasion-resistance & leveling property for floor polish coatings 	
SANWAX	Low-molecular-weight polyethylene	Forming, Excipient	p58	powder, pellet, etc.	<ul style="list-style-type: none"> Moderate hardness, low melt viscosity equivalent to polyethylene/incompatible with polymers excepting polyolefins/for abrasives/anti-sagging agents/binder for ink/pigments, filler dispersants/improver for flowability, softening point, abrasion-resistance & releasability/flattening agent/lubricant/fixing agent for agrichemicals 	
VISCOL	Low-molecular-weight polypropylene	Forming, Excipient	p58	powder	<ul style="list-style-type: none"> 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 & abrasion-resistance/flattening agent/lubricant 	
SANNIX AP-470, NE-240, NL	Aliphatic amine-based polyol	Polymerization, Forming, Molding	p60	liquid	<ul style="list-style-type: none"> Low viscosity/high reactivity Raw material for polyurethane foam 	
SANNIX NP-300 NEWPOL NP-300		Polymerization, Forming	p60/ -	liquid	<ul style="list-style-type: none"> Little shrinkage of foaming Raw material for polyurethane foam Cross-linking agent 	
SANNIX HM	Aromatic amine-based polyol	Polymerization, Forming	p60	liquid	<ul style="list-style-type: none"> Good compatibility with aromatic polyisocyanates Resulting foam has excellent compressive strength & dimensional stability with fine-cells Raw material for polyurethane foam (rigid foam for injection panels or boards) 	
MELPOL F-220	Isocyanate modified polyether	Polymerization, Film formation	-	pellet	<ul style="list-style-type: none"> 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 	
SANESTER	Polyalkylene adipate diol, polyester diol, etc.	Polymerization, Film formation, Forming	p60	liquid to paste, solid, etc.	<ul style="list-style-type: none"> Raw material for polyurethane resins (e.g. adhesives, coatings, elastomers & sealants) 	
NEWPOL BP	Bisphenol A-propylene oxide adduct	Polymerization, Forming	p60	liquid	<ul style="list-style-type: none"> Resulting resin has excellent corrosion resistance & flexibility Raw material for resins, organic-intermediate/modifier for resin 	
NEWPOL BPE	Bisphenol A-ethylene oxide adduct	Polymerization, Forming	p61	liquid, block, etc.		
SANNIX FA	Proprietary polyether polyol	Polymerization, Forming	-	liquid	<ul style="list-style-type: none"> Offering a wide selection of molecular weight Raw material for polyurethane foam For polyurethane foam from flexible to semi-rigid 	
SANNIX GP	Polyoxypropylene triol	Polymerization, Forming	p61	liquid	<ul style="list-style-type: none"> 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	p61	liquid		
SANNIX PL-2100	Polyoxyethylene polyoxypropylene glycol	Polymerization, Forming	p61	liquid	<ul style="list-style-type: none"> Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants) 	
SANNIX GS-3000R	Polyether polyol	Polymerization, Forming	-	liquid		



For sofas

Product Name	Principal Component	Application	Page	Form (20±5°C)	Uses & Features (of all functions)	Major Applications
SANNIX SP-750	Polyoxypropylene sorbitol ether	Polymerization, Forming	p61	liquid	<ul style="list-style-type: none"> Raw material for polyurethane foam & resins (e.g. adhesives, coatings, elastomers & sealants) 	
SANNIX TP-400	Trimethylolpropane-based polyether polyol	Polymerization, Forming	p61	liquid		
SANNIX KC	Polyether polyol or polymer polyol	Polymerization, Forming	-	liquid	<ul style="list-style-type: none"> Excellent curability and durability (moist heat resistance) Raw material for polyurethane foam (high-resilient foam) 	
ULTIFLOW FM-5704	Polymer Polyol	Polymerization, Foaming	-	liquid	<ul style="list-style-type: none"> Polymer Polyol (POP) for High-Resilient Flexible Polyurethane Foams Having Low Viscosity and High Flame Resistance For molded foams for automobile seats and high-resilient flexible slabstock foams used for sofas 	
SHARPFLOW FS-7301		Polymerization, Forming	-	liquid	<ul style="list-style-type: none"> 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	p59	liquid	<ul style="list-style-type: none"> Imparting long pot life, excellent electrical insulating property, flexibility & bending strength to resins Epoxy curing agent/rust preventive/corrosion inhibitor 	
POLYMIDE L	Polyamideamine	Polymerization, Film formation, Forming	p59	liquid	<ul style="list-style-type: none"> 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. 	
SANMODUR	Synthetic/artificial wood (Polyurethanated product)	Shaping, Forming	-	board	<ul style="list-style-type: none"> Tooling material (chemical board) for models & molds in various processes (designing, trial & production) by cutting & milling Excellent fine structure, dimensional stability, homogeneity & processability/ giving appropriate property according to the application 	
UPRENE UXA-307	Polyurethane emulsion	Film formation	p63	liquid	<ul style="list-style-type: none"> Forming film has excellent adhesion & water-resistance Adhesive for plastics, fabrics & woods/excels in adhesion with PVC sheet & plywood Unavailable for use directly brought into contact with the skins because of containing N-methyl pyrrolidone 	
POLYMEDICA	Two-component type polyurethane	Polymerization, Forming	-	liquid	<ul style="list-style-type: none"> Potting material for dialyzer & water purifiers 	
SANPRENE H	Polyurethane solution	Film formation	p63	liquid	<ul style="list-style-type: none"> Resulting adhesion layer has excellent moisture permeability Top layer for moisture-permeable & waterproofing fabrics (resulting film has the excellent moisture-permeability) 	
SANPRENE HMP-17A		Film formation	p63	liquid	<ul style="list-style-type: none"> Top layer for moisture-permeable & waterproofing fabrics (resulting film has the excellent moisture-permeability) For resin of artificial leather or synthetic leather 	
SANPRENE LQ		Film formation	p63	liquid	<ul style="list-style-type: none"> For resin of artificial leather & synthetic leather Top layer for moisture-permeable & waterproofing fabrics (resulting film has the excellent moisture permeability) 	
THERPUS	Polyurethane beads	Film formation	-	powder	<ul style="list-style-type: none"> Skin material for automobile interiors (polyurethane beads for slush molding) Excellent in flowability, handling performance, moldability, heat-& light resistance 	
SANPRENE FLR-603	Urethane prepolymer	Polymerization, Film formation	p63	liquid	<ul style="list-style-type: none"> Cold curing/resulting coating film has excellent abrasion-resistance For floor coating (especially concrete floor) 	
SANPRENE P		Polymerization, Forming	p63	liquid	<ul style="list-style-type: none"> Resulting elastomer has excellent abrasion resistance, mechanical properties & low permanent compression set For polyurethane elastomer 	



For tooling material (chemical board) for modeling



For automobile interiors



For synthetic leathers

Anionic Surfactants

Carboxylic-based

Composition and Structure	Product Name	Function
<p>Polyoxyethylene lauryl ether carboxylic acid</p> $C_{12}H_{25}O-(CH_2CH_2O)_n-CH_2COOH$	BEAULIGHT LCA-H	p3 Cleaning
		p19 Foaming/-stabilizing
<p>Sodium polyoxyethylene lauryl ether carboxylate</p> $C_{12}H_{25}O-(CH_2CH_2O)_n-CH_2COO^- Na^+$	BEAULIGHT LCA	p3 Cleaning
		p19 Foaming/-stabilizing
<p>Polycarboxylate</p> $\left[\begin{array}{c} R^1 \\ \\ R^2 \\ \\ R^3 \\ \\ COO^- M^+ \end{array} \right]_n$	CARRYBON L-400	p15 Dispersing
		p33 Viscosity Controlling
<p>Sodium [(2-hydroxydodecyl)-oxy] acetate</p> $C_{10}H_{21}-\underset{OH}{CH}CH_2O-CH_2COO^- Na^+$	BEAULIGHT SHAA	p3 Cleaning
		p19 Foaming/-stabilizing

Sulfosuccinate-based

Composition and Structure	Product Name	Function
<p>Disodium laureth sulfosuccinate</p> $C_{12}H_{25}O-C(=O)-CH(SO_3^- Na^+)-CH_2COO^- Na^+$	BEAULIGHT SSS	p3 Cleaning
		p19 Foaming/-stabilizing
<p>Sodium dioctyl sulfosuccinate</p> $Na^+ O_3S-CH_2-C(=O)-O-CH_2-CH(CH_2CH_2CH_2CH_2CH_3)-C(=O)-O-CH_2-CH(CH_2CH_2CH_2CH_2CH_3)-CH_2CH_3$	SANMORIN OT	p5 Wetting/Penetrating
		p9 Emulsifying
		p15 Dispersing
		p43 For Reacting/Forming
<p>Sodium alkyl allyl sulfosuccinate</p> $H_2C=CH-CH_2O-C(=O)-CH(SO_3^- Na^+)-CH_2OCOR$	ELEMINOL JS-20	p9 Emulsifying
<p>Disodium polyoxyethylene alkyl sulfosuccinate</p> $R-O-(CH_2CH_2O)_n-C(=O)-CH(SO_3^- Na^+)-CH_2COO^- Na^+$		BEAULIGHT ESS
	p19 Foaming/-stabilizing	

Sulfuric acid ester-based

Composition and Structure	Product Name	Function
<p>Sodium 2-ethylhexyl sulfate</p> $CH_3CH_2CH_2CH_2-\underset{CH_2CH_3}{CH}-CH_2-O-SO_3^- Na^+$	SANDET ONA	p9 Emulsifying
		p15 Dispersing

Continued on the next page →

Composition and Structure	Product Name	Function
<p>Polyoxyalkylene alkyl ether ammonium sulfate</p> $R-O-(AO)_n-SO_3^- NH_4^+ \quad AO: \text{Alkylene oxide}$	ELEMINOL CLS-20	p9 Emulsifying
<p>Sodium polyoxyethylene alkyl ether sulfate</p> $R-O-(CH_2CH_2O)_n-SO_3^- Na^+$	SANDET END	p3 Cleaning
		p19 Foaming/-stabilizing
<p>Sodium polyoxyethylene lauryl ether sulfate</p> $C_{12}H_{25}O-(CH_2CH_2O)_n-SO_3^- Na^+$	SANDET EN	p3 Cleaning
		p9 Emulsifying
		p19 Foaming/-stabilizing
	BEAULIGHT NA-25S	p3 Cleaning
		p19 Foaming/-stabilizing

Cationic Surfactants

Ammonium salt-based

Composition and Structure	Product Name	Function
<p>Cetyltrimethylammonium chloride</p> $R-\underset{CH_3}{\overset{CH_3}{N}^+-CH_3} Cl^- \quad R: \text{Mainly Cetyl}$	LEBON TM-16	p23 Lubricating/Leveling
		p29 Plasticizing/Softening
		p35 Antistatic
<p>Cetyltrimethylammonium methyl sulfate</p> $R-\underset{CH_3}{\overset{CH_3}{N}^+-CH_3} O^- SO_3^- CH_3 \quad R: \text{Mainly Cetyl}$	LEBON TM-16MS	p39 Antibacterial
<p>Stearyltrimethylammonium chloride</p> $R-\underset{CH_3}{\overset{CH_3}{N}^+-CH_3} Cl^- \quad R: \text{Mainly Stearyl}$		LEBON TM-18
	p29 Plasticizing/Softening	
	p35 Antistatic	
<p>Ethyl sulfuric acid lanolin fatty acid aminopropylethyl dimethylammonium</p> $R-C(=O)-NH-CH_2CH_2CH_2-\underset{CH_3}{\overset{CH_3}{N}^+-C_2H_5} \cdot C_2H_5 \cdot C_2H_5SO_4^-$ <p>R: Lanolin acid residue</p>	CATION LQ	p23 Lubricating/Leveling
		p29 Plasticizing/Softening
		p37 Antistatic
<p>Didecyldimethylammonium adipate</p> $\left[C_{10}H_{21}-\underset{CH_3}{\overset{C_{10}H_{21}}{N}^+-CH_3} \right]_2 O^- -C(=O)-CH_2CH_2CH_2CH_2-C(=O)-O^-$	OSMORIN DA-50	p39 Antibacterial

Continued on the next page →

Composition and Structure	Product Name	Function
Behenyltrimethylammonium chloride or Stearyltrimethylammonium chloride $\text{R}-\text{N}^+(\text{CH}_3)_3 \text{Cl}^-$ R: Mainly Behenyl or Stearyl	ECONOL	p21 Lubricating/Leveling
		p29 Plasticizing/Softening
		p35 Antistatic
Distearyldimethylammonium chloride $\text{R}-\text{N}^+(\text{CH}_3)_2 \text{Cl}^-$ R: Mainly Stearyl	CATION DSV	p23 Lubricating/Leveling
		p29 Plasticizing/Softening
		p37 Antistatic

Imidazolium salt-based

Composition and Structure	Product Name	Function
Imidazoline compound 	CATION SF	p23 Lubricating/Leveling
		p29 Plasticizing/Softening
		p37 Antistatic

Benzalkonium-based

Composition and Structure	Product Name	Function
Benzalkonium chloride R: Mainly Dodecyl, Tetradecyl	CATION G-50	p5 Wetting/Penetrating
		p29 Plasticizing/Softening
		p39 Antibacterial

Nonionic Surfactants

Amide-based

Composition and Structure	Product Name	Function
Alkylol amide based surfactant 	PROFAN 128 EXTRA	p3 Cleaning
		p19 Foaming/-stabilizing
		p33 Viscosity Controlling
		p41 Rust Preventive
Alkylol amide based surfactant 	PROFAN 2012E	p3 Cleaning
		p19 Foaming/-stabilizing
		p33 Viscosity Controlling
		p41 Rust Preventive
Alkylol amide based surfactant 	PROFAN AB-20, SME	p3 Cleaning
		p19 Foaming/-stabilizing
		p33 Viscosity Controlling
		p41 Rust Preventive

Continued on the next page →

Composition and Structure	Product Name	Function
Alkylol amide based surfactant 	PROFAN ME-20	p3 Cleaning
		p19 Foaming/-stabilizing
		p33 Viscosity Controlling
		p41 Rust Preventive

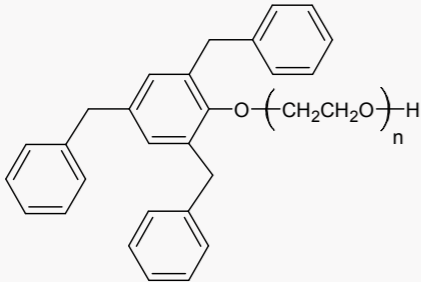
Ether-based (Amine type)

Composition and Structure	Product Name	Function
Polyoxyalkylene alkyl amine AO: Alkylene oxide	PUREMEEL	p3 Cleaning

Ether-based

Composition and Structure	Product Name	Function
Polyoxyalkylene alkyl ether derived from synthetic alcohols AO: Alkylene oxide	EMULMIN AF-101	p3 Cleaning
	EMULMIN CS-100W	p3 Cleaning
	SANNONIC TN	p5 Cleaning
	SESORAN FF, SF	p5 Cleaning
	NAROACTY CL SANNONIC FN	p5 Cleaning
		p7 Wetting/Penetrating
		p9,11 Emulsifying
NAROACTY ID	p17 Dispersing	
	p5 Cleaning	
NEWPOL B-12	p7 Wetting/Penetrating	
BLEMBER	p13 Solubilizing	
Polyoxyethylene alkyl ether 	ELEMNOL 200L	p23 Lubricating/Leveling
Polyoxyethylene lauryl glycol derived from synthetic alcohols 	NEWPOL DDE-10	p11 Emulsifying
		p33 Viscosity Controlling
Polyoxypropylene glycol 	NEWPOL PP	p39 Antibacterial
		p7 Wetting/Penetrating
		p23 Lubricating/Leveling
Polyoxyalkylene glycol monoether or borate AO: Alkylene oxide	NEWPOL SBF	p43 For Reacting/Forming
		p13 Solubilizing

Continued on the next page →

Composition and Structure	Product Name	Function
<p>Polyoxyalkylene lauryl ether derived from natural higher alcohols</p> $C_{12}H_{25}O-(AO)_n-H \quad \text{AO: Alkylene oxide}$	EMULMIN FL, HL	<p>p3 Cleaning</p> <p>p5 Wetting/Penetrating</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p15 Dispersing</p>
<p>Polyoxyethylene alkyl ether derived from natural higher alcohols</p> $R-O-(CH_2CH_2O)_n-H$	EMULMIN CCE-130	<p>p11 Emulsifying</p> <p>p15 Dispersing</p>
<p>Polyoxyalkylene alkyl ether derived from synthetic alcohols</p> $R-O-(CH_2CH_2O)_n-H$	EMULMIN No.	<p>p3 Cleaning</p> <p>p7 Wetting/Penetrating</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p15 Dispersing</p> <p>p19 Foaming/-stabilizing</p> <p>p41 Other Functions</p>
	SANMORIN 11	p7 Wetting/Penetrating
<p>Polyoxyalkylene alkyl ether derived from synthetic alcohols</p> $R-O-(CH_2CH_2O)_n-H$	SANNONIC DE-70	<p>p5 Cleaning</p> <p>p7 Wetting/Penetrating</p>
	SANNONIC SS	<p>p5 Cleaning</p> <p>p7 Wetting/Penetrating</p> <p>p11 Emulsifying</p> <p>p17 Dispersing</p>
<p>Polyoxyethylene alkyl ether with limonene</p> $R-O-(CH_2CH_2O)_n-H + H_3C-C_6H_9-CH_2-CH_3$	CHEMICLEAN DLE-20	p5 Cleaning
<p>Polyoxyethylene cetyl ether derived from natural higher alcohols</p> $C_{16}H_{33}O-(CH_2CH_2O)_n-H$	EMULMIN CC	<p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p15 Dispersing</p> <p>p19 Foaming/-stabilizing</p> <p>p33 Viscosity Controlling</p>
<p>Polyoxyethylene tribenzyl phenyl ether</p> 	ELEMNOL HB-29	p11 Emulsifying

Continued on the next page →

Composition and Structure	Product Name	Function
<p>Polyoxyethylene polyoxypropylene polyol</p> $R-\left[\left(OCH_2CH_2 \right)_n / \left(O-CH_2\overset{CH_3}{CH} \right)_m \right]_x-OH$	NEWPOL V	<p>p7 Wetting/Penetrating</p> <p>p21 Defoaming</p> <p>p23 Lubricating/Leveling</p> <p>p33 Viscosity Controlling</p> <p>p39 Cold or Heat Insulating</p> <p>p43 For Reacting/Forming</p>
<p>Polyoxyethylene polyoxypropylene glycol</p> $H-\left(OCH_2CH_2 \right)_x-\left(O-CH_2\overset{CH_3}{CH} \right)_y-\left(OCH_2CH_2 \right)_z-OH$	NEWDET PE-85	<p>p7 Wetting/Penetrating</p> <p>p13 Solubilizing</p> <p>p23 Lubricating/Leveling</p> <p>p25 Adhesive</p> <p>p33 Viscosity Controlling</p> <p>p43 For Reacting/Forming</p>
<p>Poly(oxyethylene, oxypropylene) glyceryl ether</p> $H-\left(O-CH_2\overset{CH_3}{CH} \right)_n-\left(OCH_2CH_2 \right)_m-O-CH_2-\overset{CH_3}{CH}-O-\left(CH_2CH_2O \right)_p-\left(CH_2\overset{CH_3}{CH}-O \right)_q-H$	NEWPOL GEP-2800	<p>p5 Cleaning</p> <p>p7 Wetting/Penetrating</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p17 Dispersing</p> <p>p23 Lubricating/Leveling</p> <p>p25 Adhesive</p> <p>p29 Plasticizing/Softening</p> <p>p33 Viscosity Controlling</p> <p>p37 Antistatic</p> <p>p43 For Reacting/Forming</p>
		<p>p23 Lubricating/Leveling</p> <p>p33 Viscosity Controlling</p>
<p>Polyoxyethylene polyoxypropylene trimethylolpropane</p> $H_2C-O-\left(CH_2\overset{CH_3}{CH}-O \right)_n-\left(CH_2CH_2O \right)_m-CH_2-C\left(CH_2-O-\left(CH_2\overset{CH_3}{CH}-O \right)_p-\left(CH_2CH_2O \right)_q \right)-CH_2-O-\left(CH_2\overset{CH_3}{CH}-O \right)_x-\left(CH_2CH_2O \right)_y-H$	NEWPOL TL	<p>p7 Wetting/Penetrating</p> <p>p21 Defoaming</p> <p>p23 Lubricating/Leveling</p> <p>p33 Viscosity Controlling</p>
<p>Polyoxyethylene polyoxypropylene butyl ether</p> $C_4H_9O-\left(CH_2CH_2O \right)_n-\left(CH_2\overset{CH_3}{CH}-O \right)_m-H$	NEWPOL 50HB	<p>p7 Wetting/Penetrating</p> <p>p21 Defoaming</p> <p>p23 Lubricating/Leveling</p> <p>p33 Viscosity Controlling</p> <p>p39 Cold or Heat Insulating</p> <p>p43 For Reacting/Forming</p>

Continued on the next page →

Composition and Structure	Product Name	Function
<p>Polyoxyethylene polyoxypropylene hexylene glycol ether</p> $\text{H} \left(\text{O} \begin{array}{c} \text{CH}_3 \\ \\ \text{CH} \end{array} \text{CH}_2 \right)_p \left(\text{OCH}_2\text{CH}_2 \right)_q \text{O} \text{C}_6\text{H}_{12} \text{O} \left(\text{CH}_2\text{CH}_2\text{O} \right)_n \left(\text{CH}_2 \begin{array}{c} \text{CH}_3 \\ \\ \text{CH} \end{array} \text{O} \right)_m \text{H}$	NEWPOL 75H-90000	<p>p7 Wetting/Penetrating</p> <p>p21 Defoaming</p> <p>p23 Lubricating/Leveling</p> <p>p33 Viscosity Controlling</p> <p>p39 Cold or Heat Insulating</p> <p>p43 For Reacting/Forming</p>
<p>Polyoxyethylene lauryl ether derived from natural higher alcohols</p> $\text{C}_{12}\text{H}_{25}\text{O} \left(\text{CH}_2\text{CH}_2\text{O} \right)_n \text{H}$	EMULMIN L	<p>p3 Cleaning</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p15 Dispersing</p> <p>p19 Foaming/-stabilizing</p> <p>p33 Viscosity Controlling</p>
	EMULMIN LS	<p>p3 Cleaning</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p15 Dispersing</p> <p>p19 Foaming/-stabilizing</p> <p>p33 Viscosity Controlling</p>
	EMULMIN NL	<p>p3 Cleaning</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p15 Dispersing</p> <p>p19 Foaming/-stabilizing</p> <p>p33 Viscosity Controlling</p>
	LAUROMACROGOL 100	<p>p5 Cleaning</p> <p>p7 Wetting/Penetrating</p>
<p>Polyoxypropylene triol</p> $\text{H} \left(\text{O} \begin{array}{c} \text{CH}_3 \\ \\ \text{CH} \end{array} \text{CH}_2 \right)_l \text{O} \text{CH}_2 \begin{array}{c} \text{CH}_3 \\ \\ \text{CH} \end{array} \text{O} \left(\text{CH}_2 \begin{array}{c} \text{CH}_3 \\ \\ \text{CH} \end{array} \text{O} \right)_m \text{H}$	NEWPOL GP	<p>p7 Wetting/Penetrating</p> <p>p23 Lubricating/Leveling</p> <p>p43 For Reacting/Forming</p>
<p>Polyoxypropylene butyl ether</p> $\text{C}_4\text{H}_9\text{O} \left(\text{CH}_2 \begin{array}{c} \text{CH}_3 \\ \\ \text{CH} \end{array} \text{O} \right)_n \text{H}$	NEWPOL LB	<p>p7 Wetting/Penetrating</p> <p>p21 Defoaming</p> <p>p23 Lubricating/Leveling</p> <p>p33 Viscosity Controlling</p> <p>p39 Cold or Heat Insulating</p> <p>p43 For Reacting/Forming</p>

Ester-based

Composition and Structure	Product Name	Function
<p>Polyoxyethylene distearate</p> $\text{C}_{17}\text{H}_{35}\text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{O} \left(\text{CH}_2\text{CH}_2\text{O} \right)_n \text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{C}_{17}\text{H}_{35}$	EMULMIN 862	<p>p33 Viscosity Controlling</p>
<p>Glyceryl monostearate</p> $\text{HO} \text{CH}_2 \text{CH} \begin{array}{c} \text{OH} \\ \end{array} \text{CH}_2 \text{O} \text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{C}_{17}\text{H}_{35}$	TG-C	<p>p7 Wetting/Penetrating</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p23 Lubricating/Leveling</p> <p>p29 Plasticizing/Softening</p>
<p>Sorbitan mono- or di-fatty acid ester</p> $\text{R} \text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{O} \text{CH}_2 \text{C}_6\text{H}_8 \text{O}_2 \text{Z}$ <p>Z: H or COR</p>	IONET S	<p>p7 Wetting/Penetrating</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p17 Dispersing</p> <p>p21 Defoaming</p> <p>p23 Lubricating/Leveling</p> <p>p29 Plasticizing/Softening</p> <p>p33 Viscosity Controlling</p> <p>p41 Rust Preventive</p>
<p>Polyoxyethylene sorbitan monofatty acid ester</p> $\text{R} \text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{O} \text{CH}_2 \text{C}_6\text{H}_8 \text{O}_2 \left(\text{CH}_2\text{CH}_2\text{O} \right)_x \text{H}$	IONET T	<p>p9 Wetting/Penetrating</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p17 Dispersing</p> <p>p23 Lubricating/Leveling</p> <p>p29 Plasticizing/Softening</p> <p>p33 Viscosity Controlling</p> <p>p41 Rust Preventive</p>
<p>Polyoxyethylene fatty acid diester</p> $\text{R}^1 \text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{O} \left(\text{CH}_2\text{CH}_2\text{O} \right)_n \text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{R}^2$	IONET DL-200	<p>p5 Cleaning</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p17 Dispersing</p> <p>p23 Lubricating/Leveling</p>
	IONET DO, DS	<p>p5 Cleaning</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p17 Dispersing</p> <p>p23 Lubricating/Leveling</p>
<p>Polyoxyethylene fatty acid monoester</p> $\text{R} \text{C} \begin{array}{c} \text{O} \\ \\ \text{O} \end{array} \text{O} \left(\text{CH}_2\text{CH}_2\text{O} \right)_n \text{H}$	IONET MO, MS	<p>p5 Cleaning</p> <p>p11 Emulsifying</p> <p>p13 Solubilizing</p> <p>p17 Dispersing</p> <p>p23 Lubricating/Leveling</p>

Amphoteric Surfactants

Amino Acid-type

Composition and Structure	Product Name	Function
<p>Alkyldiaminoethylglycine hydrochloride</p> $R-NHCH_2CH_2NHCH_2CH_2NHCH_2-COOH \quad HCl$ <p>R: Mainly Dodecyl, Tetradecyl</p>	LEBON T-2	p39 Antibacterial
<p>Sodium lauramino propionate</p> $C_{12}H_{25}NH-CH_2-CH_2-C(=O)O^-Na^+$	PIUSERIA AMC	p5 Cleaning p21 Foaming/-stabilizing

Imidazoline-type, Betaine-type

Composition and Structure	Product Name	Function
<p>Alkyl carboxymethyl hydroxyethyl imidazolium betaine</p> $R-C(=O)NHCH_2CH_2-N^+(CH_2CH_2OH)(CH_2COO^-)Na^+$ <p>R: Coconut fatty acid residue</p>	LEBON CIB	p5 Cleaning p21 Foaming/-stabilizing
<p>Lauryldimethylaminoacetic acid betaine</p> $C_{12}H_{25}N^+(CH_3)_2CH_2COO^-$	LEBON LD-36	p5 Cleaning p21 Foaming/-stabilizing
<p>Myristic acid amide propyl betaine</p> $C_{13}H_{27}C(=O)NH-CH_2-CH_2-CH_2-N^+(CH_3)_2CH_2COO^-$	LEBON MY-30W	p5 Cleaning p21 Foaming/-stabilizing
<p>Coconut oil fatty acid amide propyl betaine</p> $R-C(=O)NHCH_2CH_2CH_2-N^+(CH_3)_2CH_2COO^-$ <p>R: Coconut fatty acid residue</p>	LEBON HC-30W, 2000, 2000HG	p5 Cleaning p21 Foaming/-stabilizing
<p>Lauric acid amidopropyl betaine</p> $C_{11}H_{23}C(=O)NHCH_2CH_2CH_2-N^+(CH_3)_2CH_2COO^-$	LEBON 2000L	p5 Cleaning p21 Foaming/-stabilizing

Functional bases, intermediates, additives

Ethers

Composition and Structure	Product Name	Function
<p>Polyethyleneglycol dibenzoate</p> $C_6H_5-C(=O)-O-(CH_2CH_2O)_n-C(=O)-C_6H_5$	SANFLEX EB	p31 Plasticizing/Softening
<p>Esterified multi-functional polyetherpolyol</p> $[(O-R^1)_n-O-C(=O)-R^2]_m$	SANFLEX GPA-3000	p31 Plasticizing/Softening

Esters

Composition and Structure	Product Name	Function
<p>Bisphenol-A type unsaturated polyester</p> $[O-R^1-O-C_6H_4-C(CH_3)_2-C_6H_4-O-R^2-O-C(=O)-CH=CH-C(=O)-R^3]_n$	CHEMITYLEN PEB-13ST	p27 Adhesive

Olefin or Styrene-based

Composition and Structure	Product Name	Function
<p>4-Vinyl-1-cyclohexene</p> $C_6H_{10}CH=CH_2$	VCH	p45 For Reacting/Forming
<p>Low-molecular-weight polyethylene</p> $-(CH_2CH_2)_n-$	SANWAX	p17 Dispersing p25 Lubricating/Leveling p31 Plasticizing/Softening p35 Viscosity Controlling p41 Other Functions p45 For Reacting/Forming
<p>Low-molecular-weight polypropylene</p> $-(CH_2-CH(CH_3))_n-$	VISCOL	p17 Dispersing p25 Lubricating/Leveling p31 Plasticizing/Softening p35 Viscosity Controlling p41 Other Functions p45 For Reacting/Forming
<p>Acid modified polyolefin</p> $-(C(CH_3)(CO_2R)-CH_2)_m-(CH(CH_3)-CH_2)_n-CH_2-C_4H_4O_2$	UMEX	p17 Dispersing p27 Adhesive

Acids/Acid Anhydrides Z: Proprietary functional group

Composition and Structure	Product Name	Function
<p>Alkenylsuccinic acid ester</p> $R^1-CH=CH-CH(R^2)-CH_2-COOZ^1$ $H_2C-COOZ^2$	SANHIBITOR	p41 Wetting/Penetrating
<p>Alkenylsuccinic anhydride</p> $R^1-CH=CH-CH(R^2)-CH_2-C(=O)-O-C(=O)-H_2C$		p41 Rust Preventive
<p>Sodium-5-sulphoisophthalic acid</p>	SIPA	p37 Antistatic
		p41 Other Functions
<p>Sodium 5-sulfoisophthalic acid dimethyl ester</p>	SIPM	p37 Antistatic
		p41 Other Functions
<p>Dodecyl succinic anhydride</p> $R^1-CH=CH-CH(R^2)-CH_2-C(=O)-O-C(=O)-H_2C$ $R^1+R^2=C_{12}H_{25}$	DSA	p27 Adhesive
		p31 Plasticizing/Softening
		p35 Viscosity Controlling
		p41 Rust Preventive
		p47 For Reacting/Forming
<p>Pentadecyl succinic anhydride</p> $R^1-CH=CH-CH(R^2)-CH_2-C(=O)-O-C(=O)-H_2C$ $R^1+R^2=C_{15}H_{31}$	PDSA-DA	p27 Adhesive
		p31 Plasticizing/Softening
		p35 Viscosity Controlling
		p41 Rust Preventive
		p47 For Reacting/Forming
<p>Fatty acid compound</p> $R-C(=O)-OH$	SANFRIC	p25 Lubricating/Leveling

Nitrogen-Containing Compounds Z: Proprietary functional group

Composition and Structure	Product Name	Function
<p>Liquid polyamideamine</p> $H_2N-Z^1-NH-Z^2-NH-C(=O)-Z^3-C(=O)-NH-Z^4-NH-Z^5-NH$	POLYIMIDE L	p27 Adhesive
		p41 Rust Preventive
		p47 For Reacting/Forming

Polyols

Composition and Structure	Product Name	Function
<p>Polyethylene glycol</p> $HO-(CH_2CH_2O)_n-H$	PEG	p9 Wetting/Penetrating
		p15 Solubilizing
		p17 Dispersing
		p25 Lubricating/Leveling
		p27 Adhesive
		p31 Plasticizing/Softening
		p35 Viscosity Controlling
		p37 Antistatic
		p39 Cold or Heat Insulating
		p41 Other Functions
	p43 For Reacting/Forming	
	MACROGOL	p9 Wetting/Penetrating
		p15 Solubilizing
		p25 Lubricating/Leveling
		p27 Adhesive
		p31 Plasticizing/Softening
	p35 Viscosity Controlling	
	p43 For Reacting/Forming	
<p>Aliphatic amine-based polyol</p> $-R-N(CH_2CH(CH_3)O)_n(CH_2CH(CH_3)O)_m-H$	SANNIX AP	p39 Cold or Heat Insulating
		p45 For Reacting/Forming
	SANNIX NP	p37 Sealing/Waterproofing
		p39 Cold or Heat Insulating
	SANNIX NE	p45 For Reacting/Forming
<p>Aliphatic amine-based polyol</p> $-R-N(CH_2CH_2O)_n(CH_2CH_2O)_m-H$		p39 Cold or Heat Insulating
	p45 For Reacting/Forming	
<p>Aromatic amine-based polyol</p>	SANNIX HM	p39 Cold or Heat Insulating
		p45 For Reacting/Forming
<p>Polyethylene adipate diol</p> $H-[O-R-O-C(=O)-(CH_2)_4-C(=O)]_m-O-R-OH$	SANESTER	p45 For Reacting/Forming
<p>Bisphenol A-propylene oxide adduct</p>	NEWPOL BP	p31 Plasticizing/Softening
		p45 For Reacting/Forming

Continued on the next page →

Composition and Structure	Product Name	Function
<p>Bisphenol A-ethylene oxide adduct</p> $\text{H}-(\text{OCH}_2\text{CH}_2)_n-\text{O}-\text{C}_6\text{H}_4-\text{C}(\text{CH}_3)_2-\text{C}_6\text{H}_4-\text{O}-(\text{CH}_2\text{CH}_2\text{O})_m-\text{H}$	NEWPOL BPE	<p>p31 Plasticizing/Softening</p> <p>p45 For Reacting/Forming</p>
<p>Polyoxypropylene sorbitol ether</p> $\text{H}-(\text{PO})_n-\text{O}-\begin{cases} \text{O}-(\text{PO})_l-\text{H} \\ \text{O}-(\text{PO})_m-\text{H} \\ \text{O}-(\text{PO})_x-\text{H} \\ \text{O}-(\text{PO})_y-\text{H} \\ \text{O}-(\text{PO})_z-\text{H} \end{cases}$ <p>PO: Propylene oxide</p>	SANNIX SP-750	<p>p27 Adhesive</p> <p>p37 Sealing/Waterproofing</p> <p>p39 Cold or Heat Insulating</p> <p>p47 For Reacting/Forming</p>
<p>Trimethylolpropane-based polyether polyol</p> $\text{H}-(\text{O}-\text{CH}(\text{CH}_3)-\text{CH}_2)_x-\text{O}-\text{C}(\text{CH}_3)_2-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O})_y-\text{H}$	SANNIX TP-400	<p>p27 Adhesive</p> <p>p31 Plasticizing/Softening</p> <p>p37 Sealing/Waterproofing</p> <p>p39 Cold or Heat Insulating</p> <p>p47 For Reacting/Forming</p>
<p>Polyoxyethylene polyoxypropylene glycol</p> $\text{H}-(\text{OCH}_2\text{CH}_2)_x-(\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3))_y-(\text{OCH}_2\text{CH}_2)_z-\text{OH}$	SANNIX PL-2100	<p>p27 Adhesive</p> <p>p31 Plasticizing/Softening</p> <p>p45 For Reacting/Forming</p>
<p>Polyoxypropylene glycol</p> $\text{HO}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-\text{H}$	SANNIX PP	<p>p27 Adhesive</p> <p>p31 Plasticizing/Softening</p> <p>p37 Sealing/Waterproofing</p> <p>p39 Cold or Heat Insulating</p> <p>p45 For Reacting/Forming</p>
<p>Polyoxypropylene triol</p> $\text{H}-(\text{O}-\text{CH}(\text{CH}_3)-\text{CH}_2)_l-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O})_m-\text{H}$ $\text{H}-(\text{O}-\text{CH}(\text{CH}_3)-\text{CH}_2)_n-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-(\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O})_m-\text{H}$ <p>Some SANNIX GP are copolymer with ethylene oxide</p>	SANNIX GP	<p>p27 Adhesive</p> <p>p31 Plasticizing/Softening</p> <p>p37 Sealing/Waterproofing</p> <p>p39 Cold or Heat Insulating</p> <p>p45 For Reacting/Forming</p>

Methacrylates/Acrylates-based

Composition and Structure	Product Name	Function
<p>Methacrylic acid - ethyl acrylate copolymer</p> $\left(\text{CH}_2-\overset{\text{CH}_3}{\underset{\text{COOH}}{\text{C}}} \right)_n \left(\text{CH}_2-\overset{\text{CH}_3}{\underset{\text{COOC}_2\text{H}_5}{\text{C}}} \right)_m$	POLYQUID	<p>p27 Adhesive</p> <p>p43 Other Functions</p> <p>p45 For Reacting/Forming</p>
<p>Methacrylate copolymer and refined mineral oil</p> $\left(\overset{\text{R}^1}{\text{C}}-\text{CH}_2 \right)_n \left(\overset{\text{CH}_3}{\text{C}}-\text{CH}_2 \right)_m$ <p>R¹: H or CH₃ R²: Alkyl R³: Alkyl</p>	ACLUBE	<p>p25 Lubricating/Leveling</p> <p>p35 Viscosity Controlling</p>
<p>Dialkylaminoalkyl methacrylate derivatives</p> $\text{H}_2\text{C}=\overset{\text{O}}{\text{C}}-\text{O}-\text{R}^1-\text{Z}$ <p>Z: $\text{---N} \begin{matrix} \text{R}^1 \\ \text{R}^2 \end{matrix}$ or $\text{---N}^+ \begin{matrix} \text{R}^1 \\ \text{R}^2 \\ \text{R}^3 \end{matrix} \text{X}^-$</p>	METHACRYLATE	<p>p9 Wetting/Penetrating</p> <p>p19 Flocculating</p>
<p>Long-chain alkyl methacrylate</p> $\text{H}_2\text{C}=\overset{\text{O}}{\text{C}}-\text{O}-\text{R}$		<p>p31 Plasticizing/Softening</p> <p>p43 For Reacting/Forming</p>

Others

Composition and Structure	Product Name	Function
<p>Polyoxyethylene dimethyl ether</p> $\text{H}_3\text{C}-\text{O}-(\text{CH}_2\text{CH}_2\text{O})_n-\text{CH}_3$	SANFINE DM-200	<p>p15 Solubilizing</p>

Functional compounds, polymers

Urethane Series

Composition and Structure	Product Name	Function
<p>Polyurethane emulsion</p> $\left[\text{C}(=\text{O})\text{NH}-\text{R}^1-\text{NH}-\text{C}(=\text{O})\text{O}-\text{R}^2-\text{O} \right]_n$	UPRENE UXA-307	p29 Adhesive
		p47 For Reacting/Forming
<p>Polyurethane solution</p> $\left[\text{C}(=\text{O})\text{NH}-\text{R}^1-\text{NH}-\text{C}(=\text{O})\text{O}-\text{R}^2-\text{O} \right]_n$	SANPRENE H	p29 Adhesive
		p47 For Reacting/Forming
		SANPRENE HMP-17A p47 For Reacting/Forming
	SANPRENE LQ p47 For Reacting/Forming	
<p>Urethane prepolymer</p> $\text{OCN} \left[\text{R}^1-\text{NH}-\text{C}(=\text{O})\text{O}-\text{R}^2-\text{O}-\text{C}(=\text{O})\text{NH}-\text{R}^3 \right]_n \text{NCO}$	SANPRENE FLR-603	p47 For Reacting/Forming
	SANPRENE P	p47 For Reacting/Forming
	SANPRENE SEL No.3	p39 Sealing/Waterproofing

Methacrylate/Acrylate-based

Composition and Structure	Product Name	Function
<p>Cross-linked acrylic acid polymer sodium salt</p> $\left(\text{CH}-\text{CH}_2 \right)_x \left(\text{CH}-\text{CH}_2 \right)_y$ $\begin{array}{c} \text{C}=\text{O} \\ \\ \text{OH} \end{array} \quad \begin{array}{c} \text{C}=\text{O} \\ \\ \text{O}^- \text{Na}^+ \end{array}$ <p>SANWET IM is a graft copolymer with a starch</p>	SANWET IM	p37 Water Absorbent
		p9 Wetting/Penetrating
		p35 Viscosity Controlling
		p37 Water Absorbent
		p39 Sealing/Waterproofing
	p39 Cold or Heat Insulating	
<p>Starch/acrylic acid graft copolymer sodium salt</p> $\left(\text{CH}-\text{CH}_2 \right)_x \left(\text{CH}-\text{CH}_2 \right)_y \left(\text{CH}-\text{CH}_2 \right)_z$ $\begin{array}{c} \text{C}=\text{O} \\ \\ \text{OH} \end{array} \quad \begin{array}{c} \text{C}=\text{O} \\ \\ \text{O}^- \text{Na}^+ \end{array} \quad \begin{array}{c} \text{C}=\text{O} \\ \\ \text{O} \\ \\ \text{Starch} \end{array}$	SALANJUL	p9 Wetting/Penetrating
		p35 Viscosity Controlling
<p>Acrylic resin or acrylic resin solution</p> $\left(\text{CH}_2\text{CH} \right)_n \left(\text{CH}_2\text{CH} \right)_m$ $\begin{array}{c} \text{ROOC} \\ \\ \text{X} \end{array}$ <p>R: Alkyl or H X: Functional group</p>	POLYTHICK	p27 Adhesive

PEG Products (Polyethylene glycol)

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

Product Name	Mn ^{*1}	OHV ^{*2}	Color (hazen)	Appearance (20±5°C)	pH ^{*3}	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 ^{*4}	Wax	6.5	37
PEG-1500	550	207	10 ^{*4}	Paste	5.5	40
PEG-1540	1,450	79	10 ^{*4}	Wax	6.0	45
PEG-2000	2,000	56	10 ^{*4}	Wax	5.5	51
PEG-4000N	3,100	36	10 ^{*4}	White flake	6.5	55
PEG-4000S	3,400	33	10 ^{*4}	White flake	6.5	56
PEG-6000P	8,300	14	10 ^{*4}	White powder	7.0	61 ^{*5}
PEG-6000S	8,300	14	10 ^{*4}	White flake	6.5	61 ^{*5}
PEG-10000	11,000	10	10 ^{*4}	White flake	6.5	62 ^{*5}
PEG-20000	20,000	5.6	10 ^{*4}	White flake	7.0	63 ^{*5}
PEG-20000P	20,000	5.6	10 ^{*4}	White powder	7.0	63 ^{*5}

*1 Number average molecular weight/calculated by OHV *2 Hydroxyl value by acetylation *3 5 wt % aq solution
*4 25 wt % aq solution *5 Melting point

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 ^{*1}	Cloud Point ^{*2} °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 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 ^{*3}	>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 AF-101, FL, HL>

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

<EMULMIN CS-100W>

- Eserts excellent detergency in low amount. Enables to decrease the number of times of rinsing because of its superior solubility in water

<EMULMIN No.>

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

<EMULMIN L, NL>

- Besides, applicable for foaming agents, thickener or solubilizer

<EMULMIN L, LS, NL>

- Besides, applicable for solubilizer, gelling agents and foaming agents

Product Name	Composition	Appearance (20±5°C)	HLB	pH ^{*1}
EMULMIN AF-101	Polyoxyalkylene alkyl ether	Colorless to pale yellow liquid	-	7.0
EMULMIN CS-100W		Colorless to pale yellow liquid	-	7.0
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 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 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 L-90-S		Polyoxyethylene lauryl ether	White solid to pale yellow liquid	13.2
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 CCE-130	Polyoxyethylene alkyl ether		White to pale yellow solid	14.0

*1 1 wt % aq solution

■ SANNONIC Products

Used as cleaning bases, penetrating agents and emulsifiers, etc.

Product Name	Composition	Appearance	pH	HLB	Cloud Point ^{*3} °C
SANNONIC FN-80	Polyoxyalkylene alkyl ether	Colorless to pale yellow liquid	6.5 ^{*1}	-	34
SANNONIC FN-100		Colorless to pale yellow liquid	6.5 ^{*1}	-	56
SANNONIC FN-140		Colorless to pale yellow liquid	6.5 ^{*1}	-	79
SANNONIC SS-30	Polyoxyethylene alkyl ether	Colorless liquid	7.0 ^{*1}	8.1	<20
SANNONIC SS-50		Colorless liquid	6.5 ^{*1}	10.5	<20
SANNONIC SS-70		Pale yellow liquid	6.5 ^{*2}	12.1	33
SANNONIC SS-90		Colorless to pale yellow liquid	6.5 ^{*2}	13.2	56
SANNONIC SS-120		Colorless to pale yellow liquid	6.5 ^{*2}	14.5	83
SANNONIC DE-70		Colorless to pale yellow liquid	6.5 ^{*1}	13.2	62

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

■ NAROACTY Products

Alkylene oxide adducts with narrow molecular weight distribution. NAROACTY CL products have excellent detergency & emulsifiability.

NameProduct	Composition	Appearance	pH ^{*1}	HLB	Cloud Point ^{*2} °C
NAROACTY CL-40	Polyoxyethylen alkyl ether	Colorless to pale yellow liquid	6.5	8.9	<20
NAROACTY CL-50		Colorless to pale yellow liquid	6.5	10.0	<20
NAROACTY CL-70	Polyoxyalkylene alkyl ether	Colorless to pale yellow liquid	6.5	11.7	<20
NAROACTY CL-85		Colorless to pale yellow liquid	6.5	12.6	41
NAROACTY CL-95		Colorless to pale yellow liquid	6.5	13.1	54
NAROACTY CL-100		Colorless to pale yellow liquid	6.5	13.3	64
NAROACTY CL-120		Pale yellow liquid to solid	6.5	14.1	80
NAROACTY CL-140		White solid	6.5	14.7	93
NAROACTY CL-160		White solid	6.5	15.2	99
NAROACTY CL-200	Polyoxyethylene alkyl ether	White solid	6.5	16.0	>100
NAROACTY CL-400		White flake	6.5	17.8	>100
NAROACTY ID-40	Polyoxyalkylene alkyl ether	Colorless to pale yellow liquid	6.5	8.1	<20
NAROACTY ID-60	Polyoxyethylene alkyl ether	Colorless to pale yellow liquid	6.5	12.5	<20
NAROACTY ID-70		Colorless to pale yellow liquid	6.5	13.2	<20

*1 1 wt % aq solution *2 2 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, flattening agent and lubricants, etc.

Product Name	Appearance (20±5°C)	Color ¹	Viscosity ² mPa · s (140°C)	Melting Point ³ °C	Penetration Hardness ⁴	Mw ⁵
SANWAX 161-P	White powder	30	3,400	103	2.0	27,000
SANWAX 131-P	White powder	30	900	102	3.5	20,000
SANWAX 151-P	White powder	30	250	102	4.0	13,000
SANWAX 171-P	White powder	30	160	102	4.5	10,000
VISCOL 330-P	White powder	50	4,000 ⁷	145	<1.0	40,000
VISCOL 440-P	White powder	50	1,800 ⁷	144	<1.0	27,000
VISCOL 550-P	White powder	50	160 ⁷	139	<1.0	13,000
VISCOL 660-P	White powder	1 ⁶	60 ⁷	136	1.5	10,000
VISCOL LM500	Pale yellow powder	1 ⁶	1,400 ⁷	125	<1.0	30,000

*1 Molten, APHA *2 Brookfield type viscometer *3 DSC Method *4 ASTM D 1321-61T
*5 Weight average molecular weight *6 Molten, gardner *7 Measured at 160°C

■ UMEX Products

UMEX products are a series of acid modified polyolefin. 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 ¹	Appearance (20±5°C)	Viscosity mPa · s (160°C)	Softening Point ² °C	Acid Value ³	Specific Gravity ⁴ (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

*1 PP: Polypropylene *2 Measured according to ASTM E28 (ring and ball method) *3 Measured according to ASTM D1386 *4 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 ¹ °C (°F)	MFR ² g (10min)	Surface Resistivity ³ Ω	Td ⁴ °C (°F)	Typical Applied Resins
PELESTAT NC6321	Pale yellow pellet	203 (397)	20 (215°C)	1×10 ⁹	285 (545)	ABS, HIPS, PBT, Nylon, PC/ABS-alloy
PELESTAT NC7530	Pale yellow pellet	176 (349)	10 (190°C)	2×10 ⁹	280 (536)	Polystyrenes such as MS
PELESTAT 300	Pale yellow pellet	135 (275)	30 (190°C)	1×10 ⁸	240 (464)	Polyolefins
PELESTAT 230	Pale yellow pellet	163 (325)	10 (190°C)	5×10 ⁷	250 (482)	Polyolefins
PELESTAT VH230	Pale yellow pellet	163 (325)	9 (190°C)	5×10 ⁷	250 (482)	For films or sheets of polyolefins, etc.
PELESTAT 6500	Pale yellow pellet	191 (376)	20 (215°C)	1×10 ⁸	285 (545)	Polystyrene such as ABS & MS

*1 Melting point *2 ASTM D 1238 (under 21.18N) *3 ASTM D 257 *4 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 10⁸-10⁹Ω) 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 ¹ °C (°F)	MFR ² g (10min)	Surface Resistivity ³ Ω	Td ⁴ °C (°F)	Typical Applied Resins
PELECTRON AS	Pale yellow pellet	195 (383)	30 (215°C)	4×10 ⁶	285 (545)	ABS, HIPS, PBT, Nylon, PC/ABS-alloy
PELECTRON PVL	Pale yellow pellet	135 (275)	15 (190°C)	3×10 ⁶	250 (482)	For films or sheets of polyolefins, etc.

*1 Melting point *2 ASTM D 1238 (under 21.18N) *3 ASTM D 257 *4 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 ^{*1}	Product Name	Composition		No.	Number Average Molecular Weight (Mn)						Property	
		Active Hydrogen Compound	Alkylene Oxide ^{*2}		- 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
				3000					●		35	590
				4000						●	27	990
	3	SANNIX GP	Glycerin	PO or EO/PO	250	●						670
400						●					400	365
600						●					280	275
700							●				240	250
1000							●				160	255
1500								●			112	300
3000									●		56	500
3000R									●		56	510
3700M										●	45	650
4000										●	42	660
	SANNIX TP	Trimethylol propane	PO	400		●				395	700	
	SANNIX AP	Aliphatic amine	PO	470		●				360	350	
6	SANNIX SP	Sorbitol	PO	750			●			490	16,000 ^{*3}	

Continued on the next page →

FG ^{*1}	Product Name	Composition		No.	Number Average Molecular Weight (Mn)						Property			
		Active Hydrogen Compound	Alkylene Oxide ^{*2}		- 300	300 - 600	600 - 1000	1000 - 2000	2000 - 3000	> 3000	OHV	Viscosity mPa · s (25°C)		
Non-disclosure	SANNIX HM	Aromatic amine-based	EO/PO	551								400	22,500	
	SANNIX NE	Aliphatic amine-based	EO	240								970	3,700	
	SANNIX NL	Aliphatic amine-based		EO/PO	270								812	8,250
				EO/PO	300								746	4,600
	SANNIX NP	Aliphatic amine-based	PO	300								755	1,680 ^{*4}	
	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				720							34	880	
					745							34	900	
					900 ^{*5}							22	4,800	
	SANNIX GS				3000R							56	475	

*1 Number of functional group *2 EO: Ethylene oxide/PO: Propylene oxide *3 Viscosity[mPa · s (30°C)]
 *4 Kinetic viscosity[mm²/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 ^{*1}	Product Name	Composition		No.	Mn ^{*3}	Property		Pour Point °C
		Active Hydrogen Compound	Alkylene Oxide ^{*2}			Kinetic Viscosity mm ² /s		
						(20°C)	(40°C)	
1	NEWPOL 50HB	Monoalcohol	EO/PO	55	300	16	8	≤-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 ^{*4}	-10
				22F ^{*5}	-	-	1,950	-

*1 Number of functional group *2 EO: Ethylene oxide/PO: Propylene oxide *3 Number average molecular weight
*4 100°C Kinetic viscosity[mm²/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 ^{*1}	Product Name	Composition	No.	Property				Mn ^{*4}
				Appearance (20±5°C)	Color (hazen)	Cloud Point (°C) 1% aq sol.	Fleezing Point °C	
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 ^{*2}	113 ^{*3}	53	8,000
			71	Colorless liquid	10	21	-30	2,200
			74	Colorless paste	10	56	15	3,100
			75	Colorless paste	10	69	17	3,500
			78	White flake	10 ^{*2}	110 ^{*3}	54	9,400
			108	White flake	10 ^{*2}	105 ^{*3}	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 ^{*1}	Product Name	Composition		No.	Mn ^{*3}	Property				
		Active Hydrogen Compound	Alkylene Oxide ^{*2}			Appearance (20±5°C)	OHV	Color (hazen)	Viscosity mPa · s (60°C)	
2	NEWPOL BP		PO	2P	350	Pale yellow liquid ^{*4}	322	40	1,600	
				23P	400	Colorless liquid ^{*4}	310	20	1,230	
				3P	530	Colorless liquid	280	20	800	
				5P	560	Colorless liquid	211	10	180	
				20	330	White block	343	30 ^{*5}		
				20NK	325	White block	345	30 ^{*5}		
	NEWPOL BPE		Bisphenol A	EO	20T	320	White granule	349	10 ^{*5}	
					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, moisturizer, surfactants, raw material for surfactants, synthetic lubricating oils or releasing lubricant
NEWPOL PP is also used as wetting agent for cosmetics and raw material for cosmetics.

FG ^{*1}	Product Name	Composition	No.	Property				
				Appearance (20±5°C)	pH	Viscosity mPa · s (25°C)	Mn ^{*2}	Specific Gravity (20/20°C)
2	NEWPOL PP	Propylene oxide adduct of propylene glycol	200	Colorless liquid	6.2	60	200	1.015
			400	Colorless liquid	6.0	69	400	1.013
			600	Colorless liquid	6.5	85	600	1.020
			1000	Colorless liquid	6.4	150	1,000	1.009
			2000	Colorless liquid	6.5	310	2,000	1.006
			3000	Colorless liquid	6.3	590	3,200	1.005
			4000	Colorless liquid	6.3	950	4,150	1.004
3	NEWPOL GP	Propylene oxide adduct of glycerin	400	Colorless liquid	6.5	370	420	1.055
			600	Colorless liquid	6.3	280	600	1.042
			1000	Colorless liquid	6.3	260	1,050	1.025
			4000	Colorless liquid	6.4	660	4,000	1.011

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

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.

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.

	HLB	Synthetic Alcohol-based					Natural Alcohol-based				Fatty Acid Ester-based		Pluronic	
		NAROACTY		SANNONIC		SEDORAN		EMULMIN				IONET		NEWPOL
		Primary Alcohol		Primary Alcohol	Secondary Alcohol	Primary Alcohol	Secondary Alcohol	-C12-	C12-C14	-C16-	C16-C18	PEG Ester	Sorbitan	
Lipophilic	1.8 - 2.0											S-85	PE-61 PE-71	
	4.0 - 4.3											S-80	PE-62	
	4.7											S-60V		
	5.7		CL-20											
	6.0 - 6.2					SF-506								
	6.6										DL-200			
	7.3										DS-300			
	8.0 - 8.2	ID-40			SS-30					40	DS-400		PE-34 PE-64 PE-74	
	8.3 - 8.6										MO-200 DO-400	S-20		
	8.9 - 9.0		CL-40											
10.0 - 10.2		CL-50										PE-75		
10.5 - 10.6				SS-50										
10.9														
11.7		CL-70	FN-80		FF-180					MO-400				
12.0				SS-70						MS-400				
12.3 - 12.4	ID-60				FF-200									
12.6		CL-85	FN-100											
12.9 - 13.0					FF-210					DO-1000				
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										MS-1000		PE-68 PE-78		
16.0		CL-200							240					
16.6 - 16.7										DS-4000	T-20C			
17.8		CL-400												
Hydrophilic														

Product Name	Page
A	
ACLUBE	p25, 35, 62
ACROBINDER BG-7	p27
B	
BEAULIGHT ESS	p3, 19, 49
BEAULIGHT LCA	p3, 19, 49
BEAULIGHT NA-25S	p3, 19, 50
BEAULIGHT SHAA	p3, 19, 49
BEAULIGHT SSS	p3, 19, 49
BLEMBER	p23, 52
C	
CB-1	p27
CARRYBON L-400	p15, 33, 49
CATIOMER 300	p17
CATION DSV	p23, 29, 37, 51
CATION G-50	p5, 29, 39, 51
CATION LQ	p23, 29, 37, 50
CATION SF	p23, 29, 37, 51
CHEMICLEAN DLE-20	p5, 53
CHEMISTAT	p35
CHEMITYLEN PEB-13ST	p27, 58
COLORIN	p21
D	
DSA	p27, 31, 35, 41, 47, 59
E	
ECONOL	p21, 29, 35, 51
ELEMINOL 200L	p11, 52
ELEMINOL CLS-20	p9, 50
ELEMINOL HB-29	p11, 53
ELEMINOL JS-20	p9, 49
ELEMINOL NS-5S	p9
EMULMIN 862	p33, 56
EMULMIN AF-101	p3, 52, 66
EMULMIN CC	p11, 13, 15, 19, 33, 53
EMULMIN CCE-130	p11, 15, 53, 66
EMULMIN CS-100W	p3, 52, 66
EMULMIN FL	p3, 5, 11, 13, 15, 53, 66
EMULMIN HL	p3, 5, 11, 13, 15, 53, 66
EMULMIN L	p3, 11, 13, 15, 19, 33, 55, 66
EMULMIN LS	p3, 11, 13, 15, 19, 33, 55, 66

Product Name	Page
EMULMIN NL	p3, 11, 13, 15, 19, 33, 55, 66
EMULMIN No.	p3, 7, 11, 13, 15, 19, 41, 53, 66
F	
FROTHMEISTER GC-48	p21
FROTHMEISTER HG-375	p21
FROTHMEISTER SP-10	p21
G	
GEM	p39
H	
HIGHCLEAN	p21, 41
I	
IONET DL-200	p5, 11, 13, 17, 23, 56, 65
IONET DO	p5, 11, 13, 17, 23, 56, 65
IONET DS	p5, 11, 13, 17, 23, 56, 65
IONET MO	p5, 11, 13, 17, 23, 56, 65
IONET MS	p5, 11, 13, 17, 23, 56, 65
IONET S	p7, 11, 13, 17, 21, 23, 29, 33, 41, 56, 65
IONET T	p9, 11, 13, 17, 23, 29, 33, 41, 56, 65
L	
LAUROMACROGOL 100	p5, 7, 55
LEBON 2000	p5, 21, 57
LEBON 2000HG	p5, 21, 57
LEBON 2000L	p5, 21, 57
LEBON CIB	p5, 21, 57
LEBON HC-30W	p5, 21, 57
LEBON LD-36	p5, 21, 57
LEBON MY-30W	p5, 21, 57
LEBON T-2	p39, 57
LEBON TM-16	p23, 29, 35, 50
LEBON TM-16MS	p39, 50
LEBON TM-18	p23, 29, 35, 50
M	
MACROGOL	p9, 15, 25, 27, 31, 35, 43, 60
MELPOL F-220	p27, 31, 45

Product Name	Page
METHACRYLATE	p9, 19, 31, 43, 62
N	
NAROACTY CL	p5, 7, 9, 17, 52, 68
NAROACTY ID	p5, 7, 52, 68
NEWDET PE-85	p7, 13, 23, 25, 33, 43, 54
NEWPOL 50HB	p7, 21, 23, 33, 39, 43, 54, 73
NEWPOL 75H-90000	p7, 21, 23, 33, 39, 43, 55, 73
NEWPOL B-12	p13, 52
NEWPOL BP	p31, 45, 60, 74
NEWPOL BPE	p31, 45, 61, 74
NEWPOL DDE-10	p33, 39, 52
NEWPOL GEP	p23, 33, 54
NEWPOL GP	p7, 23, 43, 55, 74
NEWPOL LB	p7, 21, 23, 33, 39, 43, 55, 73
NEWPOL NP-300	p45
NEWPOL PE	p5, 7, 11, 13, 17, 23, 25, 29, 33, 37, 43, 54, 73
NEWPOL PP	p7, 23, 43, 52, 74
NEWPOL SBF	p13, 52
NEWPOL T-240U	p25
NEWPOL TL	p7, 21, 23, 33, 54
NEWPOL V	p7, 21, 23, 33, 39, 43, 54, 73
NSA-17	p3, 15
NSA-400L	p3
O	
OSMORIN DA-50	p39, 50
P	
PDSA-DA	p27, 31, 35, 41, 47, 59
PEG	p9, 15, 17, 25, 27, 31, 35, 37, 39, 41, 43, 60, 64
PELECTRON	p35, 70
PELESTAT	p35, 70
PIUSERIA AMC	p5, 21, 57
POLYMEDICA	p29, 47
POLYIMIDE L	p27, 41, 47, 59
POLYQUID	p27, 43, 45, 62
POLYSORBATE 80	p9, 11, 13, 17, 25, 31, 35, 43

Product Name	Page
POLYTHICK	p27, 63
POLYTHICK SC-75	p27
PROFAN	p3, 19, 33, 41, 51, 52
PUREMEEL	p3, 52
R	
REGIT SM	p45
S	
SALANJUL	p9, 35, 63
SANDET EN	p3, 9, 19, 50
SANDET END	p3, 19, 50
SANDET ONA	p9, 15, 49
SANELEK	p37
SANESTER	p45, 60
SANFINE DM-200	p15, 62
SANFLEX EB	p31, 58
SANFLEX GPA-3000	p31, 58
SANFLEX LUB	p31
SANFLOC	p19
SANFRESH	p9, 35, 37, 39, 63
SANFRIC	p25, 59
SANHIBITOR	p41, 59
SANMODUR	p47
SANMORIN 11	p7, 53
SANMORIN OT	p5, 9, 15, 43, 49
SANNIX AP-470	p39, 45, 60, 71
SANNIX FA	p37, 45, 72
SANNIX GP	p27, 31, 37, 39, 45, 61, 71
SANNIX GS-3000R	p37, 39, 45, 72
SANNIX HM	p39, 45, 60, 72
SANNIX KC	p37, 47, 72
SANNIX NE-240	p39, 45, 60, 72
SANNIX NL	p37, 45, 72
SANNIX NP-300	p37, 39, 45, 60, 72
SANNIX PL-2100	p27, 31, 45, 61, 71
SANNIX PP	p27, 31, 37, 39, 45, 61, 71
SANNIX SP-750	p27, 37, 39, 47, 61, 71
SANNIX TP-400	p27, 31, 37, 39, 47, 61, 71
SANNONIC DE-70	p5, 7, 53, 67
SANNONIC FN	p5, 7, 11, 17, 52, 67
SANNONIC SS	p5, 7, 11, 17, 53, 67

Product Name	Page
SANNONIC TN	p5, 52
SANPRENE FLR-603	p47, 63
SANPRENE H	p29, 47, 63
SANPRENE HMP-17A	p47, 63
SANPRENE LQ	p47, 63
SANPRENE P	p47, 63
SANPRENE SEL No.3	p39, 63
SANRETAN TIM-2011A	p17, 29
SANWAX	p17, 25, 31, 35, 41, 45, 58, 69
SANWET IM	p37, 63
SANYO SEEDBED	p37
SESORAN FF	p5, 52
SESORAN SF	p5, 52
SHARPFLOW FS-7301	p47
SIPA	p37, 41, 59
SIPM	p37, 41, 59
T	
TG-C	p7, 11, 13, 23, 29, 56
THERPUS	p47
TOXANON	p15, 25, 43
U	
ULTIFLOW FM-5704	p47
UMEX	p17, 27, 58, 69
UPRENE UXA-307	p29, 47, 63
V	
VCH	p45, 58
VISCOL	p17, 25, 31, 35, 41, 45, 58, 69

Subsidiaries and Affiliates

SAN NOPCO LIMITED

Tel: +81-3-3500-3501 Fax: +81-3-3500-3503 <https://www.sannopco.co.jp/eng>

Manufacture and sales of industrial agents for pulp & paper, paints, latex, ceramics, and electronics

Coating Chemicals (Aqueous)

- Defoamer
- Dispersant
- Wetting agent/Emulsifier
- Rheology modifier
- Water retention aid/Rheology improver
- Surface control agent
- Leveling agent/Tackifier
- Preservative/Anti-fouling agent
- Foam stabilizer/Rust preventive
- Water repellent agent/
Fluorescence brightening improver
- Surface sizing agent/Flame retardant
- Conducting agent/
Dimensional stabilizer

Coating Chemicals (Non aqueous)

- Defoamer
- Dispersant
- Leveling agent/Tackifier
- Ultraviolet curing compound

Process Chemicals

- Defoamer
 - for resin/Rubber emulsion/Latex manufacturing process
 - for electronic component manufacturing process
 - for exterior siding board making process
 - for cement
 - for metal treatment process
 - for waster water treatment
 - for paper manufacturing process
 - Kraft pulp washing process
 - Paper making process
 - Pulp cleaning process
 - Bleaching process
 - Waste water treatment
- Dispersant
 - for fine ceramics manufacturing process
 - for pigment (inorganic, organic)
- Lubricant for fine ceramics manufacturing process
- Emulsifier
- Cooking accelerator, Oxgen bleaching accelerator
 - for Kraft pulp manufacturing process
- Anti-skinning agent
- Surface appearance improver

SDP Global Co., Ltd.

Tel: +81-3-3500-3495 Fax: +81-3-3500-3499

Manufacture and sales of superabsorbent polymers (SAP) for hygiene material uses such as the disposable diapers and napkins

SANWET series

AQUAPEARL series

San-Apro Ltd.

Tel: +81-3-3500-3492 Fax: +81-3-3500-3494 <https://www.san-apro.co.jp/eng>

Manufacture and sales of photo-acid generators, DBU and DBN super base compounds, urethane catalysts, curing accelerators for epoxy resins, watersoluble rust inhibitors, etc.

Photo-Acid Generators

- Cationic photo initiators or photo-acid generators of triaryl sulfonium salt-type with PF6, SbF6 or special phosphate anion. Almost not containing bis-sulfonium salt
- Suited for photo-curing either clear or pigmented formulations

Super Base Compounds [DBU], [DBN]

- Used for various organic synthesis
- Accelerating polymerization, cross-linking reactions

Epoxy Curing Accelerators

- For epoxy molding encapsulation for LSI, LED and other electronic/electric devices
- Used for epoxy resin prepreg material
- For powder coating

Urethane Catalysts

- Wide applications in polyurethane for coatings, adhesives, elastomers or sealants

Other

- Water soluble rust inhibitor
- Scorch inhibitor
- Desiccant for urethane coatings, sealants

San-Petrochemical Co., Ltd.

Tel: +81-3-3500-3468 Fax: +81-3-3500-3469 <http://www.spcc.sakura.ne.jp/en/>

Manufacture of EPDM rubber materials (e.g. ENB: Ethylidene norbornene) or Specialized epoxy materials (e.g. VCH: Vinyl cyclohexene)

Sanyo Chemical

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

Head Office & Research Laboratory

Address: 11-1, Ikkyo Nomoto-cho, Higashiyama-ku, Kyoto 605-0995, Japan
Tel: +81-75-541-4311 Fax: +81-75-551-2557 (Main)

Sales Contact

Tel: +81-75-541-4362 Fax: +81-75-541-4363 (Sales Contact)

Tokyo Branch Office

E-mail: sanyoproduct@sanyo-chemical.group
Tel: +81-3-3500-3411 Fax: +81-3-3500-3412
Address: 24th Fl., Hibiya Fort Tower, 1-1-1, Nishi-shimbashi, Minato-ku, Tokyo 105-0003, Japan

<Overseas>

Sanyo Kasei (Thailand) Ltd.

Bangkok, Thailand
Tel: +66-2-390-2061
<https://www.sanyo-kasei.co.th/>

SANYO KASEI (TAIWAN) LTD.

Taipei, Taiwan
Tel: +886-2-2563-1620

Sanyo Chemical America Inc.

Pennsylvania, USA
Tel: +1-412-384-5700
<https://sanyochemicalamerica.com/>

SAN NOPCO (KOREA) LTD.

Seoul, Korea
<https://www.sannopco.com/>

SANYO CHEMICAL (SHANGHAI) TRADING CO., LTD.

Shanghai, China
Tel: +81-21-5466-7676

Sanyo Kasei Korea, Ltd.

Seoul, Korea
Tel: +82-2-561-0904

SAN NOPCO (SHANGHAI) TRADING CO., LTD.

Shanghai, China
Tel: +86-21-5456-0520
<https://www.sannopco-sh.com/>