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Special
Fine
Chemical

SFC

特殊精密化学



 SFC Co.,Ltd

CEO Message (致辞)

Welcome to SFC Co., Ltd.

Our company was established in 1998 in pursuit of manufacturing hardened oil for surface detergents, waxes, and polishes. Through continued investment into the facilities and R&D, we are now manufacturing 250 kinds of chemical products including surfactants, paper chemicals, polyurethanes, PE WAX, and softeners for the general industries, with strong competitiveness in the surfactant market. This achievement was only possible with our customer's continuous love and attention.

Thus, to provide the highest quality and service in response to the love and attention from our customers, we, Special Fine Chemical (SFC) Co., Ltd., are dedicated to satisfying the needs of our customers and promptly responding to rapidly changing market through our R&D efforts and facility investment based on the 4 management principles of our company: Quality, Service, Cleanness, and Values. All the executives and staff members are actively making efforts to introduce new items, and to maintain our price competitiveness and the world's best quality through strict quality control with automated facilities and strategic raw material supply.

All executives and staff members will fully dedicate themselves to moving forward, while thinking of the customer, environment, and society. Please be sure to look forward to our growth.

Thank you.

首先向一直以来给予关照和支持的各位朋友表示感谢。

我们公司成立于1998年，以生产表面活性剂起步，为了生产国内外工业领域需要的优质产品，不断购置生产设备，进行研究开发，从而生产出满足顾客需求的高质量、有价格竞争力的产品。经过不断努力，我们现在已经发展成名副其实的表面活性剂工业领域专业企业，确定了在该领域的地位。

为了应对无限竞争时代多变的全球化经营环境，满足顾客多种需求，我们一直追求研究开发和生产工艺的现代化，全体员工团结一心，开展生产研究活动。为了开发新产品和扩大应用领域，实现专业化，在产业资源部和中小企业厅的支持下，以未来为导向进行研究开发，大量引进先进设备，积极进行表面活性剂和精细化学产品的生产。

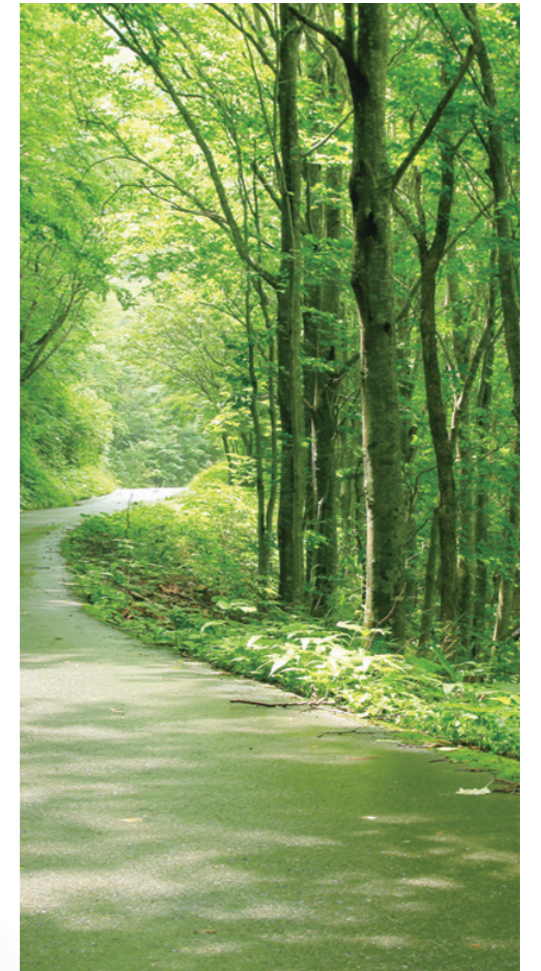
研究开发是面向未来的投资，也是对下一代的义务。我们保证以最好的质量满足顾客，保证生产和销售具有全球化竞争力的产品。

请一如既往关注和支持主导变化的株式会社SFC。谢谢。

SFC Co., Ltd. (株)SFC
CEO Jeongsuk, Lee
Jungku, Hong

History

- 1998. 09 : Established SFC. Co., Ltd.
成立
- 1999. 03 : Built Hwayang Plant
华阳工厂竣工
- 1999. 06 : Started manufacturing nonionic surfactant
正式启动非离子表面活性剂制造厂
- 2000. 12 : Built new polyethylene-wax plant
新建Polyethylene-wax工厂
Production capacity: 2,000MT/year
生产能力 : 2,000MT/年
- 2003. 04 : Established R&D Center
设立 (株) SFC附属研究所
- 2007. 01 : Selected as INNO-BIZ by Government
入选技术革新型中小企业(INNOBIZ)
Designated as a Promising Export Firm by Government
入选出口有望中小企业 (中小企业厅)
- 2008. 07 : Rebuild the surfactant Plant
新建表面活性剂制造厂
Production capacity: 46,000MT/Year
生产能力 : 46,000MT/年
- 2008. 10 : Won a Prize of " Tower of 10 millionDollar Export" from Korean Government
荣获贸易节 "千万美元塔奖"
- 2010. 05 : Be awarded as an "Exemplary Taxpayer" from Korean government.
荣获模范纳税人奖 (国税厅奖)
- 2010. 10 : Acquired ISO-9001
ISO-9001认证 (获得)
- 2013. 06 : Designated as a "STAR COMPANY" by Jeollanam-do
入选明星企业 (丽水市)
- 2013. 07 : Built new compound Plant (Functional complexing resin)
新建复合厂 (功能性复合树脂)
Production capacity: 30,000MT/Year 生产能力 : 30,000MT/年





|| SFC PRODUCT I (产品目录) ||

♣ Surfactant

Product List (产品目录)	Chemical composition (化学名称)	Page (页码)
SUNFOL ES	Polyoxyethylene-Oxypropylene Alkyl Ether	7
SUNFOL IDH	Polyoxypropylene-Oxyethylene Alkyl Ether	7
SUNFOL LF	Polyoxyethylene-Oxypropylene Alkyl Ether	7
SUNFOL AG	Polyoxyethylene-Oxypropylene Alkyl Ether	8
SUNFOL LA	Polyoxyethylene Lauryl Ether	9
SUNFOL OA	Polyoxyethylene Oleyl Ether	9
SUNFOL SA	Polyoxyethylene Stearyl Ether	10
SUNFOL CA	Polyoxyethylene Cetyl Ether	10
SUNFOL ODA	Polyoxyethylene Octyl-decyl Ether	10
SUNFOL TDA	Polyoxyethylene Tridecyl Ether	11
SUNFOL OTA	Polyoxyethylene Octyl Ether	11
SUNFOL TMP	Polyoxyethylene Trimethylolpropane Ether	11
SUNFOL NP	Polyoxyethylene Nonyl Phenyl Ether	13
SUNFOL OP	Polyoxyethylene Octyl Phenyl Ether	13
SUNFOL DP	Polyoxyethylene Dodecyl Phenyl Ether	13
SUNFOL FC	Polyoxyethylene Coconut Ester	15
SUNFOL FO	Polyoxyethylene Oleic Ester	15
SUNFOL FS	Polyoxyethylene Stearic Ester	15
SUNFOL CO	Polyoxyethylene Castor Oil	15
SUNFOL COW	Polyoxyethylene Castor Wax	15
SUNFOL LM	Polyoxyethylene Lauryl Amine	17
SUNFOL TM	Polyoxyethylene Tallow Amine	17
SUNFOL SM	Polyoxyethylene Stearyl Amine	17
SUNFOL PE/IR/BR	Polyoxyethylene Oxypropylene Copolymer	18
SUNFOL PEG	Polyoxyethylene Glycol	20
SUNFOL SP	Sorbitan Fatty Acid Ester	22
SUNFOL TW	Polyoxyethylene Sorbitan Ester	22
SUNFOL SF / CSF / JY / AF / M	Speciality Nonionics	23
SUNFOL DSP / TSP	Polyoxyalkylene Aryl Ether	24
SUNFOL PEG ESTER	Polyethyleneglycol Fatty Acid Ester	24
SUNFOL HP / SF / DOS / DS	Anionic Surfactants	25,26
SUNFOL ST / MEQ / EQ / SEQ	Cationic Surfactants	27
SUNFOL LTSM / LTS-A / PCS	Cationic Surfactants	28
SUNFOL DEA / TEA	Diethanol Amine / Triethanol Amine	28

♣ Speciality Defoamer

Product List (产品目录)	Chemical composition (化学名称)	Page (页码)
SUNFOL 200-1	Polyoxyalkylene Alkyl Ether	28
SUNFOL S-430	Polyoxyalkylene Alkyl Ether	28
SUNFOL S-1812	Polyoxyalkylene Alkyl Ether	28

|| SFC PRODUCT II (产品目录) ||

♣ POLYOL

Product List (产品目录)	Chemical composition (化学名称)	Page (页码)
SUNFOL SL	All EO Diethylene Glycol Initiated type	29
SUNFOL D	All PO Dipropylene Glycol Initiated type	29
SUNFOL D	All PO Glycerine Initiated type	29
SUNFOL D	EO Tipped Glycerine Initiated type	29
SUNFOL T	EO/PO Random Tipped Glycerine Initiated type	29
SUNFOL FA	Aliphatic Amine Initiated type	29

♣ Polyurethane Adhesives

Product List (产品目录)	Application (用途)	Page (页码)
SOAPOL SH-100, SH-101	EPS Panel Adhesives	29
SOAPOL SH-200, SH-300	Non Flammable EPS Panel Adhesives	29
SOAPOL SH-5000	Hybrid EPS Panel Adhesives	29

♣ Paper & Pulp Agent (造纸薬品)

Trade Name (产品名称)	Product List (产品目录)	Page (页码)
SOAPOL	Deinking agents (脱墨剂)	30
	Dry strength agents (干强剂)	30
	Wet strength agents (干强剂)	30
	Deaerator / Defoamer (除气/消泡剂)	30
	Defoaming agent (消泡剂)	31
	Dispersing agent (分散剂)	31
	Felt cleaning agent (毛毡洗涤剂)	31
	H ₂ O ₂ stabilizer (双氧水稳定剂)	31
	Anti scale agent (阻垢剂)	31

♣ PE-WAX

Divisions (分类)	Low material	Page (页码)
Non-emulsion Types (非乳化型)	LDPE (低密度聚乙烯)	32
	HDPE (高密度聚乙烯)	32
	LP (低聚合物)	32
Emulsion Types (乳化型)	LDPE (低密度聚乙烯)	32
	Non-emulsion Types (非酸化型)	Co-Polymer (Co-聚合物)

♣ Rosin

Product List (产品目录)	Divisions (分类)	Page (页码)
SUNFOL RSLD	Rosin Soap	36
SUNFOL PER	Rosin Ester	36
SUNFOL GER		
SUNFOL MAR		

|| Masterbatch SFC™ Polyplus || 37, 38

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Nonionic SUNFOL Series

Nonionic SUNFOL Series are in Nonionic surfactants which are belong in the ethylene oxide lineage. These products have wonderful properties in emulsification, dispersion and penetrating effects. The hydrophilic property is related with adducted ethylene oxide mole, and hydrophobic property is related with base materials. It can be control penetrating, cleaning, emulsifying dispersant and foaming effects by choice base materials. In general, EO adducted nonionic surfactants have good chemical resistance, and very stable in acid and alkali solution.

Nonionic SUNFOL Series have good solubility in anionic, cationic and the other nonionic surfactants. It also takes wonderful effects in foaming application by using small quantity than the other surfactants.

General Application : Textile industry, Paper & Pulp industry, Agricultural chemicals, Pharmaceutical, Rubber industry, Paint, Resin, Metal industry.

Nonionic SUNFOL Series are classified with adducted moles of EO/PO and base materials. Capital letters mean chemical structure of base materials and arabic numerals mean adducted moles of EO/PO or molecular weight.

Nonionic SUNFOL Series是环氧乙烷 (ethylene oxide) 系非离子表面活性剂,是具有出色的乳化、分散和浸透功能的物质,环氧乙烷的附加部分越多亲水性越强,浸透力、清洗力、乳化分散力和发泡力等特点与作为基础物质使用的疏水性物质种类的不同而不同。一般情况下,EO附加性非离子表面活性剂的耐化学性能出色,在酸、碱溶液中非常稳定,在酸、碱和盐类共存的水溶液中也表现出优秀的表面活性。

Nonionic SUNFOL Series与阴离子、阳离子和其他非离子表面活性剂相比,具有少量即可获得出色效果的特点,在纤维、造纸、农药、医药品、橡胶、油漆、树脂和金属工业等整个工业领域中,作为清洗剂、浸透剂、湿润剂、乳化分散剂、发泡和除泡剂功能广泛使用。

Nonionic SUNFOL Series按环氧乙烷的附加摩尔数和基础物的种类分类。文字是基础物的化学结构,其后的数字是环氧乙烷的附加摩尔数或者分子量。

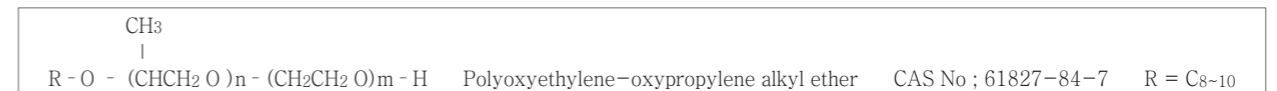
Eco-friendly Surface-active Agents I (环保型表面活性剂)

1. Characteristics of Eco-friendly Surface-active Agents (环保型表面活性剂特性)

- ☞ Our all series is a substitute grade for P.O.E alkyl phenol ether.
- ☞ They are Eco-friendly products without any harmful effects on the human body.
- ☞ They are surface-active agents that do not contain nonylphenol.
- ☞ They have excellent surface activity properties and penetration effect.

- ☞ 我们全部系列是 P.O.E alkyl phenol ether 的替代材料。
- ☞ 我们的产品是对人体无害的环保产品。
- ☞ 表面活性剂不包括壬基酚
- ☞ 我们的产品具有良好的表面活性性能和渗透效果

1) ES Series

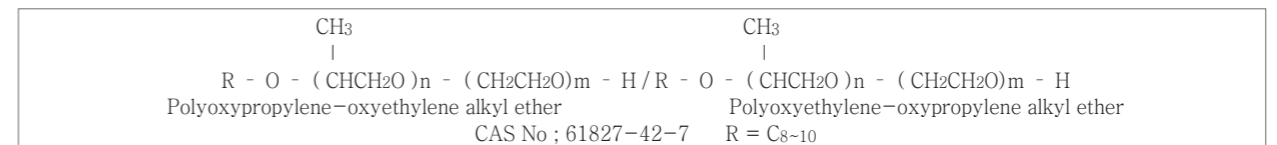


* ES Series products have side chains, which enhance their penetration effect. (我们系列有良好的渗透效果)

Trade Name (产品名称)	Appearance (外观)	pH	CP (°C)	HLB	Application (用途)
SUNFOL ES-6	Liquid (液体)	5.0~7.0	67 ~ 70	9.9	Dispersion & Emulsion agent
SUNFOL ES-9	Liquid (液体)	5.0~7.0	75 ~ 78	11.5	Emulsion & cleansing agent

* Method of cloud point measurement : BDG 10% solution

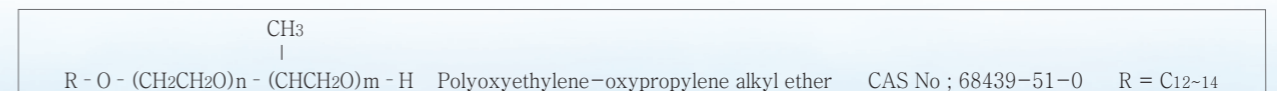
2) IDH Series



* IDH Series is EO/PO Copolymer, optimized as an emulsion and cleansing agent with an excellent penetration effect.

Trade Name (产品名称)	Appearance (外观)	pH	CP (°C)	HLB	Application (用途)
SUNFOL IDH-8	Liquid(液体)	5.0~7.0	38~42	9.4	Emulsion & cleansing agent
SUNFOL IDH-10	Liquid(液体)	5.0~7.0	70~74	11.8	Emulsion & cleansing agent

3) LF Series



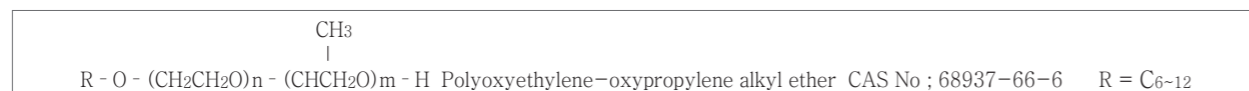
* LF Series has linear alkyl chain EO /PO Copolymer, optimized as an emulsion and cleansing agent.

Trade Name (产品名称)	Appearance (外观)	pH	CP(°C)	HLB	Application (用途)
SUNFOL LF-1244	Liquid (液体)	6.0~8.0	31 ~ 33	4.5	Emulsion & cleansing agent
SUNFOL LF-1266	Liquid (液体)	5.5~7.5	25 ~ 30	6.5	Emulsion & cleansing agent

* Method of cloud point measurement of LF-1244 : BDG 20% solution

Eco-friendly Surface-active Agents II (环保型表面活性剂)

4) AG Series



Trade Name (产品名称)	Appearance (外观)	pH	CP(°C)	Application (用途)
SUNFOL AG-7	Liquid (液体)	5.0~8.0	35~40	Emulsion & cleansing agent
SUNFOL AG-9	Liquid (液体)	5.0~8.0	55~60	Emulsion & cleansing agent
SUNFOL AG-40	Flake (片状)	5.5~7.5	-	Cleansing agent

* Method of cloud point measurement: 1% aqueous solution

* 浊点测量方法: 1%水溶液

* Method of pH measurement: 1% aqueous solution, (corrected to pH=7)

* pH测量的方法: 1%水溶液 (校正至pH= 7)

* Aqueous solution, corrected to pH=7 for use

* 水溶液 (校正至pH= 7)



2. Application of Eco-friendly Surface-active Agents (环保型表面活性剂中的应用)

- ☞ Liquid-type detergent base, shampoo base
- ☞ Household cleaning agent
- ☞ Intermediate of anionic sulfate & phosphates
- ☞ Emulsifier for silicone & mineral oil, paraffin oil, wax
- ☞ Textiles spinning & spin finish oil, dyeing auxiliaries, dye dispersant
- ☞ Latex stabilizing agent
- ☞ Pulp & paper wetting & dispersing agent
- ☞ Metal & leather degreasing agent

- ☞ 液体性洗涤剂基础物/ 洗发精基础物
- ☞ 家用的清洗剂
- ☞ 阴离子硫酸盐或磷酸盐的中间物
- ☞ 硅氧烷乳化剂 & 矿物油乳化剂, 石蜡乳化剂
- ☞ 纺织制品: 棉纺&纺丝油剂
- ☞ 乳汁/稳定剂
- ☞ 纸浆&造纸 /分散 & 浸透剂
- ☞ 金属 & 皮革/分散剂

Polyoxyethylene Alkyl Ether I (聚氧乙烯烷基醚)(聚氧乙烯烷基醚)

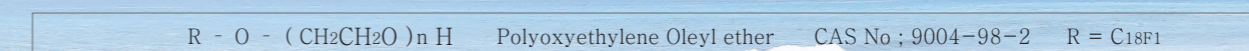
1. Natural base polyoxyethylene alkyl ether (自然基聚氧乙烯烷基醚)

1) Lauryl base polyoxyethylene alkyl ether



Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL LA-2	Liquid (液体)	-	6.2	- Liquid type detergent base, Shampoo base & Household cleaning agent - Intermediate of anionic sulfate & Phosphates - Emulsifier for silicone & Mineral oil, paraffin oil, wax - Emulsion polymerization Machine oil - Textiles Spinning & Spin Finish oil - Dyeing auxiliaries, Dye dispersant - Latex Stabilizing agent - Pulp & Paper wetting & dispersing agent - Metal & Leather Degreasing agent - 液体性洗涤剂基础物, 洗发精基础物, 家用的清洗剂 - 离子硫酸盐或磷酸盐的中间物 - 硅氧烷乳化剂& 矿物油乳化剂, 石蜡乳化剂, 乳化, 聚合剂, 机器油 - 纺织制品: 棉纺 & 纺丝油剂, 染色辅助剂, 脱色剂 - 乳汁稳定剂 - 纸浆 & 造纸, 分散 & 浸透剂 - 金属 & 皮革分散剂
SUNFOL LA-3	Liquid (液体)	-	8.1	
SUNFOL LA-4	Liquid (液体)	< 25	9.5	
SUNFOL LA-5	Liquid (液体)	< 25	10.6	
SUNFOL LA-7	Liquid (液体)	53 ~ 60	12.2	
SUNFOL LA-9	Liquid (液体)	78 ~ 82	13.4	
SUNFOL LA-10	Paste (膏状)	86 ~ 94	13.9	
SUNFOL LA-12	Paste (膏状)	> 100	14.5	
SUNFOL LA-15	Solid (固体)	> 100	15.4	
SUNFOL LA-20	Solid (固体)	> 100	16.4	
SUNFOL LA-50	Flake (片状)	-	18.5	

2) Oleyl base polyoxyethylene alkyl ether



Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL OA-5	Liquid (液体)	< 25	9.0	- Textiles Spinning & Spin Finish oil - Dyeing auxiliaries, Dye dispersant - Latex Stabilizing agent - Pulp & Paper wetting & dispersing agent - Metal & Leather Degreasing agent - 纺织制品: 棉纺 & 纺丝油剂, 染色辅助剂, 脱色剂 - 乳汁稳定剂 - 纸浆 & 造纸, 分散 & 浸透剂 - 金属 & 皮革分散剂
SUNFOL OA-8	Liquid (液体)	37 ~ 43	11.3	
SUNFOL OA-10	Liquid (液体)	60 ~ 65	12.4	
SUNFOL OA-20	Solid (固体)	> 100	15.3	
SUNFOL OA-40	Flake (片状)	-	17.3	

* Method of cloud point measurement: 0.5% aqueous solution

* 浊点测量方法: 0.5% 水溶液

* Method of pH measurement: 1% aqueous solution, (corrected to pH=7)

* pH测量的方法: 1%水溶液 (校正至pH= 7)

* Aqueous solution, corrected to pH=7 for use

* 水溶液 (校正至pH= 7)

* Water Content : 0.5 wt/wt% Max.

* 水分含量 : 0.5 wt/wt% Max.

Polyoxyethylene Alkyl Ether II (聚氧乙烯烷基醚)

3) Stearyl base polyoxyethylene alkyl ether

R - O - (CH ₂ CH ₂ O) _n H Polyoxyethylene Stearyl ether CAS No ; 9005-00-9 R = C ₁₈				
Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL SA-2	Solid (固体)	-	4.9	- Dying auxiliaries, Dye dispersant - Latex Stabilizing agent - Dispersing agent - 染色辅助剂, 脱色剂 - 乳汁 稳定剂 - 分散 & 浸透剂, 分散剂
SUNFOL SA-7	Solid (固体)	-	10.6	
SUNFOL SA-14	Solid (固体)	> 100	13.9	
SUNFOL SA-25	Solid (固体)	> 100	16.0	
SUNFOL SA-50	Flake (片状)	> 100	17.8	

4) Cetyl base polyoxyethylene alkyl ether

R - O - (CH ₂ CH ₂ O) _n H Polyoxyethylene Cetyl ether CAS No ; 9004-95-9 R = C ₁₆				
Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL CA-5	Solid (固体)	-	9.5	- Dying auxiliaries, Dye dispersant - Latex Stabilizing agent - Dispersing agent - 染色辅助剂, 脱色剂 - 乳汁 稳定剂 - 分散 & 浸透剂, 分散剂
SUNFOL CA-12	Solid (固体)	> 100	13.7	
SUNFOL CA-15	Solid (固体)	> 100	14.6	
SUNFOL CA-20	Solid (固体)	> 100	15.7	
SUNFOL CA-50	Flake (片状)	> 100	17.9	

5) Other base polyoxyethylene alkyl ether

R - O - (CH ₂ CH ₂ O) _n H Polyoxyethylene Octadecyl ether CAS No ; 71060-57-6 R = C ₈₋₁₀				
Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL ODA-2	Liquid (液体)	-	7.7	- Dispersing agent - 分散 & 浸透剂, 分散剂
SUNFOL ODA-4	Liquid (液体)	-	11.1	
SUNFOL EFME-7	Liquid (液体)	77 ~ 83	13.7	

- * Method of cloud point measurement: 0.5~1% aqueous solution
- * Method of pH measurement: 1~5% aqueous solution, (corrected to pH=7)
- * Aqueous solution, corrected to pH=7 for use
- * Water Content : 0.5 wt/wt% Max.

- * 浊点测量方法 : 0.5~1% 水溶液
- * pH测量的方法 : 1~5%水溶液 (校正至pH= 7)
- * 水溶液 (校正至pH= 7)
- * 水分含量 : 0.5 wt/wt% Max.

2. Synthetic base polyoxyethylene alkyl ether(合成基聚氧乙烯烷基醚)

1) Tridecyl base polyoxyethylene alkyl ether

R - O - (CH ₂ CH ₂ O) _n H Polyoxyethylene Isotridecyl ether CAS No ; 24938-91-8 R = C ₁₃				
Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL TDA-3	Liquid (液体)	-	7.9	- Intermediate of anionic phosphates - Emulsifier for silicone & Mineral oil, paraffin oil, wax - Dying auxiliaries & dispersant - Pulp & Paper wetting & dispasant - Metal & Leather Degreasing agent - 离子磷酸盐的中间物 - 硅氧烷乳化剂 & 矿物油乳化剂, 石蜡乳化剂 - 乳化, 聚合剂, 机器油 - 染色辅助剂, 分散剂, 稳定剂 - 乳汁 稳定剂 - 纸浆 & 造纸 分散 & 浸透剂 - 金属 & 皮革 分散剂
SUNFOL TDA-5	Liquid (液体)	< 25	10.4	
SUNFOL TDA-6	Liquid (液体)	< 25	11.3	
SUNFOL TDA-7	Liquid (液体)	BDG sol'n 90-94	11.9	
SUNFOL TDA-8	Liquid (液体)	43 ~ 46	12.7	
SUNFOL TDA-9	Liquid (液体)	57 ~ 62	13.2	
SUNFOL TDA-890	Liquid (液体)	40 ~ 45	12.7	
SUNFOL TDA-10	Liquid (液体)	69 ~ 74	13.7	
SUNFOL TDA-14	Paste (膏状)	-	15.1	
SUNFOL TDA-40	Flake (片状)	-	17.9	

2) 2-Ethylhexcyl base polyoxyethylene alkyl ether

R - O - (CH ₂ CH ₂ O) _n H Diethyleneglycol mono 2-ethylhexyl ether CAS No ; 26468-86-0 R = C ₈				
Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL OTA-2	Liquid (液体)	-	8.0	- Intermediate of anionic Phosphates - Dying auxiliaries wetting & dispasant - 离子磷酸盐的中间物 - 染色辅助剂, 分散剂, 稳定剂
SUNFOL OTA-5	Liquid (液体)	-	12.6	
SUNFOL OTA-8	Liquid (液体)	77 ~ 83	14.6	

3) TMP base polyoxyethylene alkyl ether

CH ₃ CH ₂ - C - (CH ₂) ₃ (OH) _m (CH ₂ CH ₂ O) _n H Ttimethylolpropyl ether CAS No ; 50586-59-9				
Trade Name (产品名称)	Appearance (外观)	CP(°C)	HLB	Application (用途)
SUNFOL TMP-3	Liquid (液体)	-		- Dying auxiliaries wetting & dispersant
SUNFOL TMP-22	Liquid (液体)	-		- 染色辅助剂, 分散剂, 稳定剂

- * Method of cloud point measurement: 1% aqueous solution
- * Method of pH measurement: 1% aqueous solution, (corrected to pH=7)
- * Aqueous solution, corrected to pH=7 for use
- * Water Content : 0.5 wt/wt% Max.

- * 浊点测量方法 : 1%水溶液
- * pH测量的方法 : 1%水溶液 (校正至pH= 7)
- * 水溶液 (校正至pH= 7)
- * 水分含量 : 0.5 wt/wt% Max.

3. Characteristics of P.O.E alkyl ether (特点)

The property of Polyoxyethylene alkyl ether can be controlled by adducted moles of ethylene oxide and choice of Fatty alcohol. This material is belong to Ether type surfactant family, and appears excellent chemical resistance at acid, alkali condition. And also, has biodegradability property because of linear alcohol base.

脂肪醇聚氧乙烯醚 (Polyoxyethylene Alkyl Ether) 的亲水性由环氧乙烷附加摩尔数决定, 可以任意调整。可以通过选择脂肪醇 (Fatty Alcohol) 而改变其性质。利用其优秀的湿润力、乳化力、清洗力而广泛使用。本类物质属于醚类表面活性剂, 对酸、碱的耐腐蚀力强, 加水不分解。使用于要求耐酸、耐碱、耐硬水性的领域。而且, 由于使用线性乙醇 (Linear Alcohol), 生物降解性 (Biodegradability) 高, 这个特点是其最大优点



4. Application of P.O.E alkyl ether (用途)

Apply as emulsifier, dispersant, wetting agent, cleaning agent in synthetic resin field, cosmetics, metal industry, pharmaceuticals and household detergents. Especially, very useful by emulsifiers for pharmaceutical cream, cosmetic cream, and others which need biodegradable functions.

SUNFOL OA Series have excellent penetration property with low foaming, and use industrial emulsion applications in agricultural chemicals and metal cutting oils. Low EO adducted ones are used O/W type emulsifier in water-soluble ink, water-based paint.

本类产品与NP、OP比较相似, 在合成树脂、化妆品、金属、医药和家庭用洗涤剂等各种工业领域内, 作为乳化剂、分散剂、湿润剂、清洗剂和增溶剂使用。特别是, 在要求生物分解性的领域和医药品、软膏、化妆品, 作为亲水性、亲油性的乳化剂广泛使用。

SUNFOL OA类具有低发泡性, 浸透力强, 在要求流动性的农药、切削油的工业领域, 用于制造乳胶。

环氧乙烷的附加摩尔数小的产品, 用作印刷油墨、缝纫机油的分散剂, 附加摩尔数大的产品, 用作水性油墨、水性油漆等的O/W型乳化剂或者增溶剂使用。

☞ Textile industry (纤维工业)

LA, OA, CA, SA, OTA (类) : Spinning (防聚积), Dyeing auxiliaries (染色助剂)

☞ Agricultural chemicals (农药工业)

OA series (类) : Emulsifier (乳化剂), LA series (类) : Dispersant, Wetting agent (湿润、分散剂)

☞ Metal industry (金属工业)

OA-3~OA-10 : Emulsifier in cutting oil (切削油乳化剂)
LA-8~LA-10, TDA series : De-grease agent (脱脂剂)

☞ Pigment industry (染料工业)

LA-20, OA-20, OTA series : Dispersant (分散剂)
LA-5 : Emulsifier for silicon base-Zeolite Stabilizer (硅乳化剂、软水剂 (Zeolite) 稳定剂)

☞ Synthetic resin industry (合成树脂工业)

LA-20, OA-20, CA-20, SA-20 : Emulsion stabilizer in polymerization (乳化聚合功能的乳化稳定剂)
TDA series : Emulsifier for silicon resin (硅树脂乳化剂)

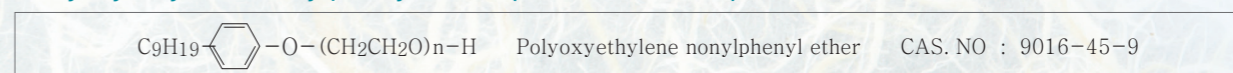
☞ Wax industry (石蜡工业)

CA-10, CA-20, SA-7, SA-20 : Emulsifier (乳化剂)

☞ Leather industry (皮革工业) OTA series : De-grease agent (脱脂剂)

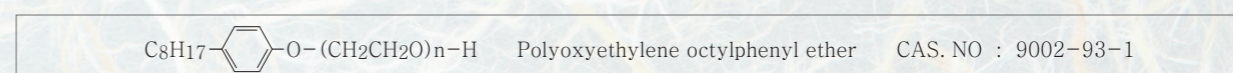
Polyoxyethylene Alkyl Aryl Ether I (聚氧乙烯烷基醚 I)

1. Polyoxyethylene Nonylphenyl Ether (壬基酚聚氧乙烯醚)



Trade Name (产品名称)	Appearance (外观)	CP (°C)	HLB	Application (用途)
SUNFOL NP-2	Liquid (液体)	< 25	5.7	- Metal Industry : Emulsifier, Degreasing agent - Pigment & Dye : Dispersant wetting & Emulsion - Synthetic Resin : Emulsion polymerization stabilizing agent Anti sticking agent, Anti spilling agent - Emulsifier for cutting oils - Pitch dispersing agent
SUNFOL NP-3	Liquid (液体)	< 25	7.5	
SUNFOL NP-4	Liquid (液体)	< 25	8.9	
SUNFOL NP-5	Liquid (液体)	< 25	10.0	
SUNFOL NP-6	Liquid (液体)	< 25	10.9	
SUNFOL NP-7	Liquid (液体)	< 25	11.7	
SUNFOL NP-8	Liquid (液体)	30 ~ 34	12.3	
SUNFOL NP-9	Liquid (液体)	50 ~ 55	12.9	
SUNFOL NP-10	Liquid (液体)	60 ~ 64	13.3	
SUNFOL NP-12	Paste (膏状)	79 ~ 84	14.1	
SUNFOL NP-14	Paste (膏状)	91 ~ 95	14.7	- 农艺制品 : 湿润、分散剂, 浸透, 乳化剂
SUNFOL NP-15	Paste (膏状)	95 ~ 100	15.0	- 金属制品: 乳化剂, 脱色剂
SUNFOL NP-16	Paste (膏状)	> 100	15.3	- 颜料 & 染色制品
SUNFOL NP-20	Solid (固体)	> 100	16.0	: 分散剂, 浸透, 乳化剂
SUNFOL NP-30	Flake (片状)	> 100	17.1	- 合成树脂 : 乳化 聚合化 稳定剂, 防粘着剂, 防泄落剂
SUNFOL NP-40	Flake (片状)	> 100	17.8	
SUNFOL NP-50	Flake (片状)	> 100	18.2	
SUNFOL NP-100	Flake (片状)	> 100	19.0	

2. Polyoxyethylene Octyl phenyl Ether (聚氧乙烯辛基苯基醚)



Trade Name (产品名称)	Appearance (外观)	CP (°C)	HLB	Application (用途)
SUNFOL OP-4.5	Liquid (液体)	-	9.8	- Metal Industry : Emulsifier, Degreasing agent - Pigment & Dye dispersant wetting & Emulsion - Emulsifier for cutting oils - Pitch dispersing agent
SUNFOL OP-5	Liquid (液体)	-	10.3	
SUNFOL OP-7	Liquid (液体)	26 ~ 30	12.1	
SUNFOL OP-8	Liquid (液体)	45 ~ 49	12.6	
SUNFOL OP-9	Liquid (液体)	62 ~ 64	13.2	
SUNFOL OP-10	Liquid (液体)	72 ~ 76	13.6	- 湿润剂
SUNFOL FW-470	Liquid (液体)	> 100	17.9	- 农艺制品: 湿润、分散剂, 浸透, 乳化剂
SUNFOL OP-40	Flake (片状)	> 100	17.9	- 金属制品: 乳化剂, 分散剂
SUNFOL OP-70	Flake (片状)	> 100	18.7	- 颜料 & 染色制品: 分散剂, 浸透, 乳化剂

3. Polyoxyethylene Dodecyl phenyl Ether (聚氧乙烯十二烷基苯基醚)

Trade Name (产品名称)	Appearance (外观)	CP (°C)	HLB	Application (用途)
SUNFOL DP-5	Liquid (液体)	< 25	9.1	Emulsifier, Dispersant (乳化剂, 分散剂)

* Method of cloud point measurement: 0.5~1% aqueous solution
 * Method of pH measurement: 1% aqueous solution, (corrected to pH=7)
 * Aqueous solution, corrected to pH=7 for use
 * Water Content : 0.5 wt/wt% Max.

* 浊点测量方法: 0.5~1% 水溶液
 * pH测量的方法: 1% 水溶液 (校正至pH=7)
 * 水溶液 (校正至pH=7)
 * 水分含量: 0.5 wt/wt% Max.

Polyoxyethylene Alkyl Aryl Ether II (聚氧乙烯烷基醚)

4. Application (用途)

Application base on added EO moles (由环氧乙烷附加摩尔数决定的用途)

☞ 2 mol ~ 4 mol

Defoaming agent in surfactant solution Cleaning agent

Dispersion agent for petro-chemical products / Base material of sulfonates

(表面活性剂溶液的除泡剂、石油产品中的清洗剂、分散剂、氧化硫母材)

☞ 4 mol ~ 8 mol

Cleaning agent in oil phase / Dispersion agent / Emulsifier for insecticide and herbicide

Base material of sulfonates

(溶油的清洗剂、分散剂、杀虫剂、除草剂用乳化剂、氧化硫母材)

☞ 8 mol ~ 12 mol

Penetrate auxiliaries for leather industry / Felt cleaner for paper industry

(皮革工业用浸透助剂、造纸工业的纸浆清洗剂)

☞ 12 mol ~ 20 mol

Cleaning and wetting agent for high temp and high concentrated electrolyte solution

Emulsifier for oil, grease and wax / Stabilizer for synthetic resin

(高温、高电解质浓度使用的清洗和湿润剂、油脂、油、石蜡乳化剂、合成树脂稳定剂)

☞ Above 20 mol

Soap dispersing agent / Emulsifier for emulsion polymerization

(肥皂分散剂、乳化聚合用的乳化剂)

Application base on industry (各行业用途)

☞ Metal industry (金属工业)

NP-3~NP-16 : Emulsifier for cutting oils (切削油乳化剂)

☞ NP-8~NP-16 : Grease remover, Cleaning Metal surface treatment

(脱脂剂、清洗剂-金属表面处理剂)

☞ Dyeing/Pigment (染料颜料工业)

NP-6~NP-8 : Emulsifier (乳化剂)

NP-6~NP-60 : Dispersion agent (分散剂)

☞ Synthetic resin (合成树脂工业)

NP-20~NP-100 : Dispersing emulsifier for emulsion polymerization

(乳化聚合用的分散乳化剂)

☞ Fertilizer (肥料工业)

NP-6~NP-10 : Anti-scattering agent (防分散剂), Anti-caking agent (防固结剂)

☞ Paper and Pulp (造纸纸浆工业)

NP-5~NP-12 : Pitch dispersing agent (分散剂)

NP-8~NP-12 : Deinking, Bleaching, Felt cleaning (废纸脱墨、漂白助剂、纸浆清洗剂)

☞ Rubber industry (橡胶工业)

NP-5~NP-10 : Emulsifier for emulsion polymerization (乳化聚合用的乳化剂)

☞ General detergent (一般洗涤剂工业)

NP-6~NP-16 : Detergent base (洗涤剂基础材料)

Polyoxyethylene Alkyl Ester I (烷基聚氧乙烯酯)

1. Fatty acid base Alkyl ester(脂肪酸烷基酯基)

R - COO - (CH₂CH₂O)_nH Polyoxyethylene alkyl ester CAS No ; 61791-29-5 R = C11, CAS No ; 9004-96-5 R = C17

Trade Name (产品名称)	Appearance (外观)	CP (°C)	HLB
SUNFOL FC - 9	Liquid (液体)	13.3	- Emulsifier for Mineral oil, paraffin oil - Textiles Spinning & Spin Finish oil Dyeing auxiliaries, Dye dispersant - Emulsion, Dispersant - 硅氧烷乳化 & 矿物油乳化剂, 石蜡乳化剂, 乳化, 聚合剂, 机器油 - 纺织制品: 棉纺 & 纺丝油剂, 染色辅助剂, 脱色剂 - 乳汁 稳定剂
SUNFOL FC - 14	Liquid (液体)	14.9	
SUNFOL FO - 5	Liquid (液体)	8.8	
SUNFOL FO - 7	Liquid (液体)	10.5	
SUNFOL FO - 9	Liquid (液体)	11.7	
SUNFOL FO - 14	Liquid (液体)	13.7	
SUNFOL FS - 40	Flake (片状)	17.3	

2. Polyoxyethylene Castor Oil & Wax Ether (聚氧乙烯蓖麻油 & 蜡醚)

Trade Name (产品名称)	Appearance (外观)	HLB	Chemical structure	Application (用途)	
SUNFOL CO - 3	Liquid (液体)	2.5	$\begin{array}{c} \text{O(CH}_2\text{CH}_2\text{O)}_n\text{-H} \\ \\ \text{H}_3\text{C-(CH}_2\text{)}_5\text{-CH-CH}_2\text{-CH=CH-(CH}_2\text{)}_7\text{-COOCH}_2 \end{array}$	- Cosmetics : Emulsifier - Agricultural chemicals - Textile : dyeing auxiliaries	
SUNFOL CO - 12	Liquid (液体)	7.2	$\begin{array}{c} \text{OH} \\ \\ \text{H}_3\text{C-(CH}_2\text{)}_5\text{-CH-CH}_2\text{-CH=CH-(CH}_2\text{)}_7\text{-COOCH}_2 \\ \\ \text{H}_3\text{C-(CH}_2\text{)}_5\text{-CH-CH}_2\text{-CH-CH-(CH}_2\text{)}_7\text{-COOCH}_2 \end{array}$		
SUNFOL CO - 15	Liquid (液体)	8.3	$\begin{array}{c} \text{O(CH}_2\text{CH}_2\text{O)}_m\text{-H} \\ \\ \text{Polyoxyethylene castor ether} \end{array}$		
SUNFOL CO - 25	Liquid (液体)	10.8	$\begin{array}{c} \text{O(CH}_2\text{CH}_2\text{O)}_m\text{-H} \\ \\ \text{Polyoxyethylene castor ether} \end{array}$		
SUNFOL CO - 40	Liquid (液体)	13.0	$\begin{array}{c} \text{O(CH}_2\text{CH}_2\text{O)}_m\text{-H} \\ \\ \text{Polyoxyethylene castor ether} \end{array}$ CAS.NO : 61791-12-6		
SUNFOL COW - 12	Liquid (液体)	7.2	$\begin{array}{c} \text{O(CH}_2\text{CH}_2\text{O)}_n\text{-H} \\ \\ \text{H}_3\text{C-(CH}_2\text{)}_5\text{-CH-(CH}_2\text{)}_{10}\text{-COOCH}_2 \\ \\ \text{OH} \end{array}$		- 纺织制品: 染色辅助剂 - 农业制品: 乳化剂 - 染料 & 染色制品: 分散剂 - 化妆品: 乳胶稳定剂
SUNFOL COW - 22	Liquid (液体)	10.2	$\begin{array}{c} \text{OH} \\ \\ \text{H}_3\text{C-(CH}_2\text{)}_5\text{-CH-(CH}_2\text{)}_{10}\text{-COOCH}_2 \\ \\ \text{H}_3\text{C-(CH}_2\text{)}_5\text{-CH-(CH}_2\text{)}_{10}\text{-COOCH}_2 \end{array}$		
SUNFOL COW - 40	Solid (固体)	13.1	$\begin{array}{c} \text{O(CH}_2\text{CH}_2\text{O)}_m\text{-H} \\ \\ \text{Polyoxyethylene hydrogenated castor ether} \end{array}$		
SUNFOL COW - 55	Solid (固体)	14.4	$\begin{array}{c} \text{O(CH}_2\text{CH}_2\text{O)}_m\text{-H} \\ \\ \text{Polyoxyethylene hydrogenated castor ether} \end{array}$ CAS. NO : 61788-85-0		

* Method of pH measurement: 1~5% aqueous solution, (corrected to pH=7)

* Aqueous solution, corrected to pH=7 for use

* Water Content : 0.5 wt/wt% Max.

* pH测量的方法: 1~5% 水溶液 (校正至pH= 7)

* 水溶液 (校正至pH= 7)

* 水分含量: 0.5 wt/wt% Max.

Polyoxyethylene Alkyl Ester II (烷基聚氧乙烯酯)

3. Characteristics (特点)

Because nonionic surfactant of Polyoxyethylene fatty acid ester series starts from natural oils, it is low toxic and skin irritation. On this reasons, it is used in cosmetics and pharmaceuticals Application. Can be choice the hydrophobic property with control the adducted EO moles. This Product also has excellent solubility in the other ionic surfactants.

And also, it is possible to hydrolysis at high temperature or alkali solution because of the ester bond in this structure, but in normal condition it is stable.

This product appears excellent property for emulsifier, dispersant, lubricant, flied improver and others. 脂肪酸聚氧乙烯酯 (Polyoxyethylene Fatty Acid Ester) 系列的非离子表面活性剂 (Nonionic Surfactant) 采用天然油脂做原料, 毒性和刺激性极低, 与皮肤或眼睛接触也不会造成刺激, 所以在化妆品、医药品领域广泛使用。可以根据环氧乙烷的附加摩尔数调整其作为亲水性物质和亲油性物质。属于非离子系列产品, 与其他离子性表面活性剂的融合性好。

具有酯键的非离子表面活性剂, 在高温或者碱溶液中不会加水分解, 但是一般使用条件下不发生加水分解。

本类产品在作为乳化剂、分散剂、除泡剂、平滑剂、提高流动性药剂使用时, 表现出优秀的性能, 在纤维、农药、造纸、纸浆、医药和化妆品等很多工业领域广泛使用。

Polyoxyethylene Alkyl Amine Ether (烷基胺聚氧乙烯醚)

Trade Name (产品名称)	Appearance (外观)	Am.V	HLB	Chemical structure (化学结构)	Application (用途)
SUNFOL LM-2	Liquid (液体)	198~208	6.4	$C_{12}H_{25}N \begin{cases} (CH_2CH_2O)_m-H \\ (CH_2CH_2O)_n-H \end{cases}$ Polyoxyethylene lauryl amine CAS. NO : 61791-14-8	- Metal Industry : Rust inhibitor & Cleaner - Textiles : Dyeing auxiliaries - Antistatic Agent - Dispersant - Levelling agent - Pigment dispersant - Synthetic Resin : Antistatic
SUNFOL LM-10G	Liquid (液体)	85~92	13.8		
SUNFOL LM-15G	Liquid (液体)	64~68	15.3		
SUNFOL TM-5	Liquid (液体)	110~120	9.1	$RN \begin{cases} (CH_2CH_2O)_m-H \\ (CH_2CH_2O)_n-H \end{cases}$ Polyoxyethylene tallow amine CAS. NO : 26635-92-7	- 金属产业 : 防锈剂 & 清洗剂 - 纺织制品: 染色辅助剂 - 防静电剂 - 染色辅助剂 : 分散剂 & 均匀剂 - 颜料分散剂 - 农业制品 : 乳化剂, 防静电剂 - 合成树脂; 防静电剂
SUNFOL TM-15	Liquid (液体)	55~65	14.3		
SUNFOL TM-40	Solid (固体)	25~31	17.4		
SUNFOL TMI-60	Solid (固体)	18~24	18.2	$C_{18}H_{37}N \begin{cases} (CH_2CH_2O)_m-H \\ (CH_2CH_2O)_n-H \end{cases}$ Polyoxyethylene stearyl amine CAS. NO : 26635-92-7	
SUNFOL SM-2	Solid (固体)	154~160	4.9		
SUNFOL SM-8	Liquid (液体)	87~92	11.3		
SUNFOL SM-10	Liquid (液体)	74~82	12.4		
SUNFOL SM-15	Liquid (液体)	55~65	14.2		
SUNFOL SM-20	Liquid (液体)	45~63	15.3		
SUNFOL SM-30	Liquid (液体)	33~40	16.6		
SUNFOL SM-30H	Liquid (液体)	33~40	16.6		
SUNFOL SM-30N	Liquid (液体)	33~40	16.6		
SUNFOL SM-30T	Paste (膏状)	33~40	16.6		
SUNFOL SM-30TT	Solid (固体)	33~40	16.6		
SUNFOL SM-40	Solid (固体)	25~30	17.3		

* Method of pH measurement: 1% aqueous solution, (corrected to pH=7)

* Aqueous solution, corrected to pH=7 for use

* Water Content : 0.5 wt/wt% Max.

* pH测量的方法: 1%水溶液 (校正至pH=7)

* 水溶液 (校正至pH=7)

* 水分含量: 0.5 wt/wt% Max.



4. Application (用途)

- ☞ Cosmetics/Pharmaceuticals (化妆品和医药品工业)
: Emulsifier, Base material for ointment, pomade (乳化剂、软膏或润发脂的基础物、增溶剂)
- ☞ Agricultural chemicals (农药工业)
: Emulsifier for base oil or Agricultural chemicals (机械油乳化剂、农药乳化剂)
- ☞ Metal industry (金属工业)
: Cleaning, Emulsifier, Fluid improver (清洗剂、提高流动性药剂、乳化剂)
- ☞ Textile industry (纤维工业)
: Spinning oil, Texture oil dyeing auxiliaries (纺织油剂、纺纱油剂配方原料、纺织处理油剂、染色助剂)
- ☞ Pulp and Paper industry (造纸和纸浆工业)
: Sizing agent, Coating agent (浆料、上膜剂)
- ☞ Synthetic resin industry (合成树脂工业)
: Emulsifier for emulsion polymerization Emulsion stabilizer (用于乳化聚合的乳化剂、乳胶稳定剂)

1. Characteristics (特点)

This product is belong to weak cationic nonionic surfactant, and appears basic states. So, if blend and use with the other ionic surfactants, it is not make cohesive or precipitating problems.

烷基胺聚氧乙烯醚 (Polyoxyethylene Alkyl Amine) 弱阳离子性表面活性剂, 具有一定的碱性, 与一般阳离子表面活性剂不同, 在与离子性表面活性剂混合使用时不发生凝固现象, 也不发生沉淀, 杀菌性能、防锈性能、防静电性能优越, 利用此性能, 可广泛用于农药乳化剂、金属工业乳化剂和染色助剂等特殊场合。

2. Application (用途)

- ☞ Textile industry (纤维工业)
: LM-10, LM-20 Dyeing auxiliaries (染色助剂 (柔软剂和纤维保护剂))
- ☞ Metal industry (金属工业)
: LM-5, LM-12 Rust inhibitor (防锈剂)
- ☞ Pigment industry (颜料工业)
: Dispersant, Emulsifier (分散、湿润和乳化剂)

Polyoxyethylene Polyoxypropylene Random/Block Copolymer (聚氧乙烯聚氧丙烯随机 / 嵌段共聚物)

$\text{HO}-(\text{CH}_2\text{CH}_2\text{O})_7-(\text{CH}(\text{CH}_2\text{O})_m-(\text{CH}_2\text{CH}_2\text{O})_n-\text{H}$ <p style="text-align: center;"> CH₃</p> <p>Polyoxyethylene polyoxypropylene derivatives</p> <p>CAS. NO : 9003-11-6</p>	<p>C₄H₅-O-(EO/PO) Random</p> <p>Polyoxypropylene polyoxyethylene alkyl copolymer</p> <p>CAS. NO : 9038-95-3</p>
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Trade Name (产品名称)	Appearance (外观)	CP(°C)	Application (用途)	
SUNFOL PE-52	Liquid (液体)	-	Low foaming Cleaner Penetrating agent, Metal cleaner Emulsifier, Dispersant Defoaming agent	低发泡性清洗剂 浸透剂, 金属清洗剂, 乳化剂, 分散剂 除去泡沫剂
SUNFOL PE-61	Liquid (液体)	23 ~ 27		
SUNFOL PE-62	Liquid (液体)	26 ~ 30		
SUNFOL PE-64	Paste (膏状)	57 ~ 63		
SUNFOL PE-68	Flake (片状)	-		
SUNFOL PA-20	Liquid (液体)	Water-soluble (水溶性)	Lubricant & Base Lubricant for synthetic resin Ingredient of Spin finish oil Antistatic for fiber Controlling agent of Viscosity	润滑剂 & 基础物 合成树脂用润滑剂, 纺丝油剂, 组成部分 纤维用防静电剂 黏度控制剂
SUNFOL IR-70	Liquid (液体)			
SUNFOL IR-71	Liquid (液体)			
SUNFOL IR-72	Liquid (液体)			
SUNFOL BR-500	Liquid (液体)			
SUNFOL BR-550	Liquid (液体)			

* Method of pH measurement: 1~10% aqueous solution, (corrected to pH=7)

* Aqueous solution, corrected to pH=7 for use

* Water Content : 0.5 wt/wt% Max.

* pH测量的方法: 1~10%水溶液 (校正至pH= 7)

* 水溶液 (校正至pH= 7)

* 水分含量: 0.5 wt/wt% Max.

1. Characteristics (特点)

SUNFOL PE Series are nonionic block copolymer, which has Polyethyleneglycol Polypropylene Glycol structure. In this structure, the hydrophilic group which comes from ethyleneoxide, is linked at the end of hydrophobic group. This product is applying in diverse applications, such as PE series or Polyether series as industrial surfactants under excellent acid-resistance, alkali-resistance, hard-water-resistance, well dispersion at metal soap, emulsification, lubricant and low foaming properties. And also apply to synthesis for polyurethane and polyester resin as functioning the OH groups at the both end of molecular. Especially, we can supply diverse products on HLB and molecular weight by control EO/PO ratio and polymerization degree. Of course, this product acts as functional surfactants by excellent surfactant characteristics.

SUNFOL PE类是聚乙二醇、聚丙烯乙二醇的非离子性嵌段共聚物 (Block Copolymer), 其结构是疏水性基的末端有亲水性基环氧乙烷 (Ethylene Oxide)。具有优秀的耐酸、耐碱、耐硬水、金属洗涤剂成分的分散力、乳化破坏性、润滑性、低发泡性等性能, PE类不仅可在很多工业领域用作表面活性剂, 还可以作为聚乙烯而广泛使用。分子的两端具有-OH离子, 可以用于制造聚酯、聚氨酯等合成树脂。另外, 可以调整环氧丙烷 (Propylene Oxide) 和环氧乙烷 (Ethylene Oxide) 的聚合度, 可用于制造与多个分子量具有HLB的表面活性剂, 作为功能性表面活性剂具有优秀的特点

2. Application (用途)

☞ Detergent industry (清洗剂)

: Using as functional cleaner, such as textile, furniture, dishes cleaner for automobiles, machines

☞ Textile industry (纤维工业)

: Dyeing auxiliaries(leveling, wetting, bleaching)Wool cleaner, Antistatics for synthetic fiber
(染色助剂(染色均匀剂、湿润剂、漂白助剂)、毛清洗剂、合成纤维防静电剂、粘度调节剂)

☞ Cosmetics (化妆品)

: Dispersant, Emulsifier, Additives for shampoo, toothpaste
(湿润剂、分散剂、乳化剂、除味剂、洗发护发香波、牙膏的添加剂)

☞ Metal industry (金属工业)

: Cleaner (Acid detergent, base detergent, spray detergent, etc.)
Defoamer, Lubricants, Rust inhibitors
(清洗剂(酸性清洗剂、碱性清洗剂、喷雾清洗剂等)、除泡剂、润滑剂、除锈剂)

☞ Synthetic resin (合成树脂工业)

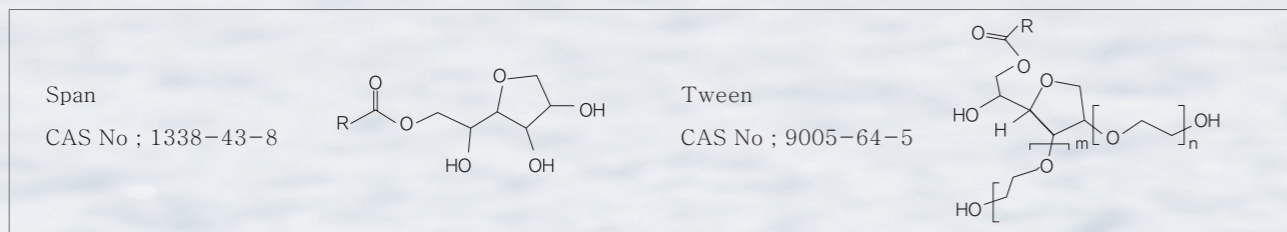
: Plasticizer for Phenol resin, Antistatic agent, Emulsifier for emulsion polymerization(Latex),
Base materials for polyurethane, polyester resin
(苯酚树脂的加塑剂、防静电剂、乳化聚合用的乳化剂(Latex), 聚氨酯、聚酯树脂的基础物)

☞ Others

: Emulsion dispersant for paints, pigment, Emulsion stabilizer, Defoamer,
Pitch dispersant for pulp, Deinking agent, Emulsifier for agricultural chemicals
(其他各种油漆、颜料乳胶分散剂、乳化稳定剂、纸浆的木焦油分散剂、清洗剂、脱墨剂、除泡剂、农药乳化剂、凝聚剂)



Sorbitan Fatty Acid Ester & Derivatives (山梨醇脂肪酸酯 & 衍生物)



Trade Name (产品名称)	Appearance (外观)	HLB	Application (用途)
SUNFOL SP - 20	Liquid (液体)	8.6	- SP series (SP 系列) Antistatic for PVC Emulsifier for food, cosmetic, metals Anti foaming agent for process
SUNFOL SP - 40	Flake (片状)	6.7	
SUNFOL SP - 60	Flake (片状)	4.7	
SUNFOL SP - 80	Liquid (液体)	4.3	PVC用防静电剂 食品用乳化剂, 化妆品, 金属制品 硅油用乳化剂 除去泡沫剂 for process
SUNFOL SP - 85	Liquid (液体)	1.8	
SUNFOL TW - 20	Liquid (液体)	16.7	- TW series (TW 系列) Emulsifier (O/W type) & Solubilizer for food, cosmetic, medicine Emulsion polymerization agent Emulsion stabilizer, Dispersing agent Lubricant, Dying auxiliaries
SUNFOL TW - 40	Liquid (液体)	15.6	
SUNFOL TW - 60	Liquid (液体)	14.9	
SUNFOL TW - 61	Solid (固体)	9.6	
SUNFOL TW - 80	Liquid (液体)	15.0	
SUNFOL TW - 81	Liquid (液体)	10.0	乳化剂(O/W type) & 食品、化妆品、药品用增溶剂 乳化聚合剂, 乳化稳定剂, 分散剂 防静电剂, 染色辅助剂

1. Characteristics (特点)

SP Series are multi-alcohol base nonionic surfactants which have Sorbitan fatty acid ester and TW Series are ether type nonionic surfactants which are adducted Ethylene oxide to SP.

SP Series are W/O type emulsifier, and TW Series are O/W type emulsifier.

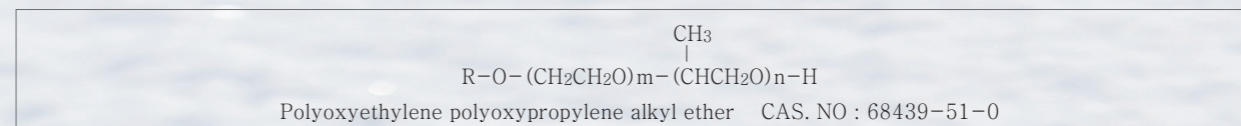
SP-40 and SP-60 is difficult to solve in water but SP-80 can be dispersed or emulsified. These products appear excellent safety functions, such as nontoxic and tasteless among all of nonionic surfactants. So, Apply to food additives, pharmaceuticals, cosmetics industry.

SP类物质是山梨醇脂肪酸酯 (Sorbitan fatty acid ester) 的多价乙醇型非离子表面活性剂, TW类是在 SP上将环氧乙烷呈附加的醚类非离子表面活性剂。SP类物质时W/O型乳化剂, TW类物质是开发为O/W型乳化剂 的物质 SP-40、60难溶于水, SP-20、80被分散或者乳化。作为非离子表面活性剂, 具有稳定性最高(无毒、无味)的特点 (无毒、无味)的特点, 适用于食品添加剂、医药、化妆品等的原料。

2. Application (用途)

- ☞ Food industry (食品工业)
TW - 20, TW - 80 : Emulsifier (乳化剂) / SP - 85 : De-foaming agent (抑泡剂)
- ☞ Pharmaceutical and perfume industry (医药、香料工业)
TW - 20, 40, 60, 80 : Solubilizing agent (增溶剂) / SP - 80, 85 : De - foaming agent (抑泡剂)
- ☞ Textile industry (纤维工业)
SP - 80, TW - 80 : Spinning Oils 处理剂(纤维加工用的乳化剂, 防止积油的乳化剂)
- ☞ Metal industry (金属工业)
SP - 80, 85 : Additives for rust inhibitor Emulsion type metal cleaner (防锈油添加剂, 乳化型金属清洗剂) / SP - 80 : Extreme pressure additives (极压剂)
- ☞ Pigment industry (染料工业)
TW - 20, 80 : Dispersant for Emulsion paint (乳胶漆用的分散剂)
SP-20, 40, 60, 80 : Pigment dispersant for print ink (油性油漆, 印刷油墨颜料分散剂)
- ☞ Synthetic resin (合成树脂工业)
SP - 20, 40, 60 ; Antistatics (防积水剂)

Speciality Nonionics (特制非离子性)



Trade Name (产品名称)	Chemical composition (化学组成)	Application (用途)
SUNFOL SF-100	Polyoxyalkylene alkyl ester (聚氧乙烯烷基酯)	Low foaming Cleaner Industrial Washing agent Emulsifier
SUNFOL CSF-962R	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	
SUNFOL JY-500	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	
SUNFOL SPL-108	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	低发泡性清洗剂 工业清洗剂 乳化剂
SUNFOL M-007	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	
SUNFOL M-008	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	Low foaming emulsifier Anti foaming agent for Fermentation process
SUNFOL M-009	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	
SUNFOL AF-400	Polyoxyalkylene derivatives (聚氧乙烯派生物)	
SUNFOL AF-500	Polyoxyalkylene derivatives (聚氧乙烯派生物)	
SUNFOL AF-700	Polyoxyalkylene derivatives (聚氧乙烯派生物)	
SUNFOL AF-800	Polyoxyalkylene derivatives (聚氧乙烯派生物)	低发泡性乳化剂 发酵过程用除去泡沫剂
SUNFOL PE-2000	Polyoxyalkylene derivatives (聚氧乙烯派生物)	

* Method of pH measurement: 1% aqueous solution, (corrected to pH=7)

* pH测量的方法: 1% 水溶液 (校正至pH=7)

* Aqueous solution, corrected to pH=7 for use

* 水溶液 (校正至pH=7)

* Water Content : 0.5 wt/wt% Max.

* 水分含量 : 0.5 wt/wt% Max.

1. Characteristics (特点)

These series are specialty nonionic surfactants, which are adducted EO/PO (random or block) into the several kind of hydrophobic base. Compare with general nonionic surfactants, these ones are more solubility at low temperature, low foaming, lubricant, absorption, cleaning and chemical stability. So, can be use versatile applications.

利用多个疏水性基础物, 将环氧乙烷或者环氧丙烷固定, 或者无规结合, 制造的特殊非离子表面活性剂。与一般非离子表面活性剂相比具有低温流动性、低发泡性、润滑性、湿润性、清洗性、化学稳定性的优点, 广泛应用于多个领域

2. Application (用途)

- ☞ Detergent industry : low foaming liquid, powder detergent
- ☞ Metal industry : Cleaning agent, Grease remover, Anti foaming agent
- ☞ Pulp & Paper : Pitch dispersant, Fat&deinking agent
- ☞ Ferment industry : Anti foaming agent
- ☞ Agricultural chemicals : Emulsifier, Dispersant
- ☞ Pigment industry : Pigment dispersant
- ☞ Others : Lubricant base & Special cleaner

- ☞ 洗涤剂工业 : 低发泡性液体、粉末洗涤剂原料
- ☞ 金属工业 : 清洗剂(酸、碱清洗)、脱脂剂、除泡剂
- ☞ 造纸工业 : 木焦油分散剂、废纸脱墨剂
- ☞ 发酵工业 : 除泡剂
- ☞ 润滑油基础物、特殊清洗剂
- ☞ 农药工业 : 乳化剂、分散剂
- ☞ 颜料工业 : 颜料分散剂

Speciality Nonionics (特制非离子性)

Trade Name (产品名称)	Chemical composition (化学组成)	Application (用途)
SUNFOL DSP-13	Polyoxyalkylene aryl ether (聚氧乙烯烷基醚)	Low foaming Cleaner Industrial Washing agent 低发泡性清洗剂 工业清洗剂
SUNFOL GST-100N	Polyoxyalkylene aryl ether (聚氧乙烯烷基醚)	
SUNFOL GST-130	Polyoxyalkylene aryl ether (聚氧乙烯烷基醚)	
SUNFOL TSP-16	Polyoxyalkylene aryl ether (聚氧乙烯烷基醚)	

Alkyl Ester (烷基酯) & PEG Ester (聚乙二醇脂肪酸酯)

Trade Name (产品名称)	Appearance (外观)	A.V	S.V	HLB
SUNFOL PEG-400MC	Liquid (液体)	3.5 max	90~100	11.6
SUNFOL PEG-200MO	Liquid (液体)	5 max	118~130	8.3
SUNFOL PEG-200DO	Liquid (液体)	10 max	140~160	5.3
SUNFOL PEG-300MO	Liquid (液体)	10 max	110~140	10.3
SUNFOL PEG-400MO	Liquid (液体)	5 max	82~92	11.8
SUNFOL 400MO	Liquid (液体)	5 max	82~92	11.8
SUNFOL PEG-6030MO	Liquid (液体)	10 max	85~115	10.0
SUNFOL PEG-400DO	Liquid (液体)	5 max	113~133	8.3
SUNFOL PEG-600DO	Liquid (液体)	11.5±1	93~105	10.6
SUNFOL 600DO	Liquid (液体)	10 max	93~105	13.2
SUNFOL PEG-6000DS	Flake (片状)	10 max	15~30	-
SUNFOL 3K	Flake (片状)	10 max	15~30	-
SUNFOL DOM	Liquid (液体)	3 max	320~340	-
SUNFOL GTO	Liquid (液体)	15 max	185~200	-
SUNFOL LO	Liquid (液体)	5 max	110~140	-
SUNFOL IOS	Liquid (液体)	1 max	140~160	-
SUNFOL TMPTO	Liquid (液体)	1 max	170~190	-
SUNFOL ITS	Liquid (液体)	1 max	120~130	-

1. Application (用途)

☞ PEG Ester (聚乙二醇脂肪酸酯)

Cosmetics (化妆品) : Emulsifier & Thickener (乳化剂、稠化剂)

Textile (纤维工业) : Emulsifier(W/O type), Antistatic agent (乳化剂(W/O Type)、防静电剂)

Paper/Metal (造纸、金属工业) : Dispersant, Lubricant, Polisher (分散剂、润滑剂、光泽剂)

Detergent (洗涤剂工业) : Shampoo, Body, Thickener (洗发水, 稠化剂, 油性添加剂)

☞ Alkyl Ester (烷基酯)

Textile (纤维工业) : 纤维油剂(润滑剂)

Metal industry (金属工业) : Lubricant (润滑剂)

Dilution agent for Agricultural chemicals (发酵工业中, 制造发酵的培养液的原料)

Anionic Surfactants (阴离子表面活性剂)

1. Alkyl Phosphates (烷基磷酸盐)

Trade Name (产品名称)	Appearance (外观)	A.V	Active Content (%) (实际含量)
SUNFOL HP-288	Liquid (液体)	80 ~ 95	>97
SUNFOL HP-320	Liquid (液体)	100 ~ 120	>97
SUNFOL HP-520	Liquid (液体)	90 ~ 100	>97
SUNFOL GP	Liquid (液体)	90 ~ 105	>97
SUNFOL SF-2810	Liquid (液体)	45 ~ 50	>97
SUNFOL LCSS-81	Liquid (液体)	250 ~ 265	>97

1-1. Application & Characteristics (用途和特点)

These Series are ANIONIC SURFACTANTS which are bonded phosphate group in their molecular structure.

So, they appear excellent emulsify, antistatics and defoaming properties.

And also stable in wide PH ranges because of wonderful chemical stability.

Use by antistatics agent in several kind of industrial application fields.

☞ Antistatic agent for textile industry and metal industry

☞ Defoamer for high temp process(textile, metal)

☞ Emulsifier for emulsion polymerization

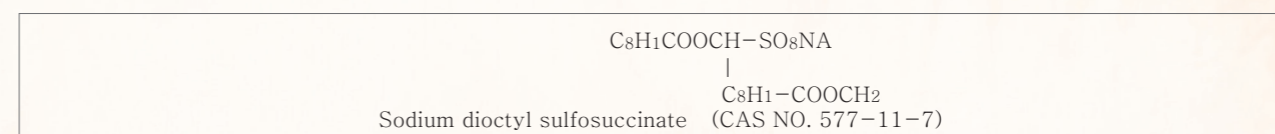
分子结构内含有磷酸盐的阴离子的表面活性剂, 乳化性、防锈性、防静电性、去泡性等优秀的表面特点。化学性质稳定, 在较大的PH范围内保持稳定, 毒性和皮肤刺激性低, 利用其优秀的防静电功能, 可以广泛使用于工业领域。

☞ 工业用油剂成分(纤维工业、金属工业)

☞ 高温工艺的除泡剂(纤维工业、金属工业)

☞ 乳化聚合时的乳化剂

2. Alkyl Sulfosuccinates (烷基磺酸钠)



Trade Name (产品名称)	Chemical composition (化学组成)	Appearance (外观)	Active Content (%) (实际含量)
SUNFOL DOS-70	Sodium Dioctylsulfosuccinate (异丙基醇)	Liquid (液体)	>63

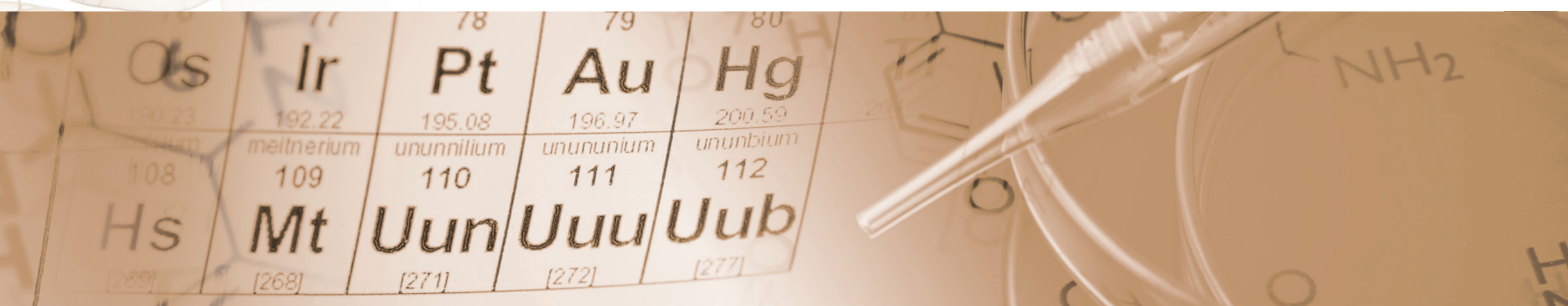
2-1. Application & Characteristics (用途和特点)

These Series are ANIONIC SURFACTANTS which have special structures. Add appear superior penetrating effects among the other surfactants and act as strong surfactant effect even though low concentration.

- ☞ Textile industry : Pigment dispersing penetrator, pre-treatment absorption for dyeing
- ☞ Pulp industry : Old paper deinikin agent, Softener
- ☞ Rubber industry : Pigment dispersant, solvent emulsifier
- ☞ Synthetic resin : Emulsifier for emulsion polymerization
- ☞ Pigment industry : Dispersant, viscosity improver
- ☞ Detergent industry : Shampoo base, body cleaner additives

是具有特殊的化学结构的阴离子表面活性剂，各种表面活性剂具有最优秀的浸透力，在低浓度中发挥较高的表面活性，广泛用做增溶剂、分散剂、浸透湿润剂、清洗剂、脱墨助剂等众多工业领域。

- ☞ 纤维工业：染料分散浸透剂、染色预处理、湿润剂
- ☞ 造纸工业：废纸脱墨助剂、柔软剂
- ☞ 橡胶工业：颜料分散剂、溶剂乳化剂
- ☞ 合成树脂工业：乳化聚合时的乳化剂
- ☞ 颜料工业：分散剂、提高流动性的药剂
- ☞ 洗剂工业：Shampoo基础物、Body cleanser添加剂



3. Alkyl Sulfates (烷基硫酸盐)

Trade Name (产品名称)	Chemical composition (化学组成)	Appearance (外观)	Active Content (%) (实际含量)
SUNFOL DS-900	Alkyl ether sulfate (烷基醚硫酸盐)	Yellow Liquid (黄色液体)	28 ~ 32

This Series are ANIONIC SURFACTANTS which have special structures. Add appear superior penetrating effects among the other surfactants and act as strong surfactant effect even though low concentration.

- ☞ Textile industry : Pigment dispersing penetrator, pre-treatment absorption for dyeing
- ☞ Synthetic resin : Emulsifier for emulsion polymerization
- ☞ Pigment industry : Dispersant, viscosity improver
- ☞ Detergent industry : Shampoo base, body cleaner additives

是具有特殊的化学结构的阴离子表面活性剂，各种表面活性剂具有最优秀的浸透力，在低浓度中发挥较高的表面活性，广泛用做增溶剂、分散剂、浸透湿润剂、清洗剂、脱墨助剂等众多工业领域。

- ☞ 纤维工业：染料分散浸透剂、染色预处理、湿润剂
- ☞ 合成树脂工业：乳化聚合时的乳化剂
- ☞ 颜料工业：分散剂、提高流动性的药剂
- ☞ 洗剂工业：Shampoo基础物、Body cleanser添加剂

Cationic Surfactants I (阳离子表面活性剂)

1. Alkyl Dimethyl Benzyl Ammonium chlorides (烷基二甲苄基氯化)

Trade Name (产品名称)	Chemical composition (化学组成)	Appearance (外观)	Active Content (%) (实际含量)
SUNFOL ST-500	Complex (合成的)	Clear Liquid (透明的液体)	48 ~ 52

1-1. Application & Characteristics (用途和特点)

These Series are CATIONIC SURFACTANTS, well known in relative industry.

- ☞ Antistatics agent : More excellent antistatic effects than nonionic and anionic surfactants. Use for hair rinse and textile industry, such as dyeing auxiliaries, softener, corning oils
- ☞ Germicide : Process germicides for food industry, house-hold germicide, mold protect for fruits. Freshness supports for fishes and others.
- ☞ Others : Extractant for ferment industry, Latex emulsifier, water treatment

具有杀菌、消毒、柔软、防静电等功能的代表性阳离子表面活性剂。

- ☞ 防静电剂：与阴离子、非离子表面活性剂相比，防静电功能出色，容易被毛发吸收，持续性好，可用于护发素的基础物，在纤维工业中，用作染色助剂、柔软剂、防积水的活性剂。
- ☞ 消毒杀菌剂：食品工业工艺上的杀菌剂、医药(手术)和家庭用消毒剂，防止果实发霉、保持海鲜的新鲜度、油脂剂等。
- ☞ 其他：发酵工业中，作为萃取助剂、颜料分散剂、肥料的防固结剂、水处理剂、沥青工业、胶乳乳化剂、乳化破坏剂等很多工业领域广泛使用

2. Ester quater salts (四酯盐) - House Hold (家用)

Trade Name (产品名称)	Chemical composition (化学组成)	Appearance (外观)	Active Content (%) (实际含量)
SUNFOL EQ-85	Fatty Acid Ester Quater (脂肪酸酯之四)	Paste (膏状)	83~87
SUNFOL MEQ-90	Fatty Acid Ester Quater (脂肪酸酯之四)	Paste (膏状)	88~92
SUNFOL SEQ	Fatty Acid Ester Quater (脂肪酸酯之四)	Paste (膏状)	60 Min
SUNFOL IM-75	Fatty Acid Imidazoline Quater (脂肪酸Imidazoline之四)	Paste (膏状)	73~77
SUNFOL IM-90	Fatty Acid Imidazoline Quater (脂肪酸Imidazoline之四)	Paste (膏状)	88~92

2-1. Application & Characteristics (用途和特点)

These product is quaternary type cationic surfactant, and appear high biodegradable, strong water soluble and harmless. It can be use versatile industrial applications concerning antistatics properties.

- ☞ Textile softening agent , Penetrating agent , Antistatics , Dyeing auxiliaries , Lubricant oils

EQ类物质时4级铵类阳离子表面活性剂，生物分解性高，亲水性强，对于水的溶解性好，几乎无毒性。

利用其柔软性、防静电性等表面活性，可以使用在很多工业领域。

- ☞ 纤维的柔软剂，浸透剂(无纺布工业)，防静电剂，染色助剂(染色减速剂)，纤维工业的油剂成分(平滑剂)

Cationic Surfactants II (阳离子表面活性剂)

3. Industrial Softener(产业柔软剂)

Trade Name (产品名称)	Chemical composition (化学组成)	Appearance (外观)	Active Content (%) (实际含量)
SUNFOL LTSM	Fatty Acid amide (硬脂酰胺)	Flake (片状)	>97
SUNFOL LTS-A	Fatty Acid amide (硬脂酰胺)	Flake (片状)	>97
SUNFOL SC conc	Fatty Acid amide (硬脂酰胺)	Flake (片状)	>97
SUNFOL PCS conc.	Fatty Acid amide (硬脂酰胺)	Flake (片状)	>97

3-1. Application & Characteristics (用途和特点)

These product is quaternary type cationic surfactant, and appear high biodegradable, strong water soluble and harmless. It can be use versatile industrial applications concerning antistatics properties.

☞ Textile softening agent , Antistatics , Dyeing auxiliaries

☞ 纤维的柔软剂 , 防静电剂 , 染色助剂(染色减速剂)

DEA / TEA

Trade Name (产品名称)	Chemical composition (化学组成)	Appearance (外观)	Active Content (%) (实际含量)
SUNFOL DEA-40	Diethanol amine/Water (二乙醇胺/水)	Liquid (液体)	39 ~ 41
SUNFOL DEA-LF	Diethanol amine/Water (二乙醇胺/水)	Liquid (液体)	84 ~ 86
SUNFOL DEA-W	Diethanol amine/Water (二乙醇胺/水)	Liquid (液体)	89 ~ 91
SUNFOL TEA-LF	Triethanol amine/Water (三乙醇胺/水)	Liquid (液体)	84 ~ 86
SUNFOL TEA-W	Triethanol amine/Water (三乙醇胺/水)	Liquid (液体)	89 ~ 91

Speciality Defoamer

Trade Name (产品名称)	Chemical composition (化学名称)	Appearance (外观)
SUNFOL 200-1	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	Liquid (液体)
SUNFOL S-430	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	Liquid (液体)
SUNFOL S-1812	Polyoxyalkylene alkyl ether (聚氧乙烯烷基醚)	Liquid (液体)

Polyol (多元醇)

$\text{HO}-(\text{CH}_2\text{CH}_2\text{O})_n-\text{H}$ $\quad \quad \quad $ $\quad \quad \quad \text{CH}_3$				
Trade Name (产品名称)	Appearance (外观)	M w	OH-V	Application (用途)
SUNFOL SL-1	Solid (固体)	1850~2150	52~61	- Urethane foam polyol - Non Foam Lamination & Slow recovery foam - D1000, D2000 : Antifoamer - Rubber lubricant - Paint, Plasticizers, Coatings, - Adhesives formulations - 聚氨酯泡沫聚醚多元醇与非泡沫夹层缓 慢复原的泡沫 - D1000, D2000 : 防泡沫剂 - 橡胶润滑剂 - 涂料增塑剂, 涂料, 粘合剂配方
SUNFOL SL-2	Solid (固体)	950~1050	105~120	
SUNFOL SL-3	Liquid (液体)	570~630	178~197	
SUNFOL D400	Liquid (液体)	390~410	265~295	
SUNFOL D750	Liquid (液体)	725~770	145~155	
SUNFOL D1000	Liquid (液体)	950~1050	108~116	
SUNFOL D2000	Liquid (液体)	1950~2050	54~58	
SUNFOL D3000	Liquid (液体)	3000~3400	33~37	
SUNFOL D4000	Liquid (液体)	3800~4200	26.5~29.5	
SUNFOL T400	Liquid (液体)	400~440	385~415	
SUNFOL T3020	Liquid (液体)	3000~3200	52~56	
SUNFOL T3000	Liquid (液体)	2900~3100	54~58	
SUNFOL T4000	Liquid (液体)	3800~4200	40~44	
SUNFOL T5080	Liquid (液体)	5000~5600	30~34	
SUNFOL FA300	Liquid (液体)	270~310	730~770	

Polyurethane Adhesive

Trade Name (产品名称)	Application (用途)
SOAPOL SH-100	EPS PANEL Adhesives (EPS板材粘合剂)
SOAPOL SH-101	
SOAPOL SH-200	Non Flammable EPS PANEL Adhesives (EPS板材粘合剂_非易燃)
SOAPOL SH-300	
SOAPOL SH-5000	HYBRID EPS PANEL Adhesives (EPS板材粘合剂_非易燃_HYBRID)

Paper & Pulp Agent (造纸薬品)

1. Deinking agents (脱墨剂)

Trade Name (产品名称)	Appearance (外观)	pH	CP (浊点) (°C)	Product type (特点)
SOAPOL-1010	Flake (片状)	8.0±1	-	Solid fatty soap surfactant (固体脂肪酸肥皂)
SOAPOL-1010D	Liquid (液体)	7.8±0.5	-	Liquid fatty soap surfactant (液体脂肪酸肥皂)
SOAPOL-H2010	Flake (片状)	8.0±1	-	Solid fatty soap surfactant (固体脂肪酸肥皂)
SOAPOL-3018	Liquid (液体)	9.5±1	-	Fatty&Alcohol derivatives (Collector, 脂肪衍生物)
SOAPOL-760	Liquid (液体)	5.5~7.5	31~37	High Alcohol derivatives (高级衍生物)
SOAPOL-760D	Liquid (液体)	5.5~7.0	33~37	High Alcohol derivatives (高级衍生物)
SOAPOL-762	Liquid (液体)	5.0~7.5	41~45	High Alcohol derivatives (高级衍生物)
SOAPOL-777	Liquid (液体)	5.5~7.5	45~49	High Alcohol derivatives (高级衍生物)
SOAPOL-777D	Liquid (液体)	5.0~6.5	47~49	High Alcohol derivatives (高级衍生物)

2. Dry strength agents (干强剂)

Trade Name (产品名称)	Appearance (外观)	pH	Dry solids (固体含量) (%)
SOAPOL-DPS 150	Liquid (液体)	3.0 ~ 5.0	15±2
SOAPOL-DPS 220	Liquid (液体)	3.0 ~ 5.0	22±2
SOAPOL-DPS 330	Liquid (液体)	3.5 ~ 5.0	30±2

3. Wet strength agents (湿强剂)

Trade Name (产品名称)	Appearance (外观)	pH	Viscosity (粘度) (25°C)
SOAPOL-WPS 1012	Liquid (液体)	3.5 ~ 5.5	30 ~ 100cps
SOAPOL-WPS 1025	Liquid (液体)	3.3 ~ 5.5	80 ~ 400cps

4. Deaerator / Defoamer (除气/消泡剂)

Trade Name (产品名称)	Appearance (外观)	pH	Viscosity (粘度) (25°C)
SOAPOL-DR 330	White Emulsified liquid (白色乳化液体)	7.0 ~ 11.0	50 ~ 1500cps

5. Defoaming agent (消泡剂)

Trade Name (产品名称)	Appearance (外观)	pH	Cloud point(°C) (浊点)
SOAPOL-DF2000	Liquid (液体)	5.5 ~ 8.0	22 ~ 27

6. Dispersing agent (分散剂)

Trade Name (产品名称)	Appearance (外观)	pH	Viscosity (粘度) (25°C)
SOAPOL-CAD 60	Liquid (液体)	5.0 ~ 7.0	300 ~ 800
SOAPOL-CAD 98	Liquid (液体)	3.5 ~ 5.5	1000 ↓

7. Felt cleaning agent (毛毡洗涤剂)

Trade Name (产品名称)	Appearance (外观)	pH	Active contents (实际含量) (%)
SOAPOL-TAL 100	Liquid (液体)	11 ~ 13	25±2
SOAPOL-TAL 200	Liquid (液体)	11 ~ 13	30±2
SOAPOL-PAC 100	Liquid (液体)	1 ~ 2	35 ~ 37%

8. H₂O₂ stabilizer (双氧水稳定剂)

Trade Name (产品名称)	Appearance (外观)	pH	Dry solids (固体含量) (%)
SOAPOL-HS2000	Liquid (液体)	2.5 ± 0.5	20.0 ± 1.0
SOAPOL-HS3000	Liquid (液体)	7.8 ± 0.5	19.5 ± 1.0

9. Anti scale agent (阻垢剂)

Trade Name (产品名称)	Appearance (外观)	pH	Dry solids (固体含量) (%)
SOAPOL-211S	液体 (Liquid)	6.5 ± 0.5	20.0 ± 1.0

SUNFOL WAX - Polyethylene wax (聚乙烯蜡)

1. Product Grades (产品等级)

1-1. LDPE (低密度聚乙烯)

Trade Name (产品名称)	Softening point (°C) (燃点)	Melt viscosity (熔化粘性) (@140°C, cPs)	Density (密度) (@25°C, g/cm ³)	Penetration hardness (硬度) (0.1mm)	Acid value (酸价) (mgKOH/g)	Physical forms (外观)
L - 518	101 ± 3	180 ± 50	0.92 ± 0.01	max (最大) 3.5	Nil (零)	Powder (粉状)
L - 533	106 ± 3	300 ± 100	0.92 ± 0.01	max (最大) 3.5	Nil (零)	Powder (粉状)
L - 570	108 ± 3	650 ± 100	0.92 ± 0.01	max (最大) 3.0	Nil (零)	Powder (粉状)
LH - 1200	110 ± 5	1,100 ± 100	0.92 ± 0.01	max (最大) 2.0	Nil (零)	Powder (粉状)

1-2. HDPE (高密度聚乙烯)

Trade Name (产品名称)	Softening point (°C) (燃点)	Melt viscosity (熔化粘性) (@140°C, cPs)	Density (密度) (@25°C, g/cm ³)	Penetration hardness (硬度) (0.1mm)	Acid value (酸价) (mgKOH/g)	Physical forms (外观)
H - 633	118 ± 3	330 ± 100	0.95 ± 0.02	max (最大) 2.0	Nil (零)	粉状
H - 640	120 ± 3	400 ± 100	0.95 ± 0.02	max (最大) 2.0	Nil (零)	粉状

1-3. LP (低聚合物)

Trade Name (产品名称)	Softening point (°C) (燃点)	Melt viscosity (熔化粘性) (@140°C, cPs)	Density (密度) (@25°C, g/cm ³)	Penetration hardness (硬度) (0.1mm)	Acid value (酸价) (mgKOH/g)	Physical forms (外观)
HLP-300F	110 ± 10	max 100	0.94 ± 0.01	max (最大) 9.0	Nil (零)	片状

1-4. 氧化 PE (乳化型)

Trade Name (产品名称)	Softening point (°C) (燃点)	Melt viscosity (熔化粘性) (@140°C, cPs)	Density (密度) (@25°C, g/cm ³)	Penetration hardness (硬度) (0.1mm)	Acid value (酸价) (mgKOH/g)	Physical forms (外观)
LE-718	98 ± 3	180 ± 100	0.93 ± 0.01	max (最大) 4.5	16 ± 2	粉状

1-5. Co-Polymer Type (Co-聚合物)

Trade Name (产品名称)	Softening point (°C) (燃点)	Melt viscosity (熔化粘性) (@140°C, cPs)	Density (密度) (@25°C, g/cm ³)	Penetration hardness (硬度) (0.1mm)	Acid value (酸价) (mgKOH/g)	Physical forms (外观)
PC-820H	148 ± 2	200 ± 20 (@170°C)	0.89 ± 0.01	max (最大) 1.0	Nil (零)	粉状

2. Application (用途)

Divisions (分类)	Trade Name (产品名称)	Application (用途)
Non-emulsion Types (非乳化型)	L - 518 L - 533 L - 570	Pigment dispersing agent for plastic high concentrate (master batch), External lubricant for PVC extrusion processing, Wear resistance improver of paints and inks, Engineering plastic lubricants, Hot-melt process ability improver, paper coating agent, rubber processability improver, Improver of various waxes' fusion point 颜料分散剂, 用于塑料高精(母料), PVC加工用外润滑剂, 耐磨性的涂料和油墨改良剂, 工程塑料润滑剂, 热熔加工改良剂, 纸张涂料剂, 橡胶加工改良剂, 改良的的各种蜡熔点
	H - 633 H - 640	Dispersing agent of PS retardants and plastic pigment concentrates (master batch), Wear resistance improver of paints and inks, Engineering plastic lubricants, Hot-melt process ability improver, paper coating agent, EPS nucleating agent, Improver of various waxes' fusion point 分散剂和阻燃剂的聚苯乙烯塑料颜料浓缩物(母料), 耐磨性的涂料和油墨改良剂, 工程塑料润滑剂, 热熔过程能力改进剂, 纸张涂层剂, EPS成核剂, 改良的的各种蜡熔点
	LH - 1200	Pigment dispersing agent for high concentrate (master batch) 高浓度颜料分散剂(母料)
	HLP - 300F	PVC internal lubricants, Calpeat processing agents, Hot-melt processing agents Pigment dispersing agent, for plastic pigment concentrates (master batch), Improver of various waxes' fusion point, PVC internal lubricants, Wear resistance improver of paint improver for road signal 聚氯乙烯的内部润滑剂, Calpeat处理剂, 热熔处理剂, 颜料分散剂, 塑料颜料精矿(母料), 改良的的各种蜡融合点, 聚氯乙烯的内部润滑剂, 道路信号抗磨损油漆改良剂改良剂
Emulsion Types (乳化型)	LE - 718	Fabric softener, floor varnishes, PVC extrusion processing internal lubricants Protector of paint sedimentation 纤维软化剂, 地板漆, PVC压缩加工, 内部润滑剂的防沉淀剂
Non-emulsion Types (非酸化型)	PC-820H	Pigment dispersing agent for high concentrate (master batch) Improver of hot-melt process ability, Improver of grease fusion point Oxidization Types 热熔加工性能改良高浓度颜料分散剂(母料), 改良油脂融合点, 氧化类型



■ SUNFOL WAX Series (的用途和特点) ■

1. Master Batch

SUNFOL WAX provides excellent pigment dispersing capabilities during the pigment master batch processing, and decreases the load on the related processing machinery, as well as, prevent yellowing status and migration by enhancing the thermal safety level. Moreover, the product facilitates the processing conditions required during the post-processing, improves the production volume rate and develops dysplasia, luster and wear resistance. Because SUNFOL wax controls adhesiveness during kneading processes, it shortens the processing time and prevents anti-coloring. The more pigments or fillers needed, the higher the mixing ratio of wax.

SUNFOL WAX具有在加工着色母料（Master Batch）时赋予出色的颜料分散性，提高热稳定性，降低黄变现象和漫延现象，降低加工机械的负荷，提高后加工时的加工条件，增加生产量，提高成型性和表面光泽、耐磨性的功能。SUNFOL WAX在搅拌机混炼作业时，可以调节混炼的粘着性，缩短加工时间，防止色素老化，使颜料或者填料的量越多石蜡的混合比越高

2. PVC

SUNFOL WAX, an external lubricant, prevents thermal deformation through the decreasing of the heat that occurrence from the processing machinery after adding 0.1-1Phr during the processing of hard PVC pipe and pipes and window profiles. And when applying the wax into the extrusion of calendar and cable coatings, the product provides its anti-blocking and pigment dispersing capabilities.

SUNFOL WAX在加工硬质PVC管和发泡管，或者加工窗框时，作为外部润滑剂使用，添加0.1~1Phr可以减少加工机械中发生的摩擦热，抑制热变形，提高表面光泽。在用于压光机和电线包皮的压塑加工时，防止结块（Anti-Blocking）的发生和提高颜料分散性

3. Road Marking Paint（路标漆）

When adding the product into road marking paint, SUNFOL WAX helps the dispersing capabilities of fillers, improves the needed kneading capabilities and the wear resistance on the surface of paint. And, the product can develop a smoothness while accelerating the cooling speed rate by using this wax with a low viscosity.

SUNFOL WAX添加于路标漆（Road Marking Paint），可以提高填料的分散性，提高混合性，提高油漆表面的耐磨性。使用低粘度的石蜡，提高平滑性，加快冷却速度。

4. Hotmelt Adhesive (热熔型粘合剂)

The product can obtain higher fusing points by mixing paraffin wax, control adhesiveness while improving hardness levels. And it facilitates high speed work by increasing the hardening speed rate.

与固体石蜡 (Paraffin wax) 混用, 可以得到更高的熔点, 调节粘着力, 提高硬度。提高粘合剂的硬化速度, 提高工作效率

5. Wax Blends and Reformer (和改质剂)

The molecular weight of SUNFOL WAX is similar to that of typical paraffin wax, however, its fusing point is higher and hardener than that of normal paraffin wax. Using these physical properties, the high quality products can be produced by mixing various types of wax with shoe polish, candles, asphalt, ring wax, etc.

SUNFOL WAX与固体石蜡 (Paraffin wax) 的分子量相似, 但是熔点高, 硬度高, 利用这种特点, 在生产鞋油, 蜡烛、沥青、与植物、矿物、石油等各种物质与石蜡混合, 生产高品质的产品。

6. Rubber Antioxidant (防止橡胶老化的药剂)

The oxidation and various stresses placed on the rubber products can be prevented by blocking ultraviolet rays that strike the surface of various rubber products and applying SUNFOL WAX during the rubber processing.

SUNFOL WAX在所有橡胶加工时作为添加剂使用, 可以在橡胶产品的表面形成紫外线屏蔽, 防止氧化, 保护橡胶产品不受外部各种侵蚀

Rosin (松香)

Trade Name (产品名称)	Divisions (分类)	Application (用途)
SUNFOL RSLD	Rosin Soap (松香皂)	- Synthetic resin (合成树脂工业)
SUNFOL PER	Rosin Ester (松香酯)	- Hot-melt processing agents - 热熔加工改良剂
SUNFOL GER		
SUNFOL MAR		

Masterbatch

SFC™Polyplus BlackMasterbatch

Trade Name (产品名称)	Carbon Black Loading (%)	Carrier (运营商)	Application (用途)
BK100	30	PP	Injection molding, sheet (注射成型, 片材)
BK200	30	LDPE	PP Compounding, injection molding (PP复合, 注射成型)
BK210	40	LDPE	Blown and cast film, injection molding, sheet (吹, cast film, 注射成型, 片材)
BK300	45	L-LDPE	Blown and cast film, injection molding, sheet (吹, cast film, 注射成型, 片材)
BK340	40	HDPE	Water and sewage pipes, industrial bags (供水和排污管道, 工业包装袋)
BK30	40	PS	Extusion, Injection molding, sheet (Extusion, 注射成型, 片材)
BK40	45	PS	Extusion, Injection molding, sheet (Extusion, 注射成型, 片材)
BK50	45	SAN	Extusion, Injection molding, sheet (Extusion, 注射成型, 片材)

SFC™Polyplus WhiteMasterbatch

Trade Name (产品名称)	Titanium Dioxide (二氧化钛) Loading (%)	Carrier (运营商)	Application (用途)
WT100R	60	PE	Blown and cast film, injection molding, sheet (吹, cast film, 注射成型, 片材)
WT200A	60	PE	Blown and cast film, injection molding, sheet (吹, cast film, 注射成型, 片材)
WT300	70	SAN	Extusion, Injection molding, sheet (Extusion, 注射成型, 片材)

SFC™Polyplus Flame Retardant Polyolefin Compound

Trade Name (产品名称)	UL 94 Class (分类)	Carrier (运营商)	Application (用途)
FR 100W	V-0	PE	Wire & Cable Insulation (电线电缆绝缘)
FR 100W	V-2	PP	Insulation Cover, Sheet Material (绝缘罩, 表材料)
FR 300P	V-2	PE	Corrugated Conduit, Pipe (波纹管道, 管)
FR 400C	V-0	PP	X-Mas Tree Socket (的X马斯树插座)

SFC™ Polyplus Antistatic Masterbatch : AS1010

Property (特质)	Test Method (测试方法)	Unit (部件)	Value (值)
MFI 2.16kg/230℃	ASTM D 1238	g/10min	5.00
Density at 23℃	ASTM D 1505	g/cm ³	0.93
FR 400C	V-0	PP	X-Mas Tree Socket (的X马斯树插座)

* Carrier : PP , Additives : Antistatic Agent (运营商:PP. 添加剂: 抗静电剂)

SFC™ Polyplus PP Compound : M100

Property (特质)	Test Method (测试方法)	Unit (部件)	Value (值)
MFI 2.16kg/230℃	ASTM D 1238	g/10min	3.00
Density at 23℃	ASTM D 1505	g/cm ³	0.92

SFC™ Polyplus Flame Retardant PP Compound : FR 200 S

Property (特质)	Test Method (测试方法)	Unit (部件)	Value (值)
Density (密度) at 23℃	ASTM D 1505	g/cm ³	0.93
Melt Index (熔融指数) (2.16kg/230℃)	ASTM D 1238	g/10min	0.75
Tensile Strength at Yield (拉伸屈服强度)	ASTM D 638	MPa	25
Elongation at Break (断裂伸长率)	ASTM D 638	%	600
Notched Izod Impact Strength at 23℃ (缺冲击强度)	ASTM D 256	kgcm/cm	No-Break (没有休息)
Heat Distortion Temperature (热变形温度)	ASTM D 648	℃	110
Surface Hardness (表面硬度)	ASTM D 785	Rockwell-R	90
Oxygen index (氧指数)	ASTM D 2863	%	29
Flammability (可燃性)	UL94V		V2

STOCK SALES

Divisions (分类)	Name of Product (产品名称)	Chemical Name (化学名称)	Weight (重量)	Application (用途)
Ethanolamine	M E A D E A T E A	Monoethanolamine (单乙醇胺)	200	Detergent Neutralizer and Foam Stabilizer Material for Textile Surfactant, Organic Combinations (Medicines, Agrichemical, Rubber film, surfactant, etc) 洗涤剂中和剂和泡沫稳定剂, 表面活性剂为纤维原料, 有机合成中, (医药, 农业化学品, 橡胶薄膜, 表面活性剂, 等)
		Diethanolamine (二乙醇胺)	220	
		Triethanolamine (三乙醇胺)	220	
Ethyleneamine	D E T A	Diethylenetriamine (二乙烯三胺)	195	Textile Surfactant, Coating Agent, Adhesive Wrinkle-free Agent, Chelate Agent 表面活性剂, 涂料, 粘合剂的纺织品, 抗皱剂, 螯合剂
Other amine	D M L A D M M A	Dimethyl Laurylamine	160	Organic Combination, Metal Ion Blocker, Surfactant Material 用于有机合成, 多价螯合剂, 表面活性剂物质
		Dimethyl Mristylamine	160	
Softanol	Softanol - 30 Softanol - 50 Softanol - 70 Softanol - 90	Polyoxyethylene Alkylether (聚氧乙烯烷基醚)	180	Cleaning Agents, Dispersing, Oil Wetting Agents, Low-foaming, Hypoallergenic, Biodegradability : 洗涤剂, 分散, 乳化的润湿, 起泡, 低过敏性, 可生物降解
			180	
			200	
			200	
Fatty Alcohol (Natural) 酒精 (自然)	Lauryl Alcohol (月桂醇) Cetyl Alcohol (鲸蜡醇) Stearyl Alcohol (硬脂醇) Oleyl Alcohol (Oleyl醇)	Lauryl Alcohol (73%) (月桂醇 (73%)) Cetyl Alcohol (鲸蜡醇) Stearyl Alcohol (硬脂醇) Oleyl Alcohol (85%) (Oleyl醇)	170	Surfactant, Synthetic Chemical Material, Fabric Softner, Solvent, Synthetic Detergent, Cosmetics (skin, lotion) 表面活性剂, 合成的化学成份, 纺织乳剂, 增溶剂, 洗涤剂, 化妆品 (化妆水) 处方
			20	
			20	
			170	
SORBITAN (山梨糖醇)	SPAN - 20 SPAN - 40 SPAN - 60 SPAN - 80	Sorbitan Monolaurate (脱水山梨醇单) Sorbitan Monopalmitate (山梨糖醇Monopalmitate) Sorbitan Monostearate (山梨醇单硬脂酸酯) Sorbitan Monooleate (山梨醇单油酸酯)	200	Emulsion Dispersing Agents (ice-cream, cake, chocolate, Mayonnaise, vitamin, etc), Cosmetics Emulsion-based food product stabilizer (Margarine etc) Emulsion Dispersing Agents for Medicines, 乳化分散剂 (冰淇淋, 蛋糕, 巧克力, 蛋黄酱, 维生素等), 化妆品, 食品乳化稳定剂 (例如非脂肪人造黄油), 油用于药物分散剂, 乳化剂药典
			25	
			25	
			200	
			200	
G M S	G M S	Glycerol Mono Stearate (单硬脂酸甘油酯)		Cream, Ice-cream, Mayonnaise, Emulsifiers for Foods like margarine, Anti-static Agents for Fabrics and Leather, Emulsifiers for Cosmetics, Medicine and Detergents 维护, 冰淇淋, 蛋黄酱, 对于乳化剂, 纤维, 抗静电剂为皮革, 化妆品, 药品, 清洁剂乳化剂人造黄油和食品
Fatty Acid (脂肪酸)	Lauric Acid (C12) (月桂酸) Myristic Acid (C14) (肉豆蔻酸) Palmitic Acid (C16) (棕榈酸) Stearic Acid (C18) (硬脂酸) Oleic Acid (C18-1) (油酸)	Lauric Acid (月桂酸) Myristic Acid (肉豆蔻酸) Palmitic Acid (棕榈酸) Stearic Acid (硬脂酸) Oleic Acid (tallow or Palm) (硬脂酸(脂 or Palm))	25	Ester, Surfactant, Metal Soap Metal Varnishes, Cosmetics, Medicines Electric Wire for Paint, Carbon, Grease, Cutting Oil, Leather Usage, Candle, CrayonRubber Engineering Ointment 聚酯原料, 表面活性剂, 金属皂金属擦亮剂, 化妆品, 药品电线电缆涂料, 碳bonbi, 金属油, 切削油, 皮革, 纺纱乳剂, 蜡烛, 蜡笔工业橡胶软膏
			25	
			25	
			25	
			25	
			180	
Sorbitol	Sorbitol	D-Sorbitol sol'n(70%)	260	Food Sweetener, Toothpaste Moisturizer, Fishery Processing Products Maintenance of Moisturizing Property and Freshness, Varnish Effect 食品甜味剂, 牙膏, 保湿, 保湿, 保鲜水产品加工的光泽效果
Glycerine (甘油)	Glycerine (甘油)	Glycerine (甘油) 99.5% (USP)	250	Medicine, Cosmetic, Petrochemical Engineering, Paint Additive 医药, 化妆品, 工业用油, 涂料助剂
Fatty Oil (脂肪油)	Coconut oil fatty acid (椰子油脂肪酸) Castor oil (蓖麻油) Hydrogenated castor oil (氢化蓖麻油)	Coconut oil fatty acid (椰子油脂肪酸) Castor oil (蓖麻油) Hydrogenated castor oil (氢化蓖麻油)	180	Fabric Softner, Grease, Cutting Oil 织物柔软剂配药, 金属油, 切削油
			200	
			25	



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