

# KCI PRODUCT

CHEMREZ February seminar

2025.02.27

KCI

**SAMYANG**


# CONTENTS

1. About KCI
2. Cationic Polymer - Polyquta / Guarquat
3. Cationic Surfactant - BTMS / BTAC
4. Rheology Modifier - Multicare
5. Emollient - Fatty acid Ester
6. Emulsifier - Polyglyceryl Ester

**CONTENTS 1.**

# **About KCI**

**SAMYANG**



### Personal care ingredients (surfactants, etc.)

---

#### Established

1985

---

#### Main products

PQ-10, BTAC, BTMS etc.

---

#### Shareholders

Samyang Corporation (51%)

---

#### Production capacity

18,000 tons / year

---

#### Revenue

KRW 110 billion (FY2023)





We have been supplying a wide range of cosmetic ingredients to more than 200 customers in 100 countries across the world, including most of prominent multinational companies.



Regulation



EU **REACH** Regulation



**Halal** Certification



**COSMOS** Approved

Corporate Social Responsibility



9-0379-13-100-00

**RSPO**

Roundtable on Sustainable Palm Oil



**CDP**

Carbon Disclosure Project



**Ecovadis (PLATINUM)**

CSR assessment

Quality Certification



**ISO 9001**

Quality management



**EFfCI**

The European Federation for Cosmetic Ingredient



World Class Product of Korea

세계일류상품



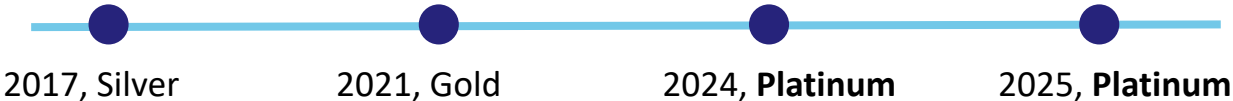
**ISO 14001**

Environmental Management System



**ISO 45001**

Occupational Health and Safety Management System



\* EcoVadis class : Bronze(35%) – Silver(15%) – Gold(5%) – Platinum(1%)

### Cationic Polymers

#### PQ-10 & Guar Polymer

It is used in personal care products such as shampoo and body wash. It acts as a thickener and conditioning agent in hair care products to give a smooth and soft feeling and improve the ease of combing.

### Cationic Surfactant

#### BTAC, BTMS

It is commonly used in hair conditioning products, to help prevent static and repair dry, damaged hair, and as an emulsifier in skin care formulations.

### Encapsulation Delivery System

#### Encapguard™ (Ceramide Active)

Nanocarrier delivery technology is an innovative approach that employs nanoscale carriers, such as liposomes and polymer nanoparticles, to encapsulate and transport multiple active ingredients through the skin simultaneously.

### Active Delivery Enhancer

#### Dimethyl Isosorbide

It is clear liquid solvent derived from corn. It is effective in the delivery of Active ingredients. It is used to improve the function of active ingredients or reduced the ingredients used. And less irritating than common solvents.

### Rheology Modifiers

#### Multicare & Acecare & Hydrojel series

It is mainly used to improve the usability and stability of formulations by imparting effects related to thickening of various personal care products.

### Emollients

#### Fatty acid Esters

As a lipophilic substance, it is used to soften skin or hair and increase gloss, And it is also used as a solvent for sunscreen or as a dispersion of oil and inorganic pigments

### Emulsifiers

#### Polyglyceryl Esters

It is an ingredient for uniformly mixing and maintaining water and various emulsions. It is used for phase stability of the formulation. A wide range of HLBs enables multiple formulation applications.

### MPC Derivatives

#### Hydroquat & Icare series

It is used for moisturizing in various personal care products. It attracts moisture in the air or creates a film to prevent moisture evaporation to maintain moisture and moisturizing feeling.

**CONTENTS 2.**

# **Cationic Polymer**

**SAMYANG**

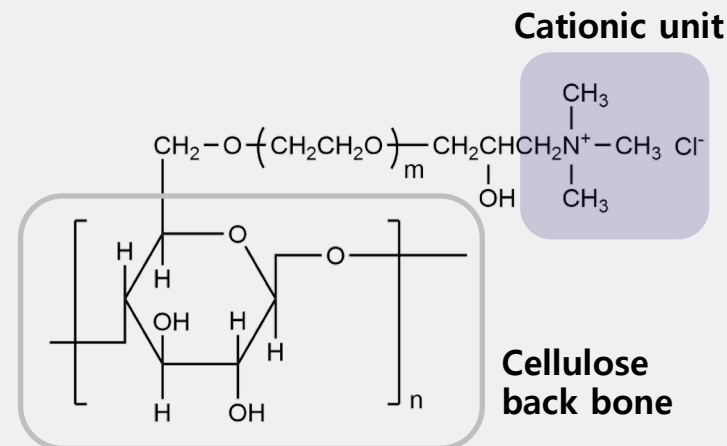
### INCI Name

- Polyquaternium-10 (PQ-10)

### Summary

- Cationic addition products to hydroxyethylcellulose
- CAS No.: 68610-92-4, 81859-24-7
- Appearance: Light Yellow Powder

**Recommended Dosage: 0.1 – 1.0%**



### ✓ FEATURE

- Strong conditioning effect
- Prevent static electricity
- Smooth & fine texture and easy combing & styling
- Natural & plant sourced material
- Applicable to various transparent products

### ✓ APPLICATION

- Shampoo
- Hair conditioner
- Skin care product
- Body wash
- Shower gel



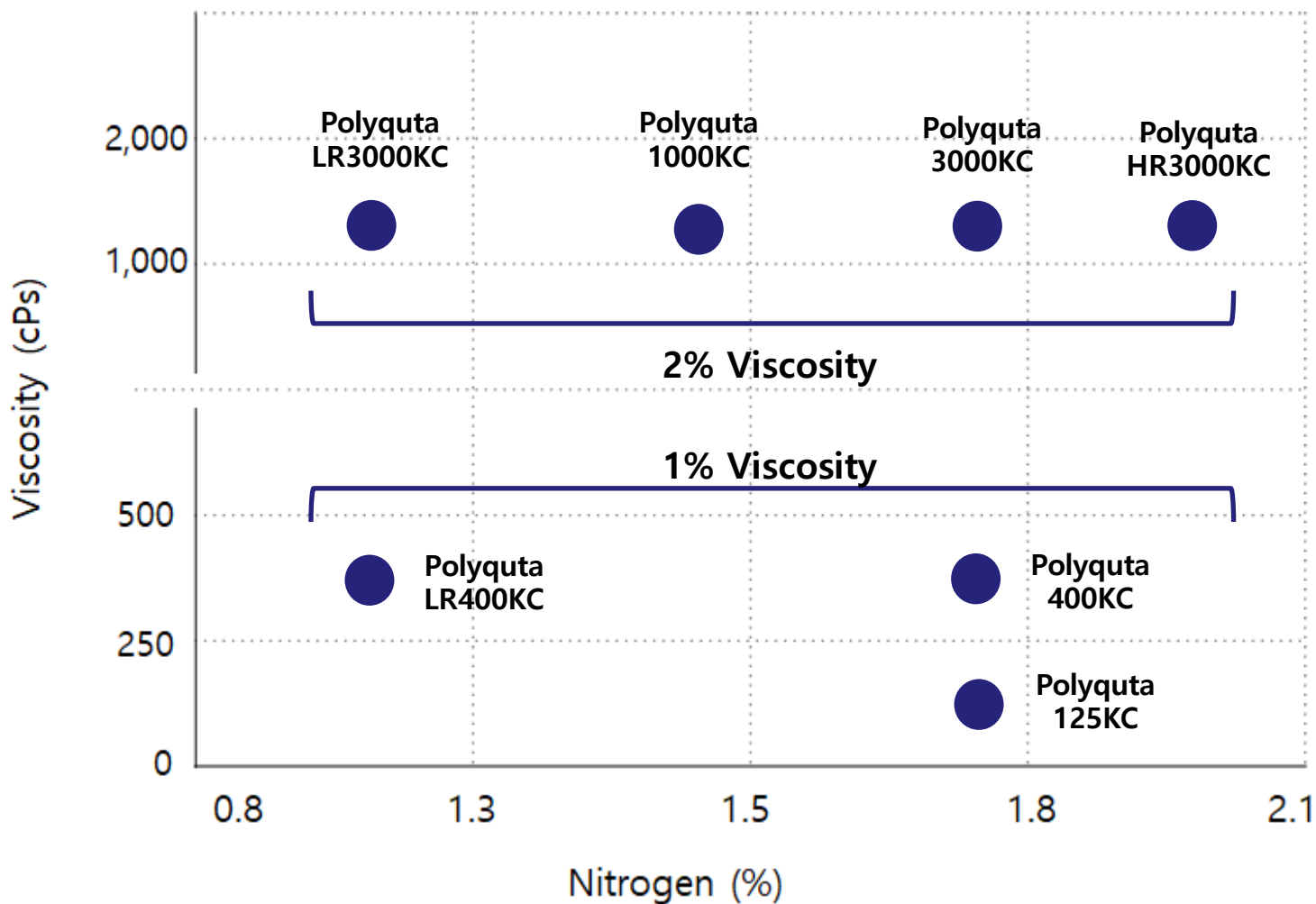
## 2. Cationic Polymer - Polyquta Series

9/30

	125KC	LR400KC	400KC	1000KC	LR3000KC	3000KC	HR3000KC
Appearance	Powder						
Dry loss (%)	Max 6.0						
Nitrogen (%)	1.7 - 2.2	0.8 – 1.2	1.7 - 2.2	1.4 - 1.8	0.8 - 1.2	1.7 - 2.2	2.6 - 2.9
Viscosity (cPs)	75 - 175 (2% sol.)	300 - 500 (2% sol.)		1,000 - 1,400 (1% sol.)	1,000 - 2,500 (1% sol.)		1,000 - 2,000 (1% sol.)
Ash	Max 3.0						
pH (25°C)	5.0 - 7.0 (2% sol.)			5.0 - 7.0 (1% sol.)			

## 2. Cationic Polymer - Polyquta Series

10/30



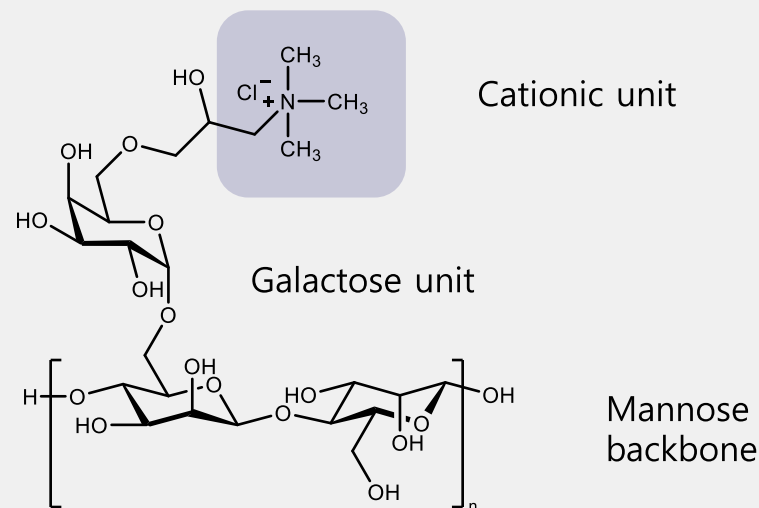
### INCI Name

- Guar hydroxypropyltrimonium chloride

### Summary

- Cationic additives to natural guar gum
- CAS NO. : 65497-29-2
- Appearance: Yellow Powder

**Recommended Dosage: 0.1 – 1.5%**



### ✓ FEATURE

- Low build-up phenomenon
- Water-soluble polymer from natural materials
- Easy combing and styling
- Anti-static

### ✓ APPLICATION

- Shampoo**
- Hair conditioner, Cream
- Body wash, Shower gel
- Skin care product

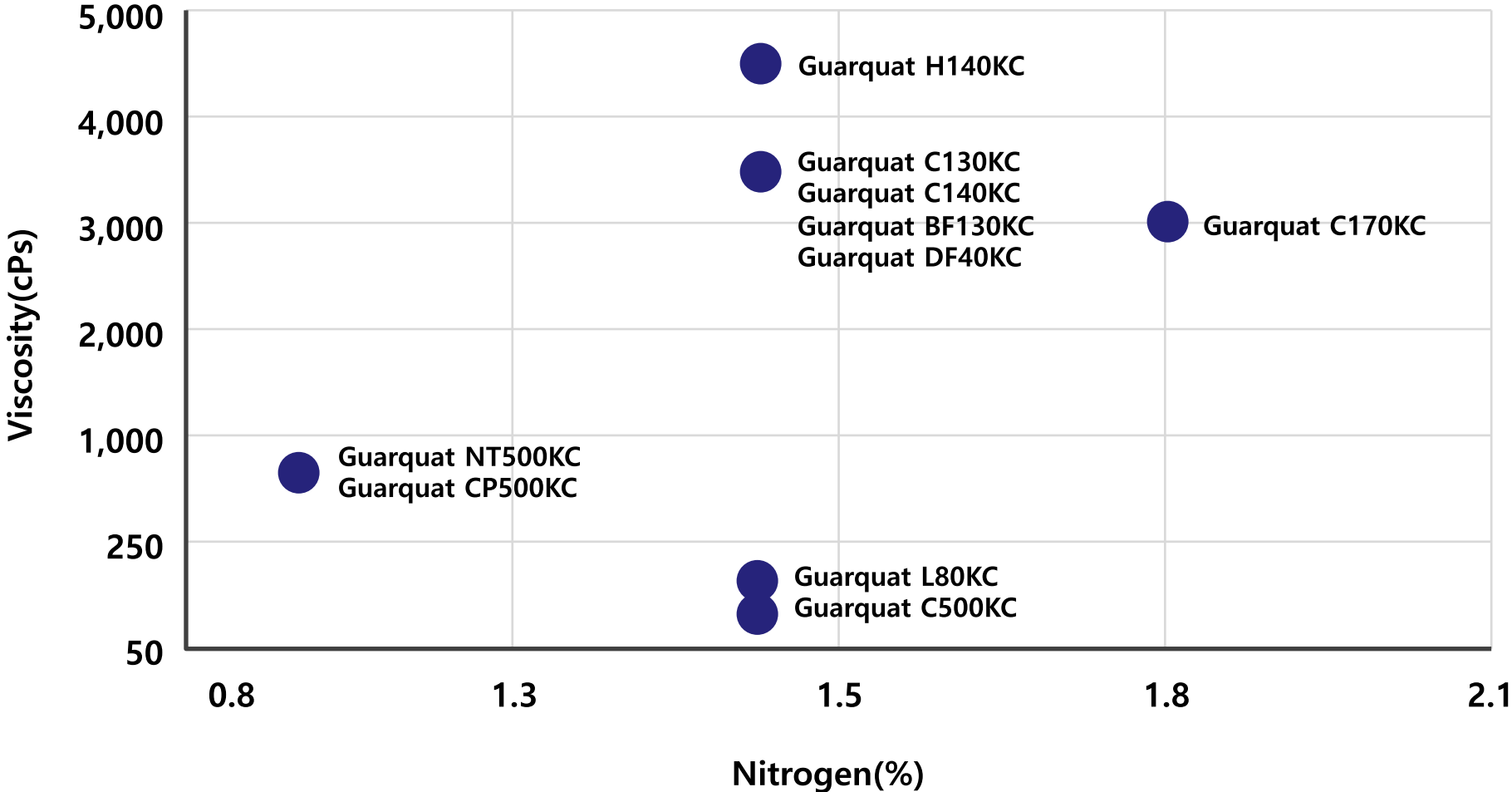


## 2. Cationic Polymer - Guarquat Series

12/30

Product	INCI name	pH (1% sol.)	Nitrogen (%)	Viscosity (1% sol.)	Remark	Application
Guarquat C140KC	Guar Hydroxypropyltrimonium Chloride	9.0-11.0	1.3-1.7	3,000-4,000	High conditioning	Daily shampoo with high conditioning
Guarquat H140KC	Guar Hydroxypropyltrimonium Chloride	9.5-11.0	1.25-1.55	4,000-5,000	High conditioning	
Guarquat DF140KC	Guar Hydroxypropyltrimonium Chloride	9.0-11.0	1.3-1.7	3,000-4,000	Dispersant Free	
Guarquat C130KC	Guar Hydroxypropyltrimonium Chloride	6.0-7.0	1.3-1.6	3,000-4,000	Self Hydrating	Daily shampoo with self hydrating
Guarquat BF130KC	Guar Hydroxypropyltrimonium Chloride	5.0-7.0	1.3-1.6	3,000-4,000	Self Hydrating Boron Free	
Guarquat C170KC	Guar Hydroxypropyltrimonium Chloride	8.5-10.5	1.5-2.1	2,000-4,000	High deposition	Daily shampoo with high active deposition, Antidandruff shampoo, Rinse off conditioners
CP500KC is more transparent than NT500KC because CP500KC has added propylene oxide to achieve the highest transparency.		11.0	1.1~1.6	150-250	Easy dispersible	Daily shampoo with low viscosity
		11.0	1.45-1.75	25-65	Easy dispersible	
Guarquat NT500KC	Guar Hydroxypropyltrimonium Chloride	8.5-10.5	0.9-1.5	300-1,000	<b>Transparent</b>	Daily shampoo with transparent shampoo, Silicon free shampoo Transparent Body washes, styling gels
Guarquat CP500KC	Hydroxypropyl Guar Hydroxypropyltrimonium Chloride	8.5-10.5	0.8-1.4	300-1,000	<b>Transparent</b>	
Guarquat HP105KC	Hydroxypropyl Guar	9.0-11.0	NA	2,500-4,500	For Thickener	Transparent Body washes, styling gels

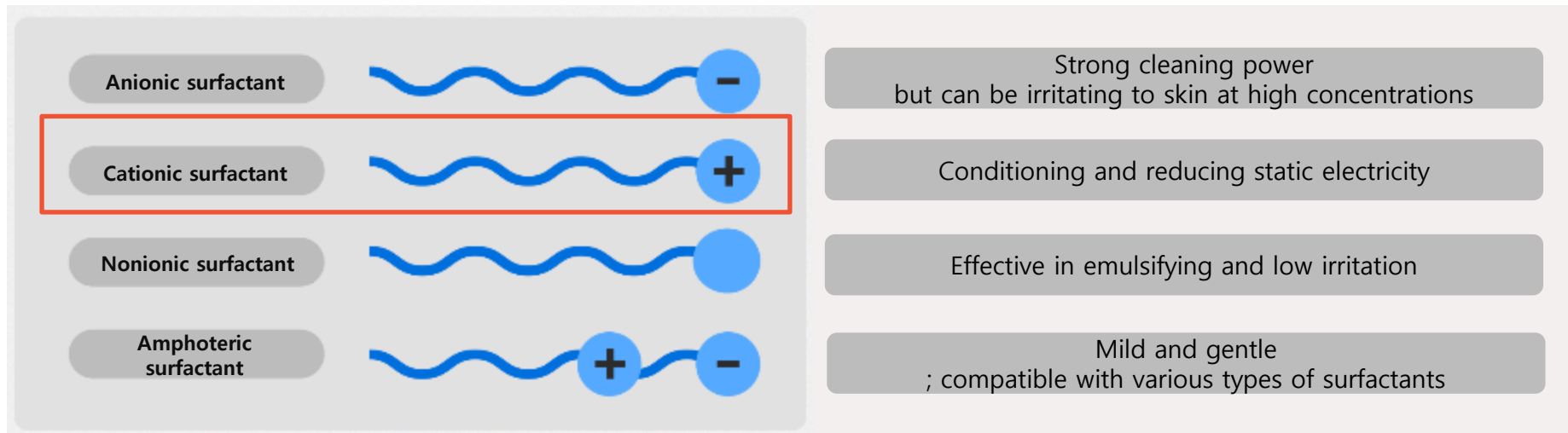




**CONTENTS 3.**

# **Cationic Surfactant**

**SAMYANG**

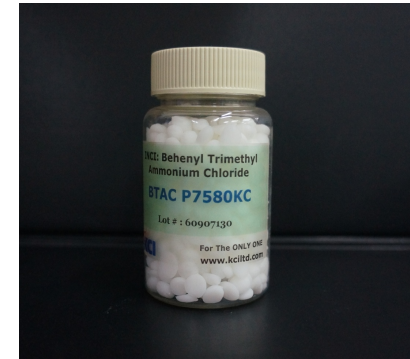


#### ✓ FEATURE

- Conditioning agent for leave-on and rinse-off hair conditioners
- Good antistatic effect and softening effect
- Superior lubrication from long C22 alkyl chain
- Excellent Detangling/Wet combing

#### ✓ APPLICATION

- **Hair conditioner**
- Detanglers
- Hair relaxers
- Straighteners
- Hair dyes



### 3. Cationic Surfactant - BTAC

16/30

Product		INCI Name	Carbon	Appearance	Active(%)	Solvent
BTAC	P7580KC	Behentrimonium chloride	C18 (5%), C20 (15%), C22 (80%)	Pellet	80	Isopropanol
	228KC				80	Ethanol
	D7570KC				70	Dipropylene glycol
	220KC				25	Propylene glycol
	PF4050KC				40	Cetearyl alcohol
STAC	80KC	Steartrimonium Chloride	C18 (98%)	Paste	65	Propylene glycol
	808KC			Flake	80	Isopropanol
CTAC	25KC	Cetrimonium chloride	C16 (98%)	Liquid	25	Water
	30KC				30	Water
LTAC	20KC	Laurtrimonium chloride	C12 (98%)	Liquid	29	Water

### 3. Cationic Surfactant - BTMS

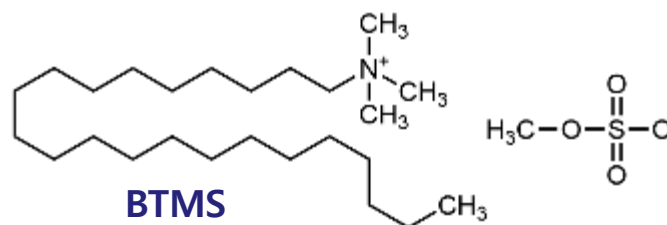
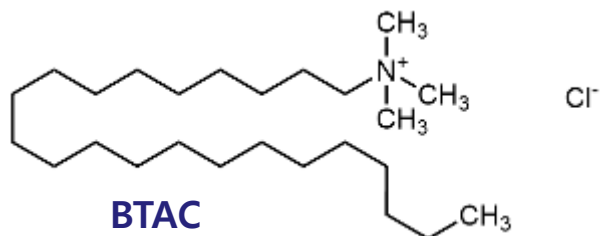
17/30

Product		INCI Name	Carbon	Appearance	Active(%)	Solvent
BTMS	225KC	Behentrimonium methosulfate	C18 (5%), C20 (15%), C22 (80%)	Pellet	25	Cetearyl alcohol
	7550KC				50	Cetyl alcohol 1,3-Butyleneglycol
	C7550KC				50	Cetyl alcohol
	E7550KC				50	Cetyl alcohol Stearyl alcohol
	D7570KC				70	Dipropyleneglycol
	P8580KC				80	Isopropanol

#### \* BTAC vs BTMS

If you need strong conditioning effects and anti-static properties → BTAC

If you prefer a soft feel and a natural-friendly formula → BTMS

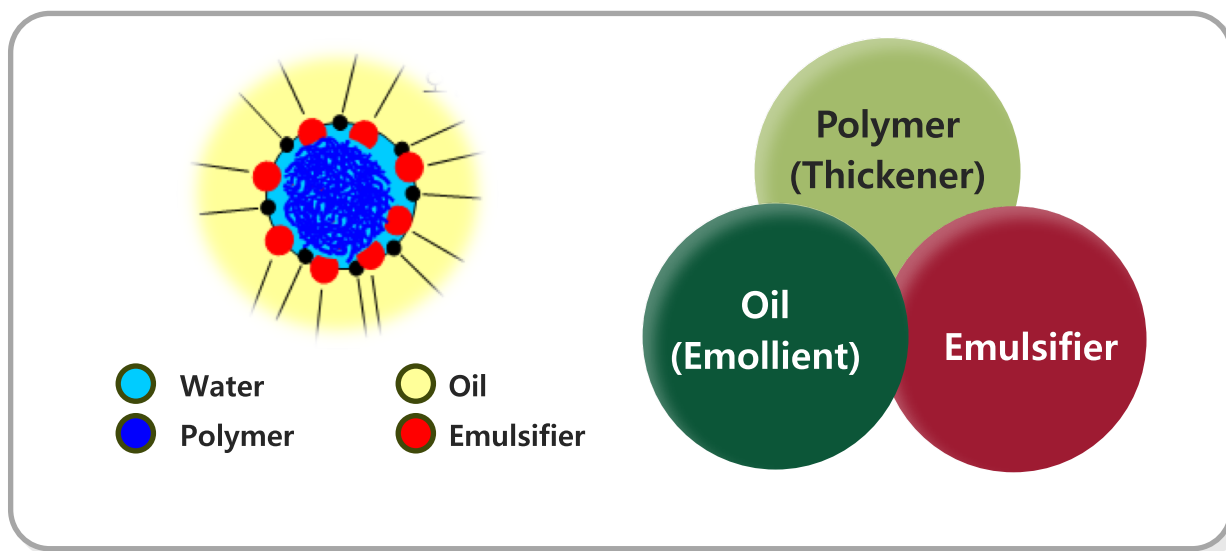


**CONTENTS 4.**

# **Rheology Modifier**

**SAMYANG**

Multicare is convenient emulsifier, rheology modifier, thickener, and acting as a stabilizer. It make gel and cream easily and don't need to neutralize. It acts as a very good pigment dispersant and emulsifies various kinds of oil and pigment.



### ✓ FEATURE

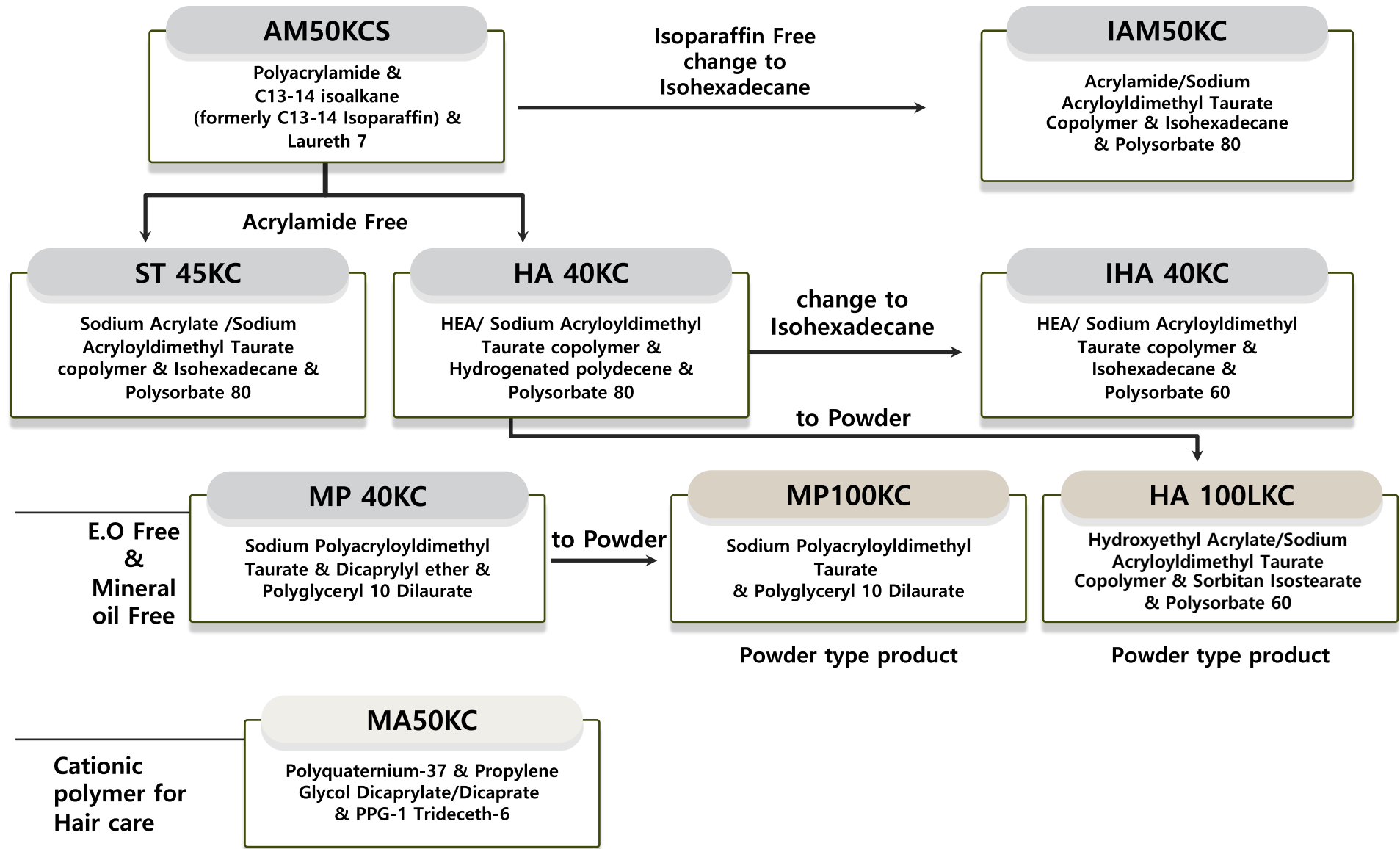
- Multifunctional product – thickener, emulsifier, stabilizer
- Wide pH of use & High salt efficiency
- Manufacturing flexibility - **Cold & Hot process**
- Excellent texturizer with different sensory profiles

### ✓ APPLICATION

- **Facial lotion, cream**
- Body care
- Cleansing lotion & gel
- **Mask pack**

## 4. Rheology Modifier - Multicare Series

20/30





## 4. Rheology Modifier - Multicare Series

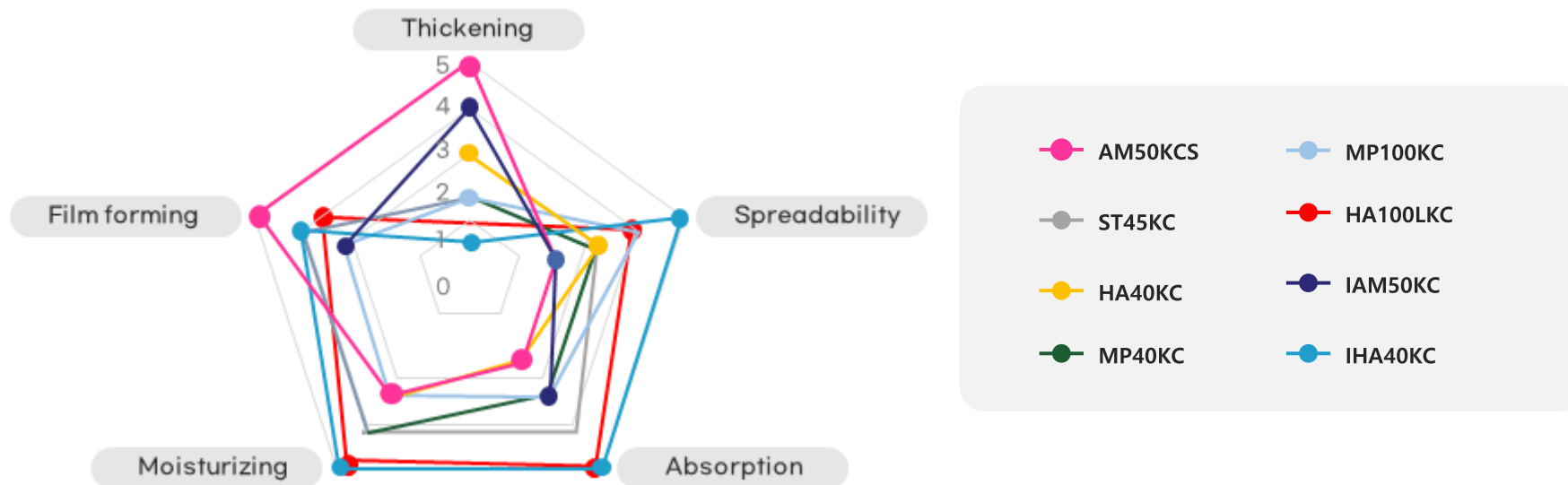
21/30

Product	Appearance	Neat Viscosity	Viscosity	pH	Salt Viscosity
AM50KCS	Fluid emulsion	1.5K-4.5K	65K-90K (2% sol.)	5.5-7.0 (2% sol.)	-
IAM50KC	Fluid emulsion	1.5K-5.0K	60K-85K (2% sol.)	5.0-7.0 (2% sol.)	-
ST45KC	Fluid emulsion	1.5K-4.5K	55K-80K (2% sol.)	5.0-7.0 (2% sol.)	-
HA40KC	Fluid emulsion	3.0K-7.0K	90K-150K (3% sol.)	5.0-7.0 (3% sol.)	-
IHA40KC	Fluid emulsion	1.0K-5.0K	90K-130K (3% sol.)	5.0-7.0 (3% sol.)	4K-12K (3% sol.)
HA100LKC	Powder	-	75K-120K (1.5% sol.)	4.0-5.5 (1.5% sol.)	10K-25K (1.5% sol.)
MP40KC	Fluid emulsion	1.5K-5.0K	65K-90K (2% sol.)	5.5-7.0 (2% sol.)	15K-30K (2% sol.)
MP100KC	Powder	-	50K-100K (1% sol.)	5.0-7.0 (1% sol.)	-
MA50KC	White liquid	0.3-2.0K	30K-45K (1% sol.)	4.0-6.0 (1% sol.)	-

## 4. Rheology Modifier - Multicare Series

22/30

Select the polymer based on its sensory profile



No.	KCI	Thickening	Spreadability	Absorption	Moisturizing	Film forming	Feature
1	AM50KCS	5	2	2	3	5	soft, rich
2	ST45KC	3	3	4	4	4	light, soft
3	HA40KC	3	3	2	3	4	light, fresh
4	MP40KC	2	3	3	4	4	soft, smooth
5	MP100KC	2	4	3	3	3	soft, smooth(powder)
6	HA100LKC	1	4	5	5	3	super light, fresh(powder)
7	IAM50KC	4	2	3	3	3	soft, rich
8	IHA40KC	1	5	5	5	4	super light, fresh, soft

Brookfield RVT , 5rpm, spindle no 3~6, Water: qsp 100%

**CONTENTS 5.**

**Emollient**

**SAMYANG**

### Summary

- A product made through the ester bond between fatty alcohol and fatty acid.
- Appearance : Transparent, odorless Oil

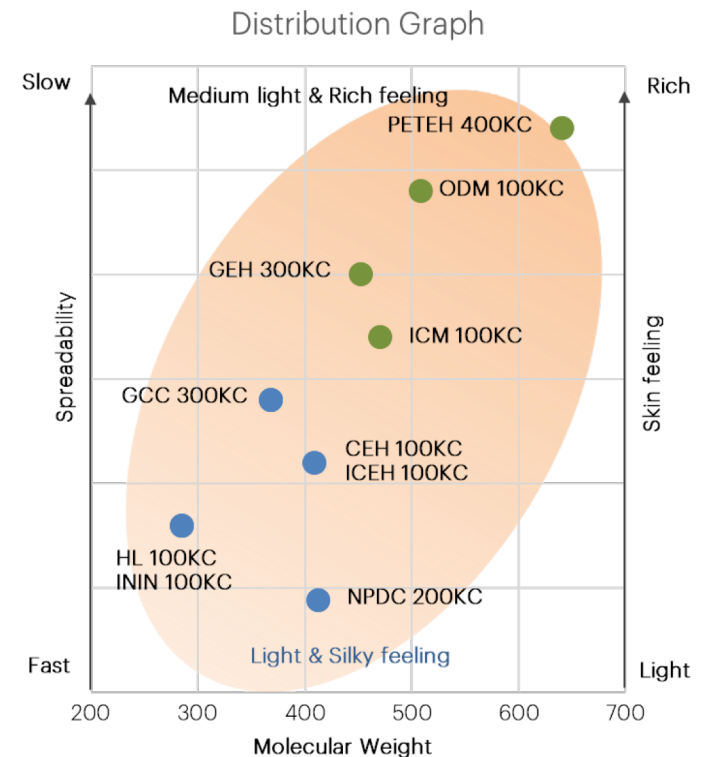
**Recommended Dosage: 1.0-10.0%**

### ✓ FEATURE

- Soften the skin and prevent its water loss from the outer layer of skin by covering it with a protective film
- Most emollients can show good spreadability on the skin
- Provide a silky, smooth and non-greasy feel to the skin
- Not hazardous and non-irritant

### ✓ APPLICATION

- Cream, Milk lotions
- Lipsticks, Sunscreens
- Hair treatments
- Oil based facial cleansers



## 5. Emollient - Fatty acid Ester

25/30

Product	INCI Name	Vegetable Origin		Refractive Index	Specific gravity (20°C)	Viscosity (mPa.s, 25°C)	Application
		Fatty Acid	Fatty Alcohol				
<b>CEH 100KC</b>	Cetyl Ethylhexanoate	X	O	1.444	0.855	13	skin cream, cleaning oil
<b>GCC 300KC</b>	Caprylic/Capric Triglyceride	O	O	1.45	0.945	25	Facial Moisturizer, Sunscreen Eye-cream, cleanser
<b>GEH 300KC</b>	Triethylhexanoin	X	O	1.444	0.948	34	Foundation, Lip gloss, Sunscreen
<b>HL 100KC</b>	Hexyl Laurate	O	O	1.439	0.856	6	Facial Moisturizer, Sunscreen Concealer, Anti-aging
<b>ININ 100KC</b>	Isononyl Isononanoate	X	X	1.435	0.852	6	Eye shadow, Lipstick, Blush, Sunscreen, Concealer
<b>ICEH 100KC</b>	Isocetyl Ethylhexanoate (Hexyldecyl Ethylhexanoate)	X	O	1.444	0.856	11	Facial Moisturizer, Eye-cream
<b>ICM 100KC</b>	Isocetyl Myristate	O	O	1.452	0.855	21	Foundation
<b>ODM 100KC</b>	Octyldodecyl Myristate	O	O	1.453	0.856	28	Body lotion, foundation, Sunscreen, Facial moisturizer
<b>NPDC 200KC</b>	Neopentyl Glycol Dicaprate	O	X	1.447	0.906	6	Facial Moisturizer, lipsticks Eye-cream, cleanser
<b>PETEH 400KC</b>	Pentaerythrityl Tetraethylhexanoate	X	X	1.45	0.961	109	Face and neck preparation, Night skin care, Eye cream, lipsticks

**CONTENTS 6.**

# **Emulsifier**

**SAMYANG**

### Summary

- A product made through the ester bond between polyglyceryl and fatty acid.
- Appearance : Viscous Oil

**Recommended Dosage: 1.0-10.0%**

### ✓ FEATURE

- Natural sourced raw material for Green customers
- W/O, O/W emulsifier or co-emulsifier according to HLB
- **PEG-Free emulsifiers**
- **Bio-degradable**
- Thickening effect
- Mild moisturizer

### ✓ APPLICATION

- Skin care, Facial Mask
- Lip Make-up
- Cleansing oil

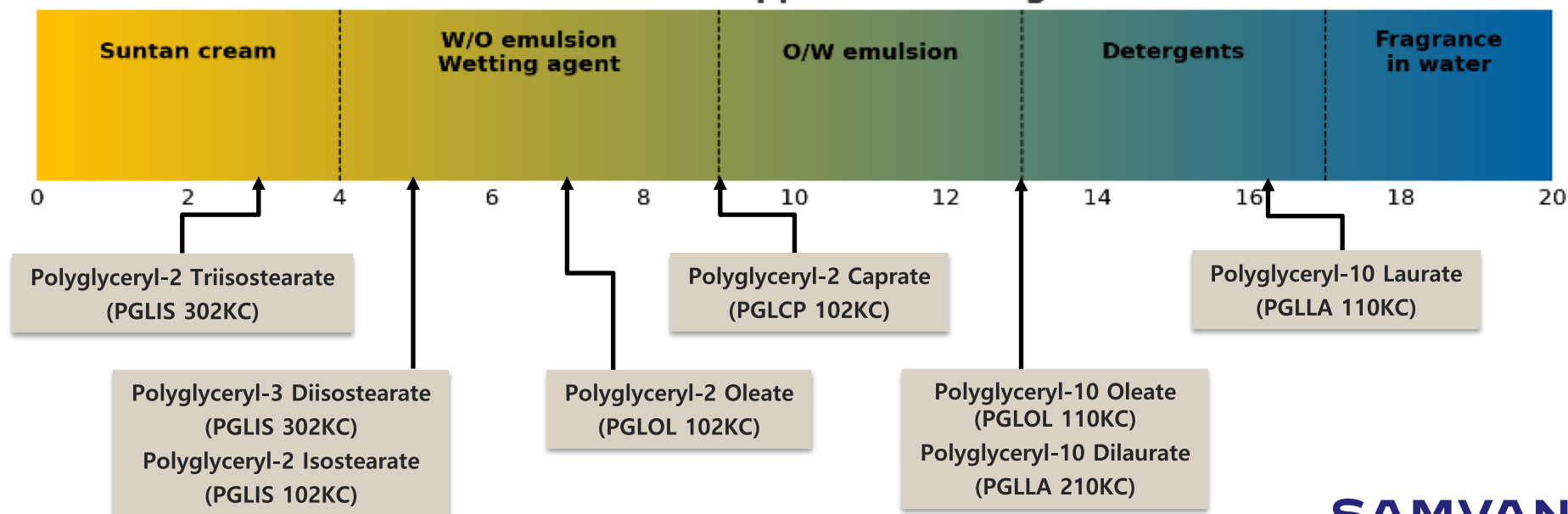


## 6. Polyglyceryl Ester

28/30

Product Name	INCI Name	Appearance	viscosity	HLB	Method of use
PGLIS 302KC	Polyglyceryl-2 Triisostearate	A light yellow to yellow viscous liquid	Low	2 – 4	Generally, W/O  Low-HLB = in oil phase
PGLIS 203KC	Polyglyceryl-3 Diisostearate	A light yellow to yellow viscous liquid	Low	4 – 6	
PGLIS 102KC	Polyglyceryl-2 Isostearate	A light yellow to yellow viscous liquid	Low	4 - 6	
PGLOL 102KC	Polyglyceryl-2 Oleate	A light yellow to yellow viscous liquid	Low	5 – 7	
PGLCP 102KC	Polyglyceryl-2 Caprate	Colorless, viscous liquid	Low	8 - 10	Generally, O/W  High-HLB = in water phase
PGLOL 110KC	Polyglyceryl-10 Oleate	A pale yellowish sticky liquid	High	12 - 14	
PGLLA 210KC	Polyglyceryl-10 Dilaurate	A pale yellowish sticky liquid	High	12 - 14	
PGLLA 110KC	Polyglyceryl-10 Laurate	A pale yellowish sticky liquid	High	15 - 17	Generally, O/W Or Solubilizer

**HLB Scale with Application Categories**





# Q & A



**SAMYANG**

**THANK YOU**

**SAMYANG**

**SAMYANG**