General name: Hydrophobically modified hydroxypropylmethycellulose
INCI name: Hydroxypropylmethylcellulose Stearoxy Ether

SANGELOSE®

New thickener of a Cellulose derivative

Ideal performance of thick gelation

Possible to combine with Vitamin C derivatives

Possible to combine with Salts

Manufacturer:

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URL http://www.daido-chem.co.jp/

About SANGELOSE (1)

【Product Name】**Hydrophobically modified hydroxypropylmethycellulose**

【INCI name】 **HYDROXYPROPYL METHYLCELLULOSE STEAROXY ETHER**

【DMF】 Registered in 2009

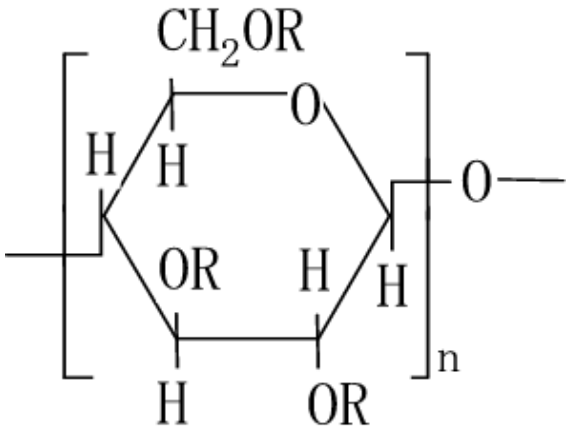
【CAS】 141615-27-2

【Type】 **60L、60M、 90L、90M**

【Description】 White to yellowish white powder and transparent in liquid after mixing into a solution

About SANGELOSE(2)

SANGELOSE (Hydroxypropylmethylcellulose Stearoxy Ether) is a pharmaceutical and cosmetic excipient in which C18 (stearyl group) was introduced to Hypromellose (HPMC).



$[C_8H_7O_2(OR)_3]_n$

Long chain group (hydrophobic group)

R = - H

R' = - $C_{18}H_{37}$

- CH_3

- $[CH_2CH(CH_3)O]_mH$

- $CH_2CH(OH)CH_2OR'$

There are four kinds of SANGELOSE (60L,60M,90L,90M) where the molecular weight and the substitution degree of the hydrophobic group are different.

	Molecular weight	**L** Type	**M** Type
Hydrophobic group（wt%）		0.3 ~ 0.6	1.0 ~ 2.0
60 series	Middle	water soluble	water insoluble
90 series	High	water soluble	water insoluble

About SANGELOSE(3)

【Characteristic】(Ideal performance for a thickener)

- **Good solubility**

  Dissolves easily. Not dissolved in hot water.

  Mixes well leaving no fisheye effect.

- **Thicken with small quantity**

  Compared with HPMC,HEC etc, 1/2～1/3 quantity is enough to thicken the target.

- Make thixotropic gel, good shape stability and good stretch in application.
- With hydrophobic group, high skin affinity doesn't make gel sticky.
- **Compared with normal cellulose derivatives like HPMC,HEC etc, it has good sensory touch in use.**
- **Good combination with ionic composition.**
- **Good stability combined with various salts. The combination use with vitamin C derivatives is possible.**

Standard of SANGELOSE

Grade	60L	60M	90L	90M
Description	Confirm			
Identification （1）～（4）	Confirm			
Viscosity（mm2/s）	72 ～ 108		160 ～ 240	
ｐＨ	5.5 ～ 7.5			
Purity test （1）Chloride （2）Heavy metals （3）Ether extract	Not more than 0.284% Not more than 10ppm Not more than 0.2%			
Loss on drying（%）	Not more than 5.0%			
Residue on ignition（%）	Not more than 0.10%			
（1）Methoxyl group（%）	27.0 ～ 30.0		21.5 ～ 24.0	
（2）Hydroxypropoxy group（%）	7.0 ～ 11.0		7.0 ～ 11.0	
（3）Stearyloxyhydroxy-propoxyl group （%）	0.3～0.6	1.0～2.0	0.3～0.6	1.0～2.0

Safety tests SANGELOSE has passed

- **Single dose oral toxicity study in rats**
- **Single dose dermal toxicity study in rats**
- **Primary dermal irritation study in rabbits**
- **Primary eye irritation study in rabbits**
- **Dermal Photosensitivity study in guinea pigs**
- **Dermal sensitization study in guinea pigs**
- **30days dose repeated dose toxicity study in rats**
- **6 mouth reprated dose toxicity study (30days recovery) in rats**
- **Reverse mutation test in bacteria (Ames test)**
- **Chromosomal aberration test with mammalian cells in culture**
- **Micronucleus test in mice**
- **Patch test on human skin**

Solubility（1）

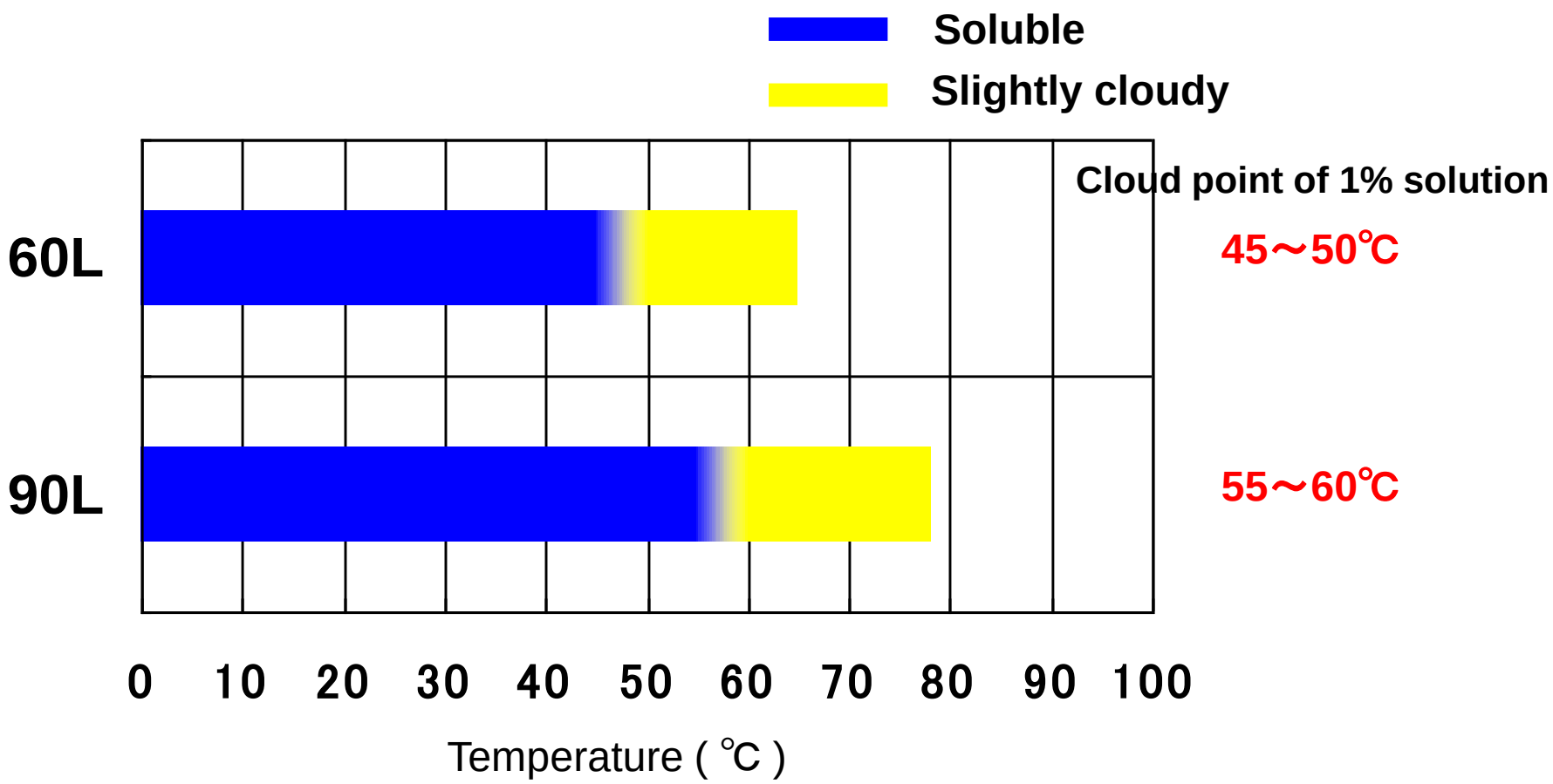
- **How to dissolve (in laboratory)**
  Add suitable quantity of SANGELOSE into hot water(over 70℃), mix it in about 1 min. Then, mix it in ice bath. Dissolved and thickened with bubble. (Add suitable quantity of alcohol after cooling for Sangelose M and H type)

- **Solubility for Water /Ethanol**

Type (Long chain alkyl group)		Conc. of ethanol in solution （%） 0 10 20 30 40 50 60 70 80 90 100
L type	60L 90L	
M type	60M 90M	

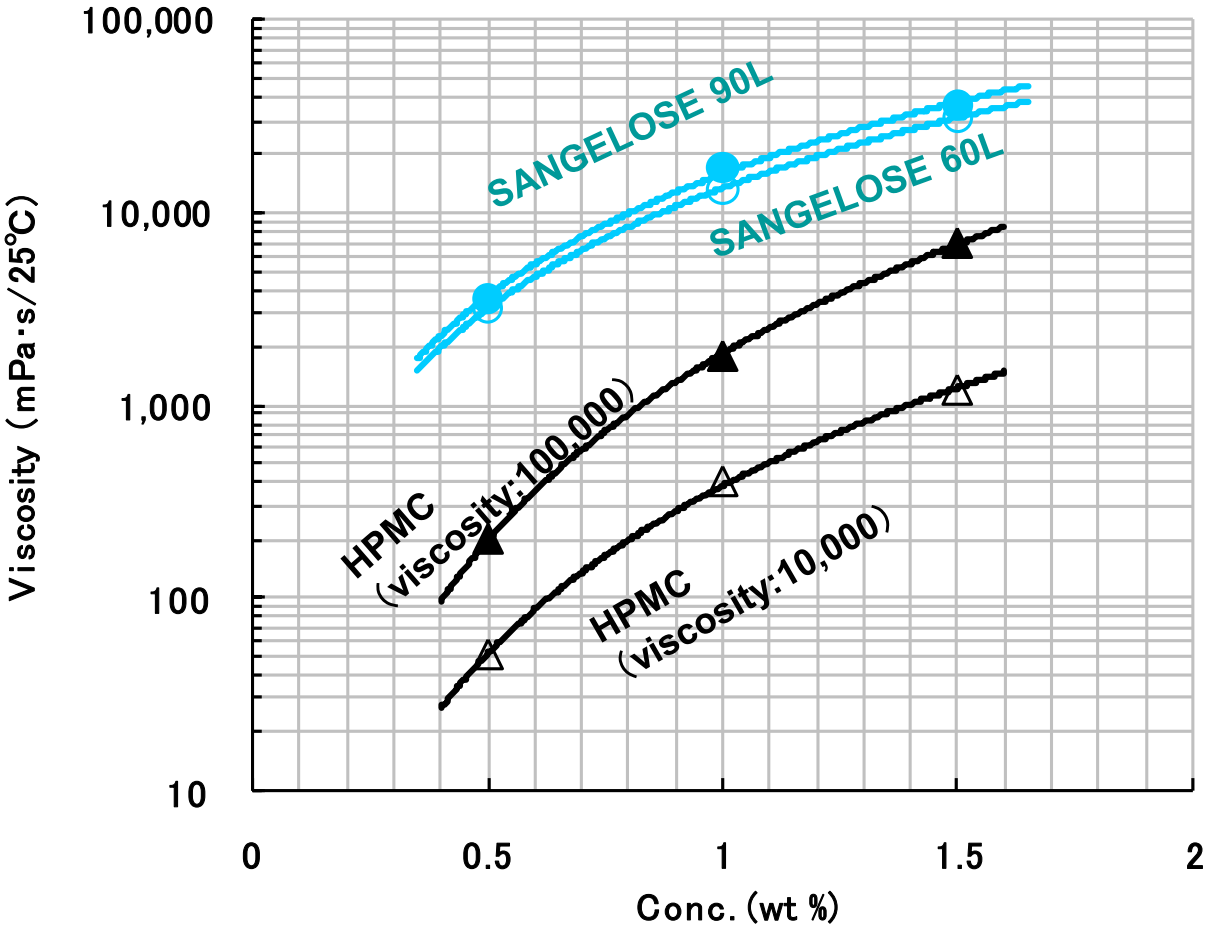
Solubility (2)

SANGELOSE solution change by temperature（1.0 wt% ）



Viscosity character (1)

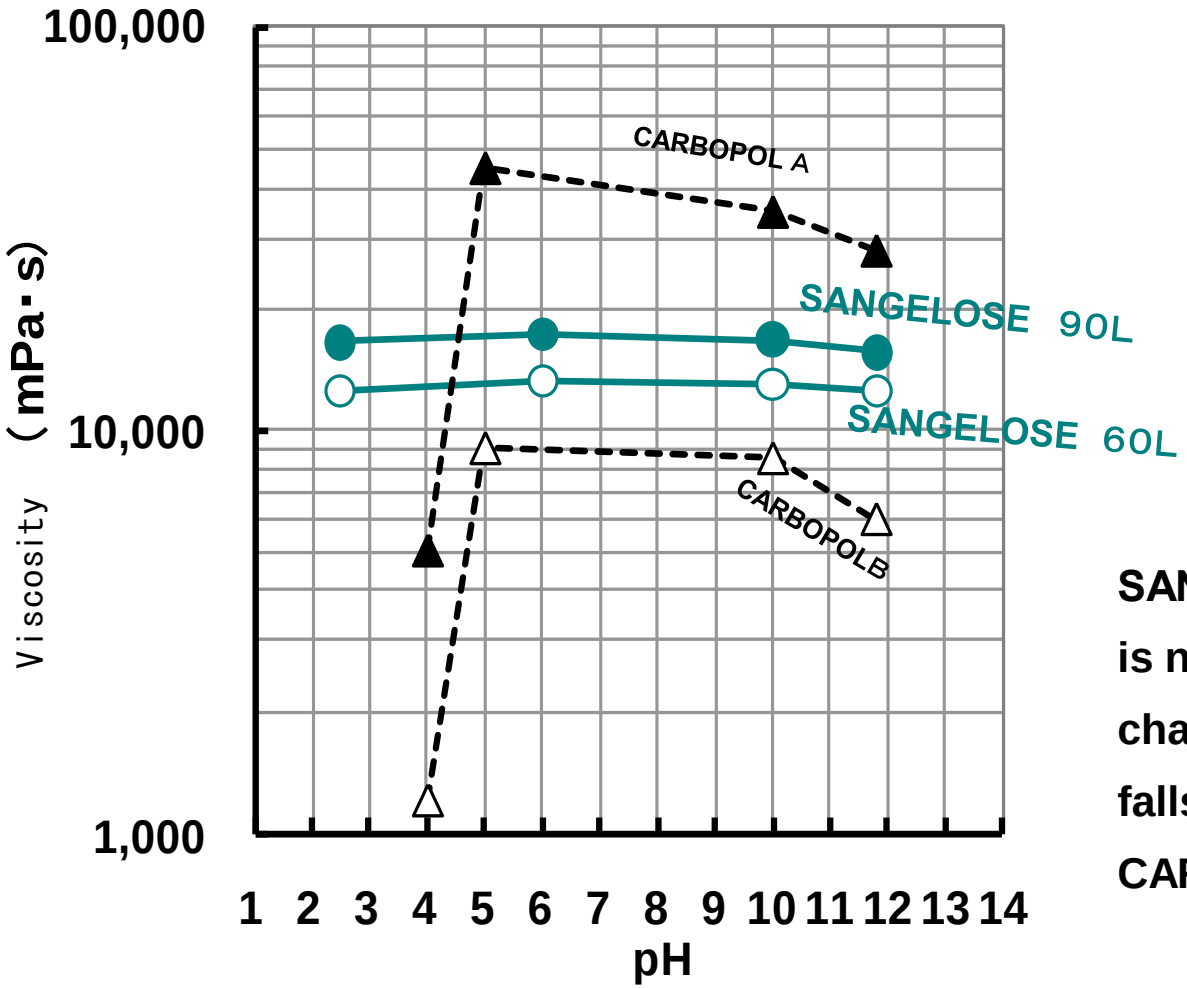
Relation of Concentration and Viscosity



Compared with normal cellulose derivative, small quantity of SANGELOSE is enough to thicken.

Viscosity character (2)

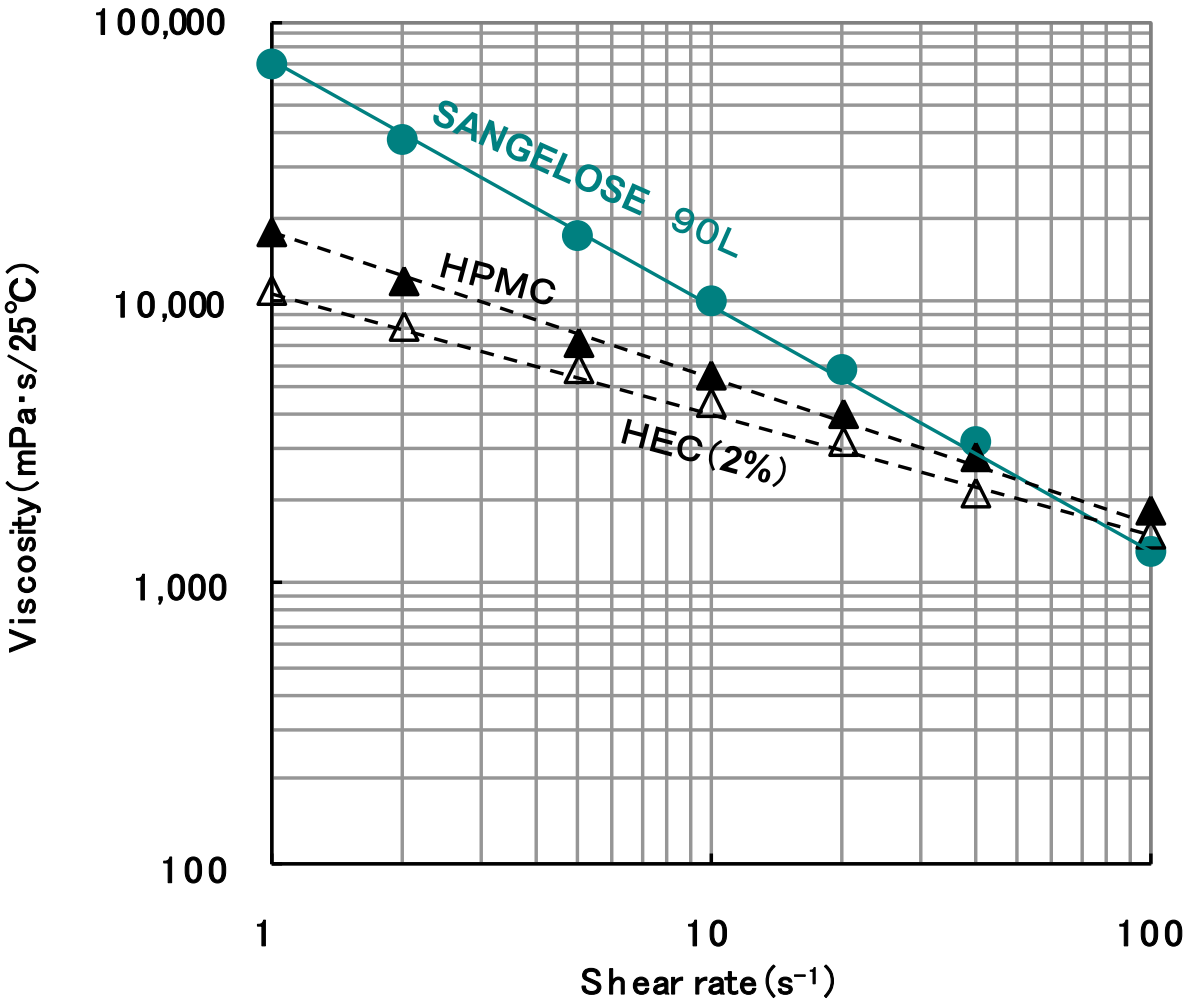
Influence of pH on viscosity（1.0 wt% aq. 25℃）



SANGELOSE's viscosity is not influenced by pH change, though it one falls rapidly in case of CARBOPOL.

Viscosity character (3)

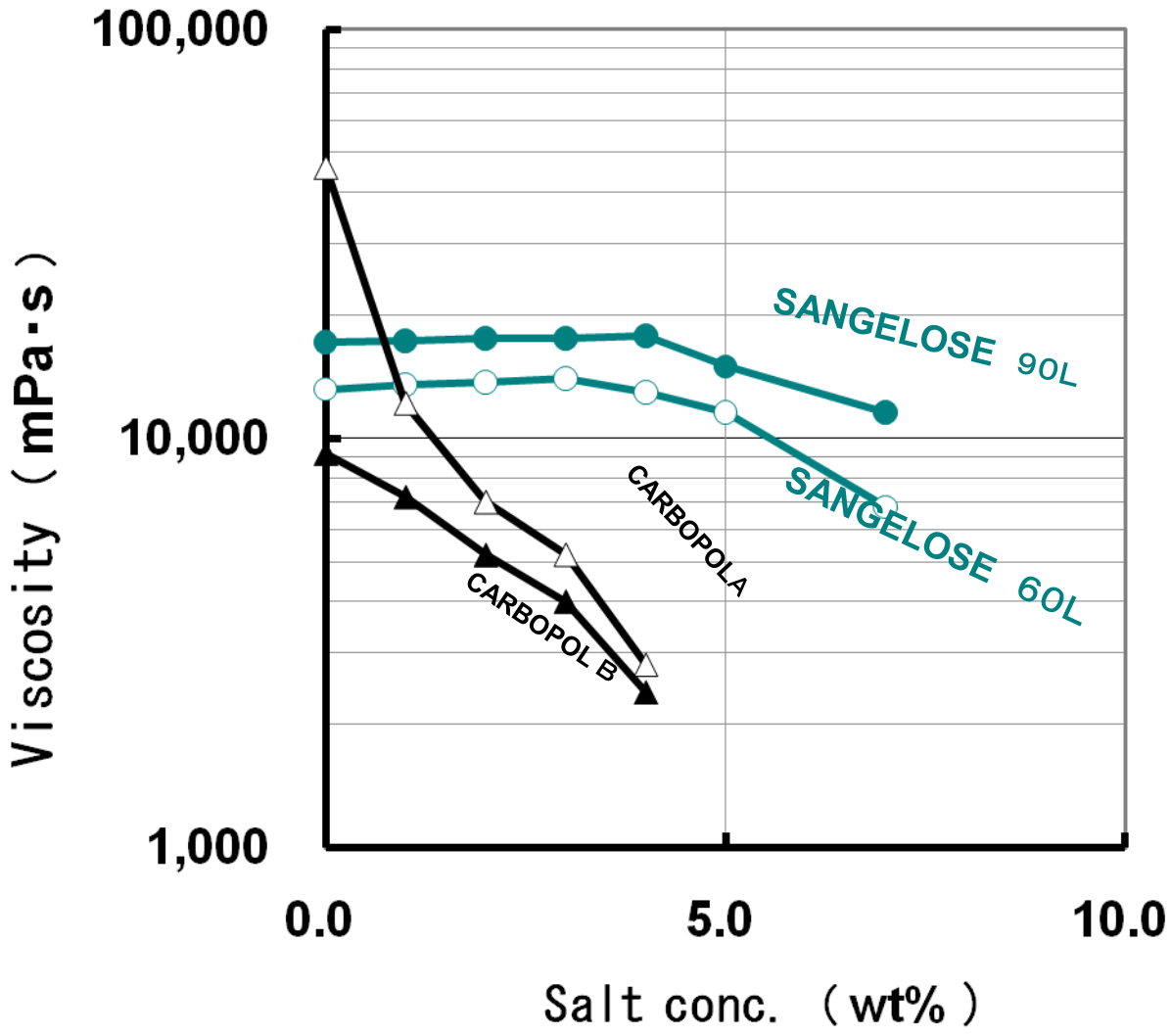
Relation of Shear rate and Viscosity（1.0 wt%　aq.）



Compared with HPMC, HEC, SANGELOSE make thixotropical gel.

Viscosity character (4)

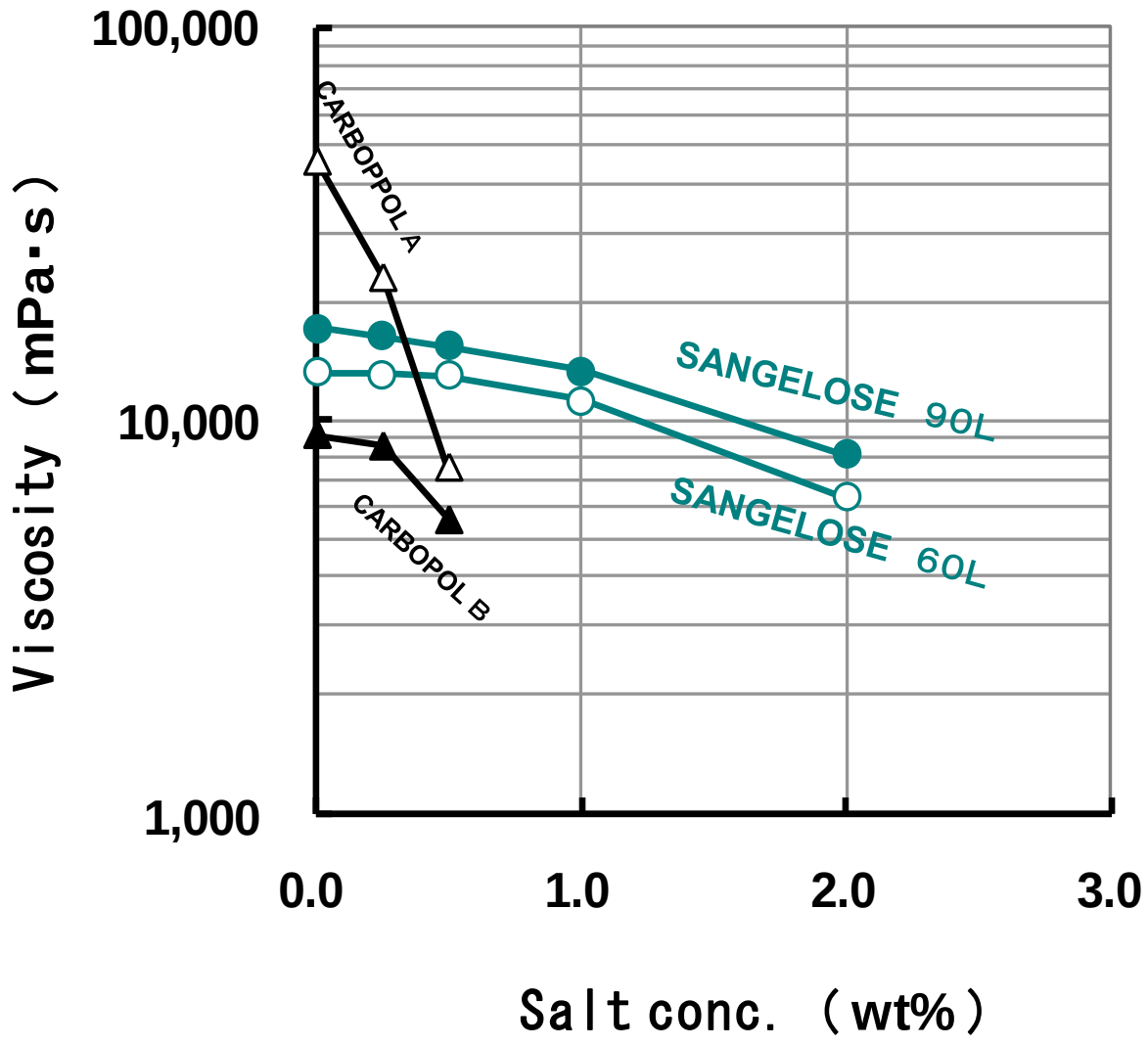
Viscosity influence in NaCl （1.0 wt% aq. 25℃）



SANGELOSE's viscosity is little influenced by NaCl.

Viscosity character (5)

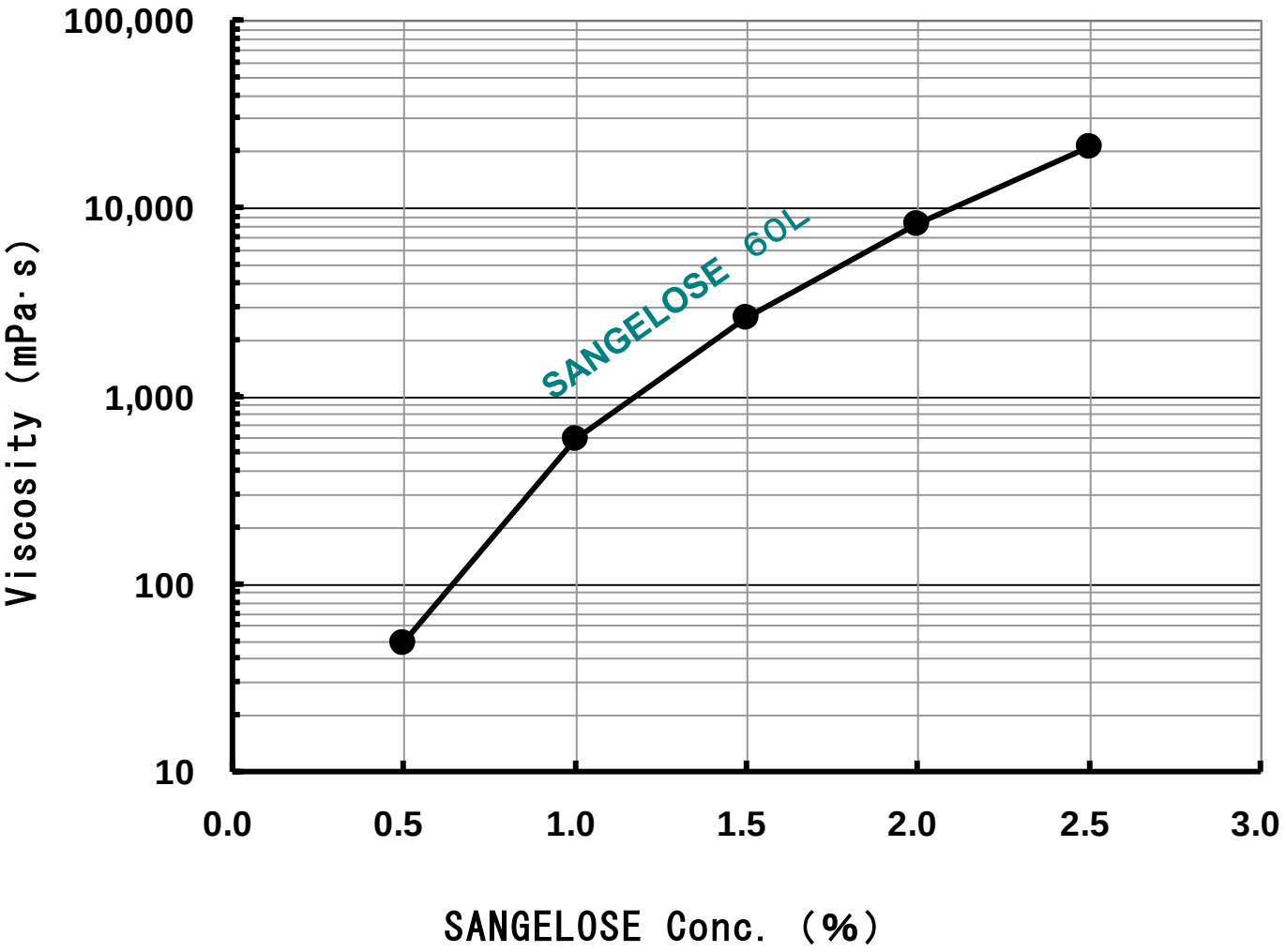
Viscosity influence in MgSO4 （1.0 wt% aq, 25℃）



SANGELOSE's viscosity is little influenced by MgSO4.

Viscosity character (6)

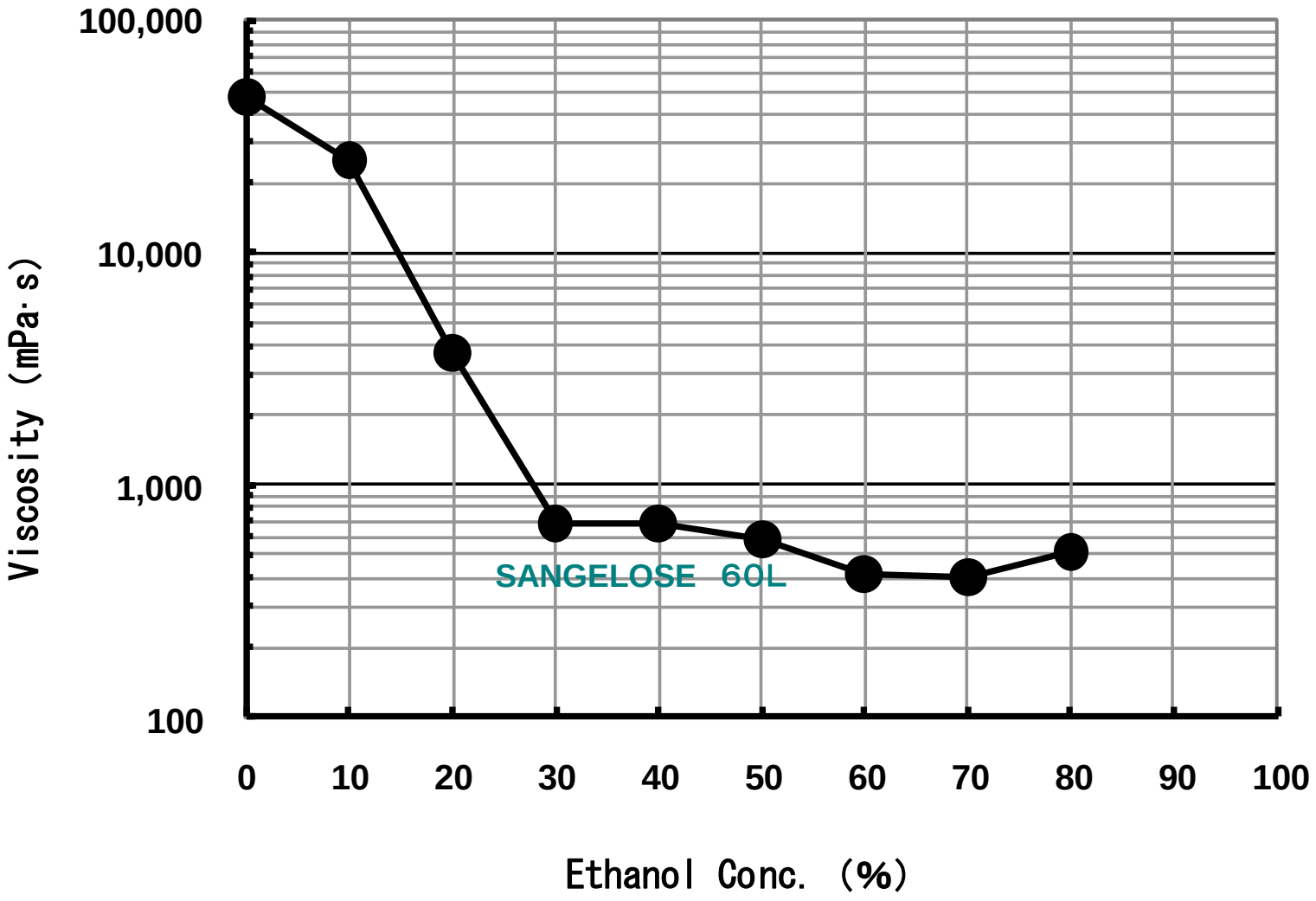
Concentration-Viscosity curve in 50% ethanol solution (25℃)



When added alcohol, the viscosity of SANGELOSE solution becomes thickened liquid to non-fluid gel ,up to added quantity.

Viscosity character (7)

- **Influence of ethanol concentration on the viscosity of SANGELOSE 60L （1%, 25℃）**



SANGELOSE application（1）

Composition for cosmetics with Vitamin C derivative(For whitening)

Because of BSE(Bovine Spongiform Encephalopathy), Placental Protein can't be used, and Vitamin C derivative is recognized suitable instead.

For example..

- Magnesium Ascorbyl Phosphate
- Sodium Ascorbyl Phosphate
- Ascorbic Acid 2-Glucoside

Though these derivatives with Carbopol are not stable in terms of color, SANGELOSE doesn't affect color change and viscosity decline. It can make stable cosmetics.

(Under consideration) Lotion or foundation cream with Vitamin C derivative.

SANGELOSE application(２)－１

- Stability with 3% Sodium Ascorbyl Phosphate （**0.5%aq.**）

40℃, after 4 weeks

With SANGELOSE

With Carbopol

SANGELOSE application(２)－２

- Stability with 3% Sodium Ascorbyl Phosphate（**0.5%aq. 25℃**）

		After mix	1 week	2 weeks	4 weeks
SANGELOSE 90L	**Color**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**
	Absorbance	**0.035**	**0.033**	**0.042**	**0.052**
	Viscosity	**3,120**	**3,060**	**3,140**	**3,170**
Carbopol	**Color**	**Yellow**	**Yellow**	**Yellow**	**Yellow**
	Absorbance	**0.107**	**0.180**	**0.231**	**0.302**
Without thickener	**Color**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**
	Absorbance	**0.005**	**0.005**	**0.008**	**0.013**

Absorbance：**420nm**

SANGELOSE application（3）

■ Stability with **3%** Ascorbic Acid 2-Glucoside （**0.5%aq. 25℃**）

		After mix	1 week	2 weeks	4 weeks
SANGELOSE 60L	**Color**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**
	Absorbance	**0.024**	**0.017**	**0.019**	**0.023**
	Viscosity	**1,800**	**1,780**	**1,720**	**2,060**
SANGELOSE 90L	**Color**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**
	Absorbance	**0.038**	**0.043**	**0.040**	**0.033**
	Viscosity	**1,720**	**2,020**	**1,860**	**2,060**
Without thickener	**Color**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**	**Slightly yellow**
	Absorbance	**0.004**	**0.010**	**0.014**	**0.030**

Absorbance：420nm

SANGELOSE application（4）

Composition for Moisturizing cream

O/W Gel Cream prescription example

A	**Pure water**	**28.4**
	1, 3-Butylene glycol	**5.0**
	Glycerolglycerin	**2.5**
	SANGELOSE 60L（1% water solution）	**50.0**
B	Cetearyl alchol	**1.0**
	Dimethicone （6cs）	**2.0**
	Macadamia Oil	**2.5**
	Jojoba oil	**2.5**
	Squalane	**2.5**
	Tocopherol	**0.1**
	Emulium Delta	**3.0**
	Phenoxyethanol	**0.5**
		100.0

SANGELOSE application（5）

Composition with TiO2 (For UV protection)

Though nano sizeTiO2 is used in cosmetics for UV protection, TiO2 might be aggregated by Carbopol gel. However, SANGELOSE can make stable cream without such a problem.

Composition with cationic material（For hair care products）

Though HEC and HPC are used in combination with cationic materials for physical stability, its sensory touch is not good.
SANGELOSE can make a thixotropic gel and its long alkyl group has a good affinity with skin lipids. Thus, SANGELOSE can make stable products which feel good to the touch.

SANGELOSE application(6)

Application for Hair care products（Sensory test）

Test：Ten subjects, 20 to 50 years of age, applied a 1 % content of various high polymer/water solutions (40g) in their hair. Leave in for 5min at room temperature. After, rinse with water and dry. Evaluate the sensory touch of hair in wet and dry conditions.

Sensory Touch Result (Wet condition)（Good ~ Poor =5 ~ 1）

	Stretch	Flexibility	Smoothness
1% SANGELOSE 90L	4.3	4.6	4.3
1% HEC	2.4	2.4	2.9
1% High polymerized PEG	4.0	1.4	1.4
1% Guar gum	2.4	2.6	3.0
1% Carrageenan	3.0	2.6	3.0
1% Glucomannan	3.1	3.0	3.0

SANGELOSE application（7）

Sensory Touch Result (Dry condition)（Good ~ Poor =5 ~ 1 ）

	Flexibility	Smoothness	Freshness
1% SANGELOSE 90L	4.6	4.6	3.6
1% HEC	1.4	2.9	1.4
1% High polymerized PEG	1.4	1.4	1.4
1% Guar gum	3.0	3.0	2.7
1% Carrageenan	3.1	3.0	2.7
1% Glucomannan	3.0	3.0	2.6

Adopted application ：Shampoo, Treatment, Conditioner,

Hair manicure etc.

FRAGRANCE JOURNAL Jul, 2007

SANGELOSE application(８)

Other application examples

Good stability with Salt

⇒Thickener for deep sea water cosmetics rich in minerals.

Good stability with Acid

⇒Thickener for cosmetics with fruit acid.

Good compatibility with alcohol

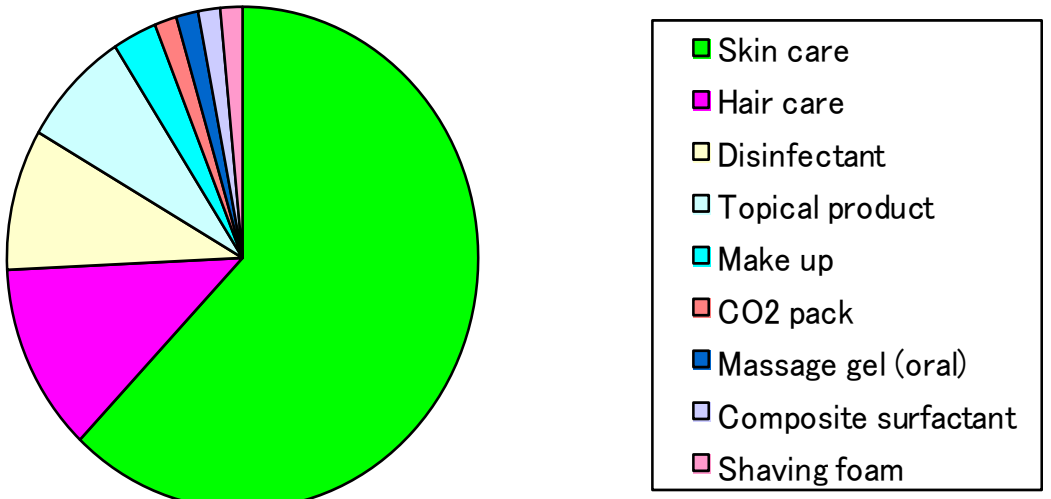
⇒ Thickener for deodorants with alcohol

Water insoluble (Sangelose M type)

⇒Ideal for eyeliners and eyebrow makeup having good stability against sweat and tears.

Current applications of SANGELOSE in the pharmaceutical and cosmetic fields

application	Applied numbers
Skin care	41
Hair care	8
Disinfectant	6
Topical product	5
Make up	2
CO2 pack	1
Oral gel	1
Composite surfactant	1
Shaving foam	1
total	66



Recent application（1）

Preparation and Properties of Surfactant-free Diclofenac Emulgel Using SANGELOSE as the Gel Matrix

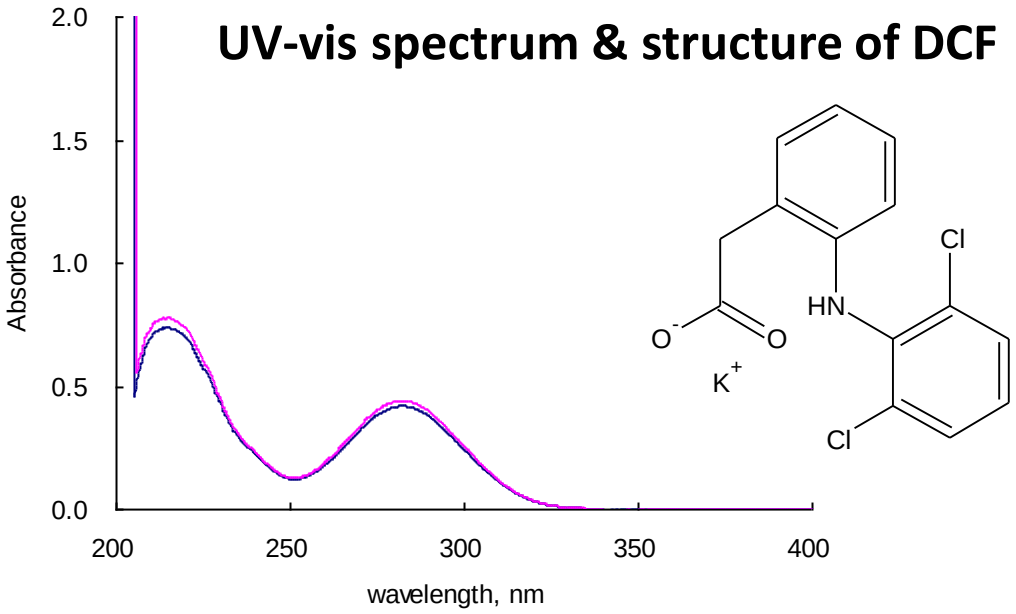
Hui Xu (徐 暉) , Dongchun Liu (劉 東春) , Sijie Zhang (張 斯傑) , Xing Tang (唐 星)

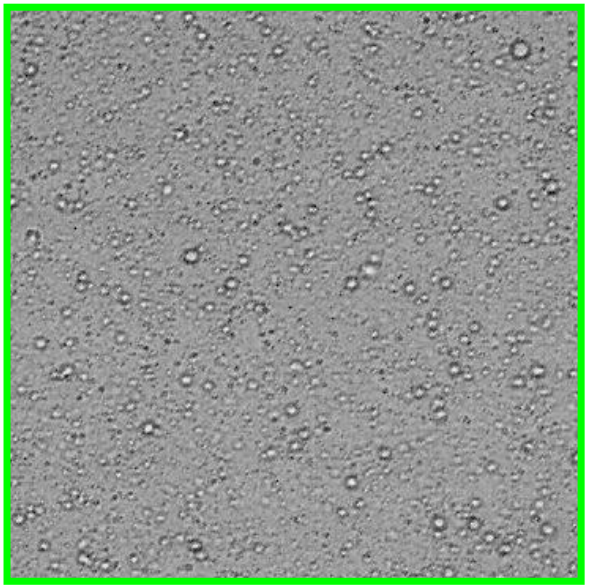
(Shenyang Pharmaceutical University)

Toshio Shimamoto, Yasunari Inamoto *(Daido Chemical Corporation)*

The 28th The Society of Powder Technology, Japan／Division of Particulate Design and Preparations ，

Osaka, Japan-Oct 26, 2011





Microscopic image of SANGELOSE Emulgels

4-1. The drug release and transdermal flux

The drug release percentages at 8h and steady-state flux of transdermal permeation of prepared emulgels and commercial gels

	Q_{8h}, %	J_{ss}, mg cm^{-2} h^{-1}
90L	52.8±7.6	0.138±0.028 ↑
90L+T80	55.3±6.4	0.034±0.011
90L+LP	59.4±3.6	0.069±0.015
60L	63.4±3.0	0.089±0.034 ↑
HPMC+T80	60.2±3.6	0.061±0.010
Carbomer+T80	35.4±5.2	0.024±0.014
Pemulen	33.8±1.1	0.046±0.013
Voltaren®	22.5±2.9	0.058±0.007
Jiuning®	37.7±4.0	0.048±0.012

Recent application（2）

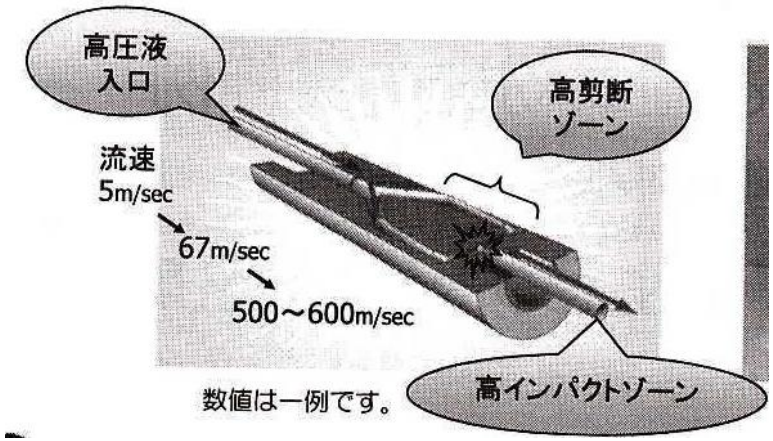
Preparation of nano-emulsion by using a microfluidizer

K. Miura, M. Fujii, S. Aiuchi, N. Koizumi, Y. Watanabe,
Showa Pharmaceutical University,
The Academy of Pharmaceutical Science and Technology, Japan (2010)

M-110-E/H

仕　様

調圧範囲	(MPa)	21～172
処理量	(mL/min)	80～400
動力	(kW)	3.7



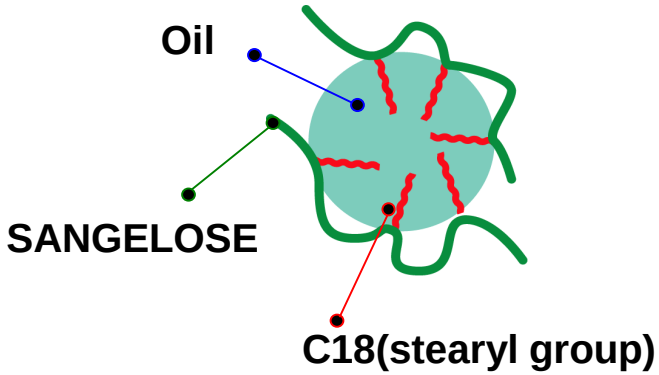
Slit diameter; 75μm

The nano-emulsion can be prepared by using a microfluidizer with an extremely high shearing rate.

Recently, by using SGL as an emulsifier (alternative surfactant), ca. 500nm of nano-emulsion was prepared by a microfluidizer.

4-2. Stability of a nano-emulsion by Microfluidizer

Recently, by using SGL as an emulsifier (alternative surfactant) ca. 500nm of nano-emulsion was prepared by a microfluidizer.



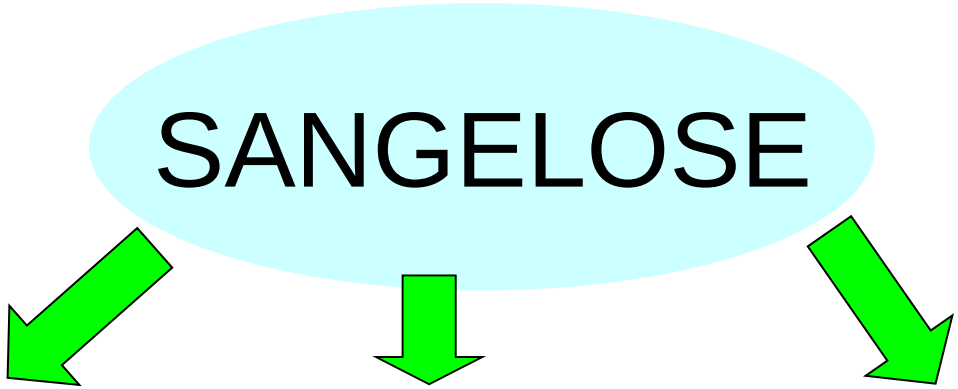
Tab. Stability results

Oil	0 day	7 day	60 day
LP (nm)	500	500	510
SO (nm)	520	450	500
MCT (nm)	500	520	530

Emulsifier ; SGL (1w/w%), Model drug ; Diphenhydramine
Preparation ; Microfluidizer (70MPa, 10pass)
Oil ; Liquid paraffin (LP), Soybean oil (SO), Middle chain fatty acid triglyceride(MCT)

5. Summarization

Applications of SANGELOSE



Field	Drugs	Quasi-drugs	Cosmetics
Applied Examples	Cream Ointment Liquid Gel Lotion	Underarm deodorant Hair restoration Hair coloring Permanent Medicinal cosmetics Disinfectant	Skin care Hair care Make up

COSMETIC Samples
～example～

Alcohol Gel

80% Alcohol is proven to kill germs and bacteria.Dries quickly by simply rubbing your hands together.No need for water or a towel.Easy to use thick gel type that won't splash.

No.	INCI name（Raw Material）	Content(%)
1	ALCOHOL	40.00
2	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.90
3	WATER	16.10
4	GLYCERIN	3.00
5	ALCOHOL	40.00
	total	100.00

1. 「No.1～2」Dissolve at room temperature〔A Group〕
2. 「No.3～4」Mix together. Then, add to〔A Group〕and stir well.〔B Group〕
3. Add「No.5」and agitate well with the Homo Mixer.

Vitamin C Beauty Lotion

Beauty lotion treatment with a stabilized Vitamin C derivative.An intrinsically smooth feel to your skin with this beauty lotion. Returns the moisture back to your skin.

No.	INCI name（Raw Material）	Content(%)
1	WATER	75.00
2	BUTYLENE GLYCOL	10.00
3	METHYLPARABEN	0.15
4	ETHYLPARABEN	0.02
5	TETRASODIUM EDTA	0.02
6	BETAINE	0.50
7	TREHALOSE	0.20
8	DIPOTASSIUM GLYCYRRHIZATE	0.10
9	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.25
10	ETHYLHEXYLGLYCERIN	0.20
11	WATER	10.00
12	ASCORBYL GLUCOSIDE	3.00
13	POTASSIUM HYDROXIDE (85%)	0.56
	total	100.00

pH 5.5～6.5

1. Mix and dissolve ingredients 1-9 (A Group)
2. Mix and dissolve ingredients 11-13 (B Group)
3. Add (A Group) to (B Group) and mix well.

Body Gel Lotion

Watery gel leaves your skin feeling smooth and fresh. There is no stickiness after applying this lotion. It leaves your skin feeling gently moisturized.

No.	INCI name（Raw Material）	Content(%)
1	WATER	75.00
2	BETAINE	0.10
3	DIPOTASSIUM GLYCYRRHIZATE	0.05
4	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.40
5	ETHYLHEXYLGLYCERIN	0.25
6	METHYLPARABEN	0.10
7	BUTYLENE GLYCOL	15.00
8	WATER	9.00
9	SODIUM HYALURONATE	0.10
	total	100.00

pH 5.5～6.5

1. Mix items 1-3 in 75C water. (A Group)
2. Mix items 4-7, then add (A Group), mixing thoroughly.
3. Cool to no less than 40C and add 8-9 while mixing.

Handcream with UREA

To return the suppleness of the outer layer of skin, 3% Urea is added. This gives a rich, creamy feeling to your skin and hands.

No.	INCI name（Raw Material）	Content(%)
1	WATER	41.50
2	DIPOTASSIUM GLYCYRRHIZATE	0.10
3	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.15
4	METHYLPARABEN	0.15
5	BUTYLENE GLYCOL	7.50
6	PETROLATUM	25.00
7	CAPRYLIC/CAPRIC TRIGLYCERIDE	5.00
8	NIKKOMULUSE LC *1)	5.00
9	STEARIC ACID	1.00
10	GLYCERYL STEARATE	0.30
11	MEADOWFOAM ESTOLIDE	0.20
12	NIKKOL SILBLEND-91 *2)	0.50
13	WATER	0.50
14	POTASSIUM HYDROXIDE (85%)	0.05
15	WATER	10.00
16	TETRASODIUM EDTA	0.05
17	UREA	3.00
	total	100.00

*1)NIKKOMULUSE LC
(Nikko Chemicals)
*2) NIKKOL SILBLEND-91
(Nikko Chemicals)

pH 6.5～7.5

1. Dissolve 1-2 in 75C water. (A Group)
2. Mix 3-5 together. Then, add to (A Group), mixing well.
3. Dissolve 6-12 in 75C water (C Group)
4. Put (B Group) in a Homo Mixer and add (C Group) mixing well to emulsify.
5. Mix 13-14 and add to completed mix and blending well.
6. Cool mix to no less than 40C. Mix 15-17 and add to the blend.

Skin cream

A skin cream that spreads easily on your skin leaving and exceptionally smooth feeling.After applying, it is not sticky. Your skin will be smooth and moist.

No.	INCI name（Raw Material）	Content(%)
1	WATER	70.00
2	BETAINE	0.50
3	GLYCERIN	3.00
4	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.30
5	METHYLPARABEN	0.15
6	BUTYLENE GLYCOL	10.00
7	SQUALANE	10.00
8	NIKKOMULUSE LC *1)	2.50
9	STEARIC ACID	1.00
10	NIKKOL SILBLEND-91 *2)	2.00
11	WATER	0.50
12	POTASSIUM HYDROXIDE (85%)	0.50
	total	100.00

*1)NIKKOMULUSE LC
(Nikko Chemicals)
*2) NIKKOL SILBLEND-91
(Nikko Chemicals)

pH 6.5～7.5

1．Dissolve「No.1～3」in 75℃ warm water and mix 〔A Group〕
2．After mixing「No.4～6」add 〔A Group〕 while stirring and mix well〔B Group〕
3．Dissolve「No.7～10」in 75℃ warm water and mix 〔C Group〕
4．Using a Homo mixer, emulsify 〔B Group〕. Then, gradually add 〔C Group〕 while mixing.
5．Dissolve「No.11～12」and add , mixing well. Then, cool to 40℃.

Hair Treatment

A wash away hair treatment the gives your hair luster.
Rich, full-bodied feeling and texture. Even afer drying, your hair will feel moist.

No.	INCI name（Raw Material）	Content(%)
1	WATER	80.00
2	CITRIC ACID	0.10
3	ARGININE	0.20
4	BETAINE	0.50
5	BEHENTRIMONIUM CHLORIDE (80%)	3.00
6	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.50
7	METHYLPARABEN	0.20
8	BUTYLENE GLYCOL	10.00
9	CETYL ALCOHOL	3.50
10	DIMETHICONE (High polymerization gum silicon 15%)	2.00
	total	100.00

1．「No.1～5」Dissolve in warm water at 75℃.〔A Group〕
2．「No.6～8」Mix together. Then, add to〔A Group〕and stir well.〔B Group〕
3．「No.9」Dissolve in warm water. Then, using a Homo Mixer, stir while adding to〔B Group〕and emulsify.
4．After emulsification, add in「No.10」and stir well.
5．Cool to 40℃

Hair Essence

A wash away hair essence the gives your hair luster.
This will maintain the smooth and moist feeling in your hair.

No.	INCI name（Raw Material）	Content(%)
1	WATER	75.00
2	BETAINE	0.30
3	GLYCERIN	2.50
4	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.20
5	BUTYLENE GLYCOL	5.00
6	ALCOHOL	15.00
7	Silsoft EM 202C *1)	2.00
	total	100.00

*1 Silsoft EM-202C (Momentive)

pH 6.0 ～ 7.0

1． 「No.1～3」Dissolve at room temperature 〔A Group〕

2． Mix together「No.4～6」. Then, while adding to 〔A Group〕mix thoroughly. 〔B Group〕

3． Then, while adding「No.7」, mix thoroughly.

Hair Shampoo

Hair shampoo with amino acid makes for fine textured bubbles making hair easy to wash.After rinsing, it leaves a smooth, silky feeling.

No.	INCI name（Raw Material）	Content(%)
1	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.20
2	BUTYLENE GLYCOL	5.00
3	WATER	26.30
4	POLYQUATERNIUM-10	0.30
5	WATER	14.20
6	SODIUM BENZOATE	0.50
7	SODIUM COCOYL ALANINATE (30% aq.)	30.00
8	LAURAMIDOPROPYL BETAINE (30% aq.)	20.00
9	PEG-7 GLYCERYL COCOATE	1.50
10	CITRIC ACID (10% aq.)	2.00
	total	100.00

pH 6.0 ～ 7.0

1．Dissolve「No.1～3」in 75℃ warm water and mix 〔A Group〕

2．After mixing「No.4～6」add 〔A Group〕 while stirring and mix well〔B Group〕

3．「No.7～8」Add them in order and mix well.

4．「No.10」After ingredients are mixed uniformily, cool down to 30℃.

Cleansing Liquid

Oil free, liquid type of cleanser to remove make up.
Moderately thick, make up is removed as you massage your skin.

No.	INCI name（Raw Material）	Content(%)
1	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.50
2	DIPROPYLENE GLYCOL	20.00
3	WATER	54.00
4	SODIUM COCOYL ALANINATE（30%）	5.00
5	METHYL GLUCETH-10	10.00
6	PEG-7 GLYCERYL COCOATE	10.00
7	CITRIC ACID (10% aq.)	0.50
	total	100.00

pH 6.0 ~ 7.0
1． Agitate「No.1～3」well at 75℃ and dissolve.〔Part A〕
2． Add「No.4～6」in order to〔Part A〕and one at a time. Agitate well.
3． Add「No.7」and agitate well

BB (Blemish Balm) Cream

Blemish Balm skin cream with Titanium Dioxide spreads easily across your skin. Returns moisture to your skin and leaves behind a smooth and shiny complexion.This doesn't leave a sticky feeling and can be used as a foundation.

No.	INCI name（Raw Material）	Content(%)
1	WATER	45.97
2	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.50
3	METHYLPARABEN	0.20
4	BUTYLENE GLYCOL	10.00
5	PARAFFIN (7 0 S)	10.00
6	NIKKOMULUSE LC *1)	2.50
7	CETYL ALCOHOL	2.00
8	STEARIC ACID	1.50
9	NIKKOL SILBLEND-91 *2)	2.00
10	WATER	0.30
11	POTASSIUM HYDROXIDE (85%)	0.03
12	TITANIUM DIOXIDE (Sunveil PW-6030 A-20) *3)	25.00
	total	100.00

*1 NIKKOMULUSE LC (Nikko Chemicals)

*2) NIKKOL SILBLEND-91 (Nikko Chemicals)

*3) Sunveil PW-6030 A-20 (JGC Catalysts and Chemicals Ltd.)

pH 6.5 ~ 7.5

1． Mix「No.2～4」then add「No.1」at 75℃ and dissolve.〔Part A〕
2． Mix「No.5～9」at 75℃ and dissolve.〔Part B〕
3． Agitate〔Part A〕in a Homo Mixer. Then add〔Part B〕 and emulsify.
4． Dissolve 「No.10～11」and add, mixing well. After, let cool to 40℃.
5． Add「No.12」and agitate well with the Homo Mixer.

Liquid Soap

Using the main ingredient of Fatty acid soap, SANGELOSE is added to give liquid soap its thickness.
Since Ampholytic surfactant and Fatty acid alkylolamide are not used inPotassium soap, there is very little smoothness. SANGELOSE gives it a refreshed feeling.

No.	INCI name（Raw Material）	Content(%)
1	WATER	41.10
2	TETRASODIUM EDTA	0.10
3	BUTYLENE GLYCOL	5.00
4	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER（SANGELOSE 60L）	0.80
5	SEKKEN SOJI-K(JTN) (35%)	50.00
6	LAURYL GLUCOSIDE	3.00
	total	100.00

1 「No.1～4」Combine and dissolve at 75℃〔Group A〕
2〔Group A〕add「No.5、No.6」agitate well and mix until uniform〔Group B〕
3〔Group B〕Once agitated, cool to 30℃

NEW RECIPE

Vitamin C Beauty Lotion

Adding 1% of ETHYL ASCORBIC ACID adds a little thickness to this lotion.
Using SANGELOSE here instead of a Carbomer or acrylic Resin or high polymer makes it easier to control the pH（Less than pH5）and also gives crystal clear transparency and maintain stability.

No.	INCI name （ Raw Material ）	Content(%)
1	WATER	74.00
2	CITRIC ACID	0.15
3	SODIUM CITRATE	0.20
4	DISODIUM EDTA	0.05
5	PHENOXYETHANOL	0.20
6	DIPOTASSIUM GLYCYRRHIZATE	0.10
7	BUTYLENE GLYCOL	10.00
8	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER （ SANGELOSE 60L ）	0.30
9	ETHYL ASCORBIC ACID (10% aq.)	10.00
10	ALCOHOL(95 %)	5.00
	total	100.00

Slightly acidic （pH 4.5 ～ 5.5）

1 「No.1～8」Mix solution 〔Group A〕

2 「No.9～10」Add in sequential order,mix well until consistent

NEW RECIPE

Amino Acid Facial Cleanser

With amino acid as the main ingredient in this cleanser, it gives slight viscosity.
The amino acid washes the skin leaving behind a moist, clean finish.
Using SANGELOSE, it is possible to add an amphoteric surfactant or a fatty acid in higher quantities

No.	INCI name （Raw Material）	Content(%)
1	WATER	35.25
2	DISODIUM EDTA	0.10
3	METHYLPARABEN	0.10
4	PHENOXYETHANOL	0.75
5	BUTYLENE GLYCOL	5.00
6	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER （SANGELOSE 60L）	0.80
7	2-Alkyl-N-Carboxymethyl-N-Hydroxyethyl imidazolinium betaine （30% aq.）	3.00
8	TEA-COCOYL ALANINATE（30% aq.）	50.00
9	CITRIC ACID (10% aq.)	5.00
	total	100.00

neutral pH （pH 6.5 ～ 7.5）

1 「No.1 ~ 6」Heat to 75℃ and mix well 〔Group A〕

2 To 〔Group A〕add 「No.7、No8」in order and agitate well to dissolve。〔Group B〕

3 To a well agitated 〔Group B〕 add「No.9」gradually and agitate well 〔Group C〕

4 Cool 〔Group C〕 down to 30℃

NEW RECIPE

Styling Foam

Super Hard Styling Foam
This product excels in foam retention. It features a lively and springy foam.
This is its first use in an aerosol.

No.	INCI name （Raw Material）	Content (%)
1	CETRIMONIUM CHLORIDE （Kachinaru CTC－70ET※1）	0.30
2	BEHENTRIMONIUM CHLORIDE （Kachinaru DC－80K※2）	0.30
3	ISOPROPYL MYRISTATE	0.40
4	CETYL ALCOHOL	0.40
5	MINERAL OIL	0.20
6	OLEYL ALCOHOL	0.20
7	OLETH－7	0.70
8	CETETH-10	0.70
9	HYDROXYPROPYLMETHYLCELLULOSE STEAROXY ETHER （SANGELOSE 60L）	0.10
10	METHYLPARABEN	0.10
11	WATER	60.00
11	ALCOHOL	0.50
12	OLETH－15	1.50
13	FLAVOR	0.10
14	PVP（30% Ethanol extract）	7.00
15	Yukafoma R205 ※3	10.00
16	POLYQUATERNIUM-11 （HC Polymer 1NS ※4）	2.50
17	WATER	10.00
18	PEG-10 METHYL ETHER DIMETHICONE （SS－2802 ※5）	5.00
	total	100.00

1 Heat「No.1～8」to 80℃ and dissolve 〔Group A〕

2 Add「No.9&10」to 〔Group A〕 and agitate well. After, let it cool. 〔Group B〕

3 Mix「No.11～15」and agitate until uniform 〔Group C〕

4 Once 〔Group B〕 has dropped to 40℃, add 〔Group C〕 and agitate well 〔Group D〕

5 Dilute「No.16」into「No.17」and add「No.18」.Add this mixture to 〔Group D〕 and agitate well.

※1 Kachinaru C T C - 7 0 E T 【Toho Chemical】

※2 Kachinaru D C - 8 0 【Toho Chemical】

※3 Yukafoma R 2 0 5 【Mitsubishi Chemical】

※4 H C Polymer 1 N S 【Osaka Organic Chemical】

※5 S S - 2 8 0 2 【Toray/Dow】