FVC-90(Viscocare-HA90F)

Multifunctional thickener

that improves emulsification and stability of finished products

Product Descriptions

FVC-90(Viscocare-HA90F)

INCI/CTFA Name	Hydroxyethyl acrylate / Sodium acryloyl dimethyl taurate copolymer
Appearance	White Powder
Solid Content	90% min.
pH @ 1.5% aqueous	5.0~6.5
Viscosity @ 1.5% aqueous	70,000 ~ 100,000 mPas
Shelf life	36 Months
Recommended usage	0.2~3%
China regulatory	Listed in IECIC, NMPA registered

Product Line-up

	No Oil	No Oil	C13~14 Isoparaffin (Light)	Isohexadecane (Light)	Polyisobutene (Light)	Hydrogenated Polydecene (Smooth)	Squalane (Smooth)
Acrylate (Fresh)	FVC-90 (Viscocare-HA50F)	Coming up E.O. Free FVC-90		FVC-E50 (Viscocare-EG50F)	Coming up E.O. Free FVC-E50		Coming up Mineral Oil Free FVC-N40
AMPS (Soft)							
Polyacrylate-13 (Rich)						FVC-400 (Viscocare-P400F)	
Acrylamide (Rich)			FVC-P50 (Viscocare-PA50F)				

Contents

Product Features

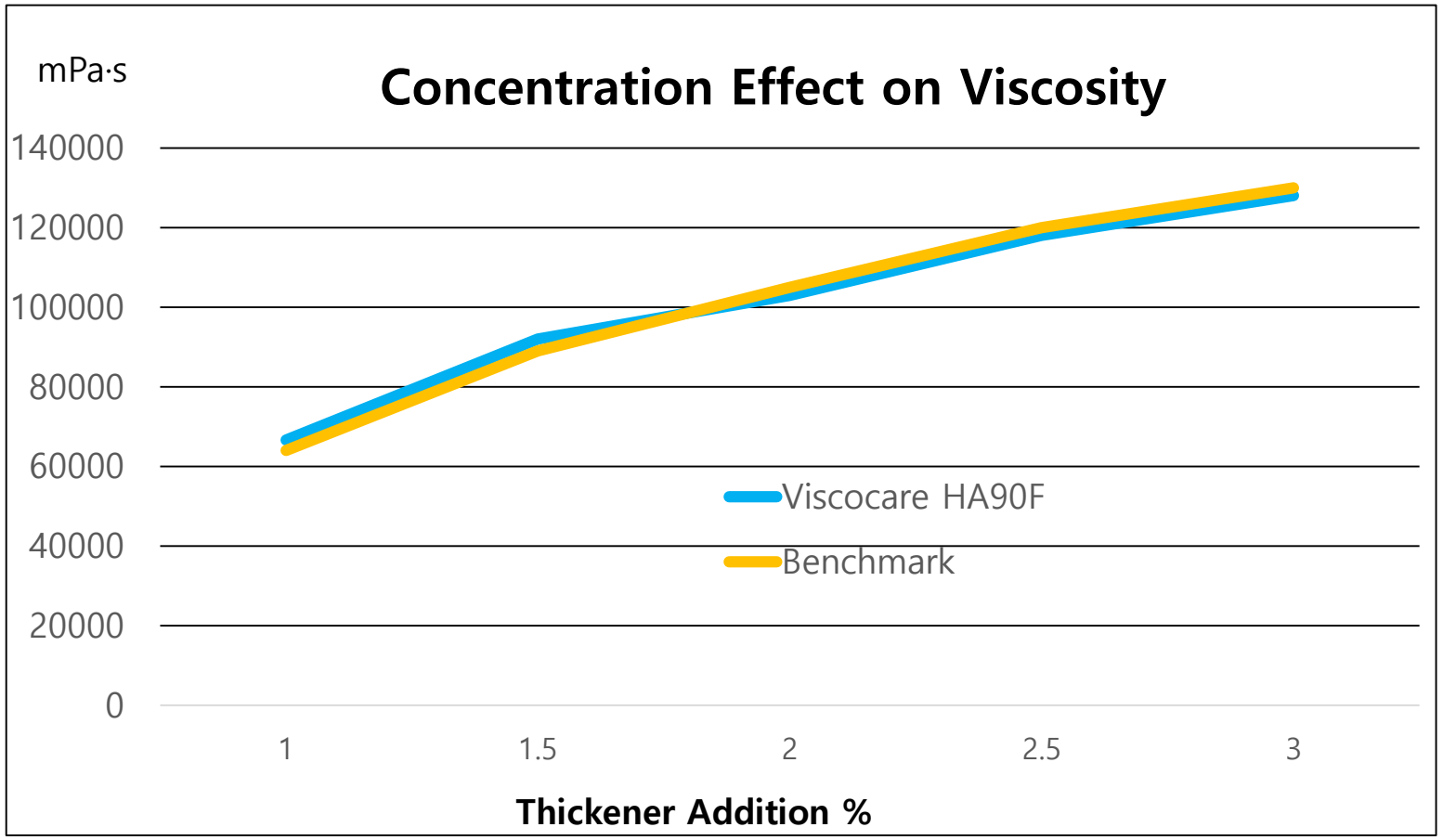
- It can be used on water or oil in the form of a powder that is neutralized in advance and easy to use, and can be applicable at room temperature production
- Viscosity can be formed under conditions of pH 3 – 11.
- Excellent thickener, stabilizer, emulsifier even at low usage
- Emulsification capacity for various oils
- Stable structure provides excellent incremental effects in DHA, AHA, H2O2, Solvent, etc
- It is possible to form a formulation that is easy to pick-up with a smooth use.
- Residual solvent free (Benzene, n-butanol, Ethyl Acetate, Butyl Acetate)

Emulsification Power

	*MCT 15%	JOJOBA OIL 15%	*LP 15%	*DC 245 10%	*CEH 15%
Cream-Gel (< 100,000 m.Pas) FVC-90(Viscocare-HA90F) (2%)	Stable	Stable	Stable	Stable	Stable
Cream-Gel (< 20,000 m.Pas) FVC-90(Viscocare-HA90F) (0.6%)	Stable	Stable	Stable	Stable	Stable
Remark	Stability measurement conditions: 3-month, 45°c Composition of formula to measure the stability : Thickener / Oil / Water				

1. MCT = Caprylic / Capric Triglyceride, 2. LP = Liquid Paraffin 3. DC 245 = Cyclopentasiloxane 4. CEH = Cetyl Ethyl Hexanoate

Thickening Capability Per concentration Change



➢ **Objectives**

- How much it can increase viscosity at diverse concentration of FVC-90(Viscocare-HA90F) in DI water and it compares with benchmark.

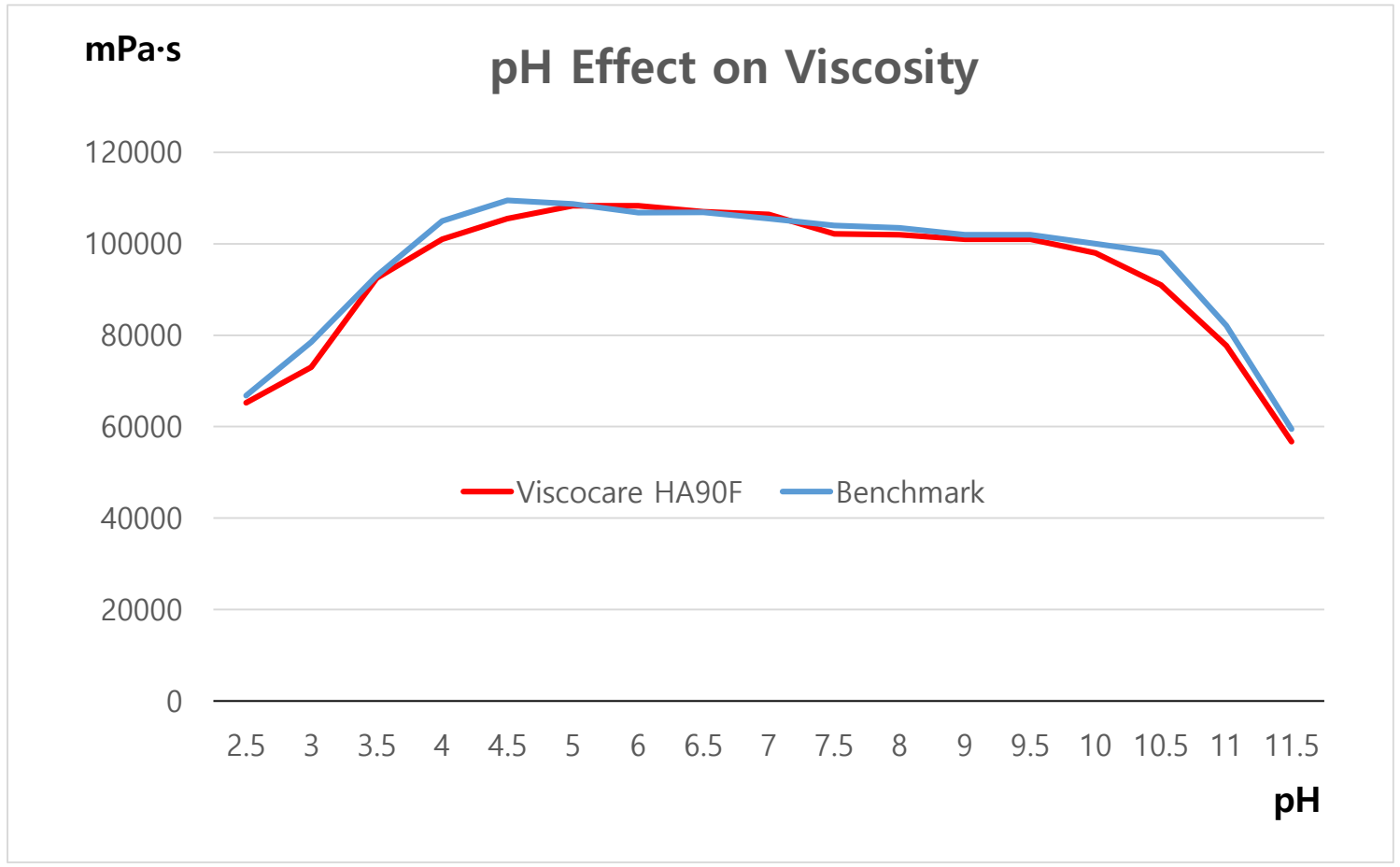
➢ **Methods**

- Prepare solution of 1.0 – 3.0 % concentration of FVC-90(Viscocare HA90F).
- Using automatic agitation in low concentration
- In high concentration, using manual agitation
- RVT Viscometer

➢ **Result**

- Viscosity profile of FVC-90(Viscocare-HA90F) shows its capability to increase the viscosity when its concentration in DI water versus concentration is very similar to the benchmark one

Thickening capability over a wide pH range

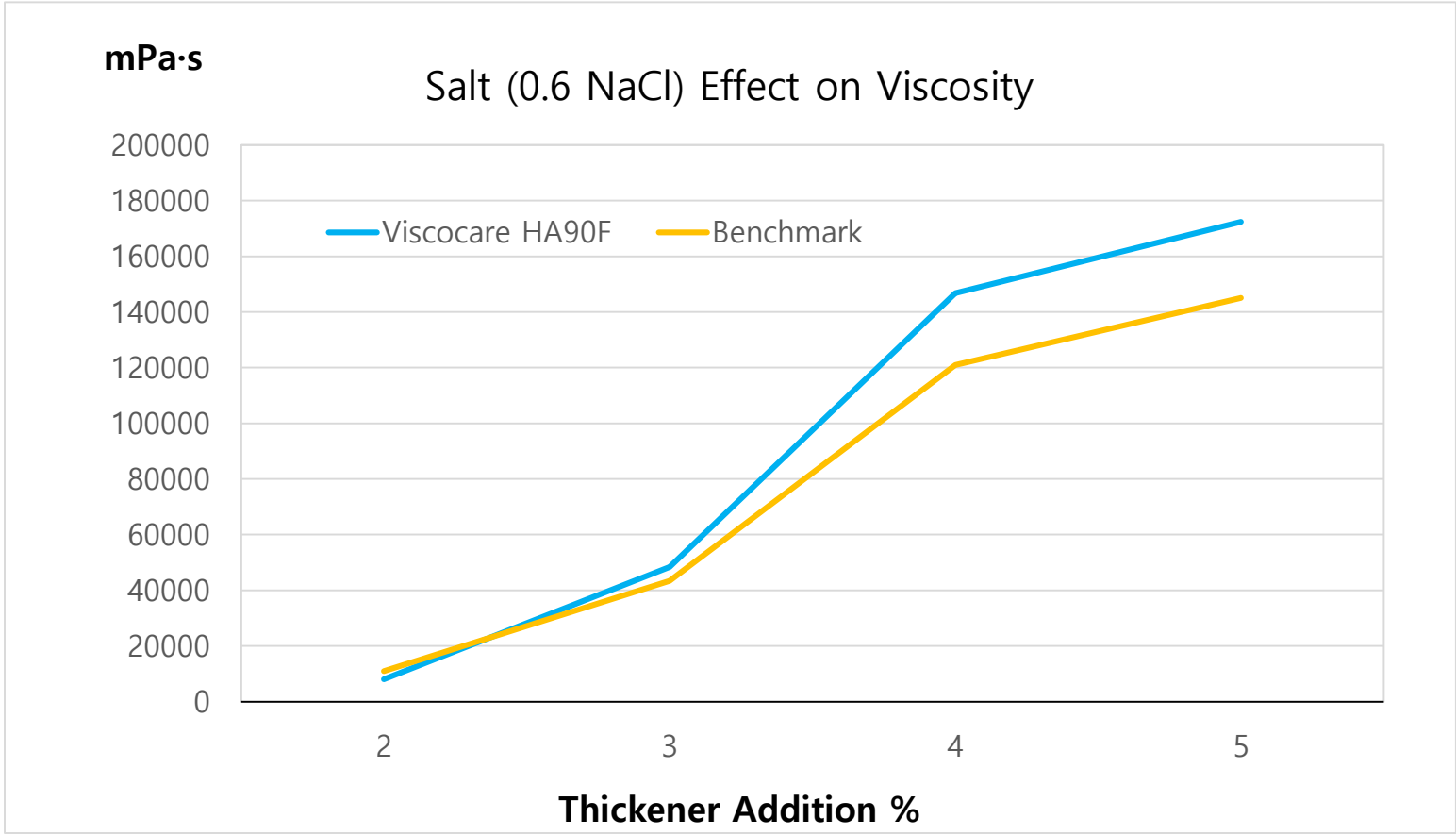


- **Objectives**
  - How much it can increase viscosity in pH conditions from acid to base. It also compares with benchmark.

- **Methods**
  - Prepare 2% FVC-90(Vicoscare-HA90F) & benchmark in DI Water, respectively.
  - Add Lactic acid or 10% NaOH solution to make a designed pH in 2% FVC-90(Vicoscare-HA90F) solution and benchmark one, respectively.

- **Result**
  - Viscosity profile is similar to a benchmark's one. We confirm 2% FVC-90(Vicoscare-HA90F) solution in DI water is generating the viscosity between pH 3 and 10

Thickening capability in presence of electrolytes



➢ **Objectives**

- How much it is resisting to electrolyte when it generate viscosity.

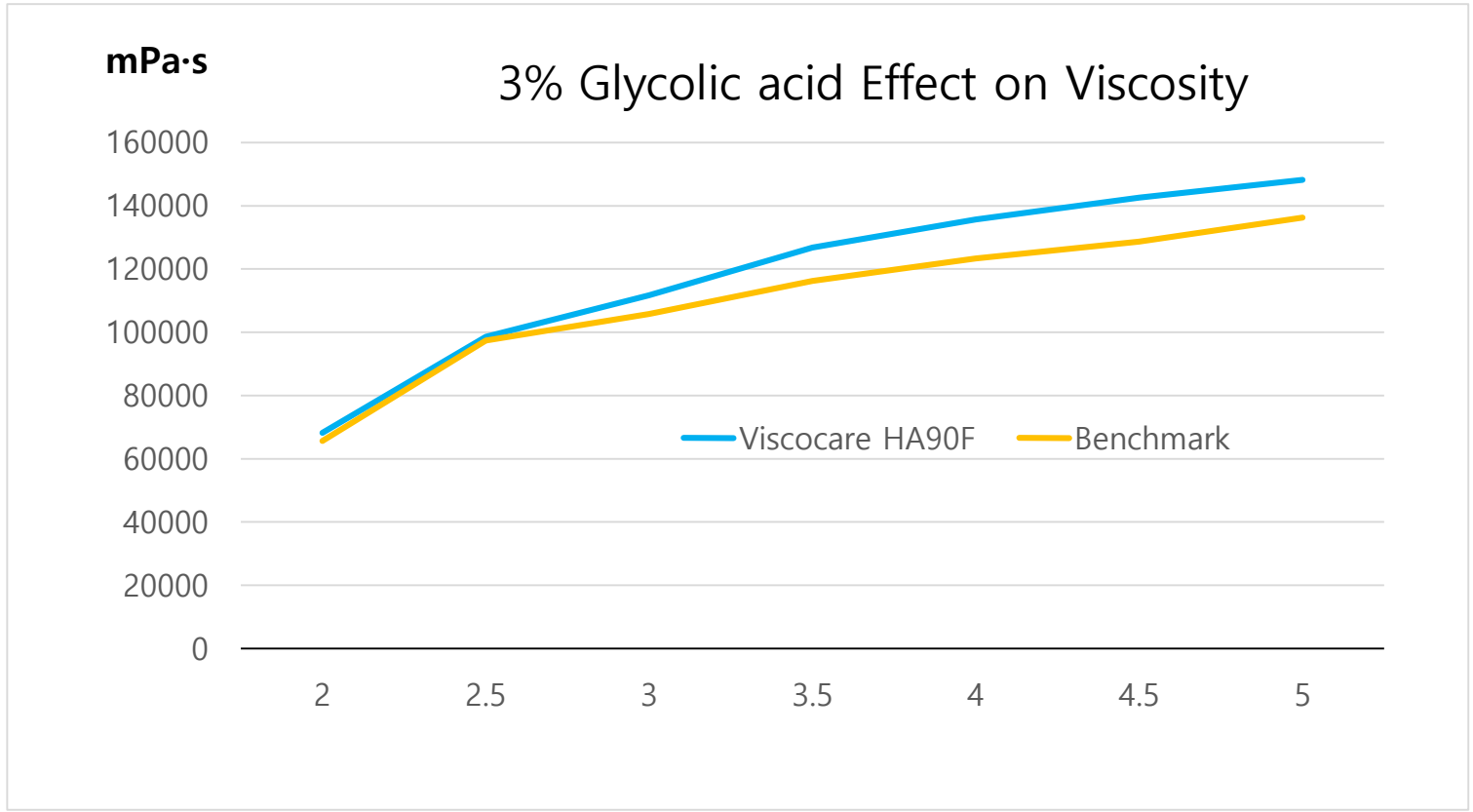
➢ **Methods**

- Prepare solution of FVC-90(Viscocare-HA90F), NaCl with DI water.
- For each sample increase FVC-90(Viscocare-HA90F) by 1 % at 2% to 5%. NaCl remains at 0.6% for each sample. Mix DI water to fulfill 100%.
- Measure the viscosity.

➢ **Result**

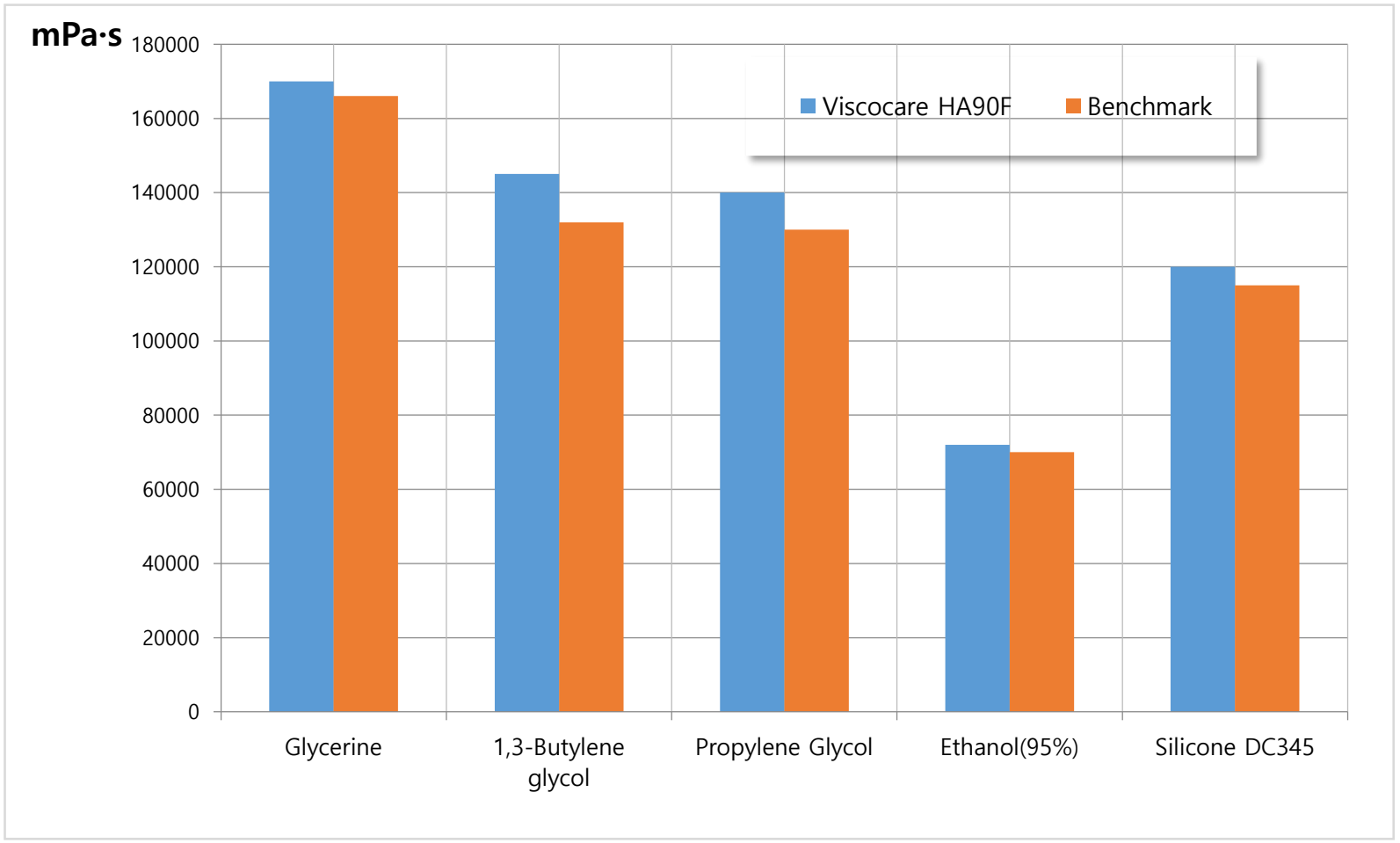
- Viscosity profile shows similar pattern. When FVC-90(Viscocare-HA90F) concentration is more than 3%, its viscosity is higher than that by benchmark.

Thickening capability in presence of Glycolic acid



- **Objectives**
  - How much it is resisting to glycolic acid when it generate viscosity.
- **Methods**
  - Prepare solution of FVC-90(Viscocare-HA90F), Glycolic acid with DI water.
  - For each sample increase FVC-90(Viscocare-HA90F), by 0.5 % at 2% to 5%. Glycolic acid remains at 3 % for each sample. Mix DI water to fulfill 100%.
  - Mix well
  - Measure the viscosity.
- **Result**
  - Viscosity profile is better than a benchmark's one. When concentration of FVC-90(Viscocare-HA90F), is more than 3%, its viscosity is higher than that by benchmark. Its pattern is similar to benchmark.

Compatibility with Solvents



➢ **Objectives**

- How it works to generate viscosity with diverse solvents in use personal care/ cosmetics.

➢ **Methods**

- Prepare 2% FVC-90(Vicoscare-HA90F) solution, 48% DI Water and 50 % solvent of Glycerine, 1,3-Butylene glycol, ethanol, propylene glycol, respectively.
- Prepare 2% FVC-90(Vicoscare-HA90F) solution, 88% DI Water and 10 % Silicone DC345.
- Measure the viscosity to use Brookfield RVT , 5rpm, spindle no 6

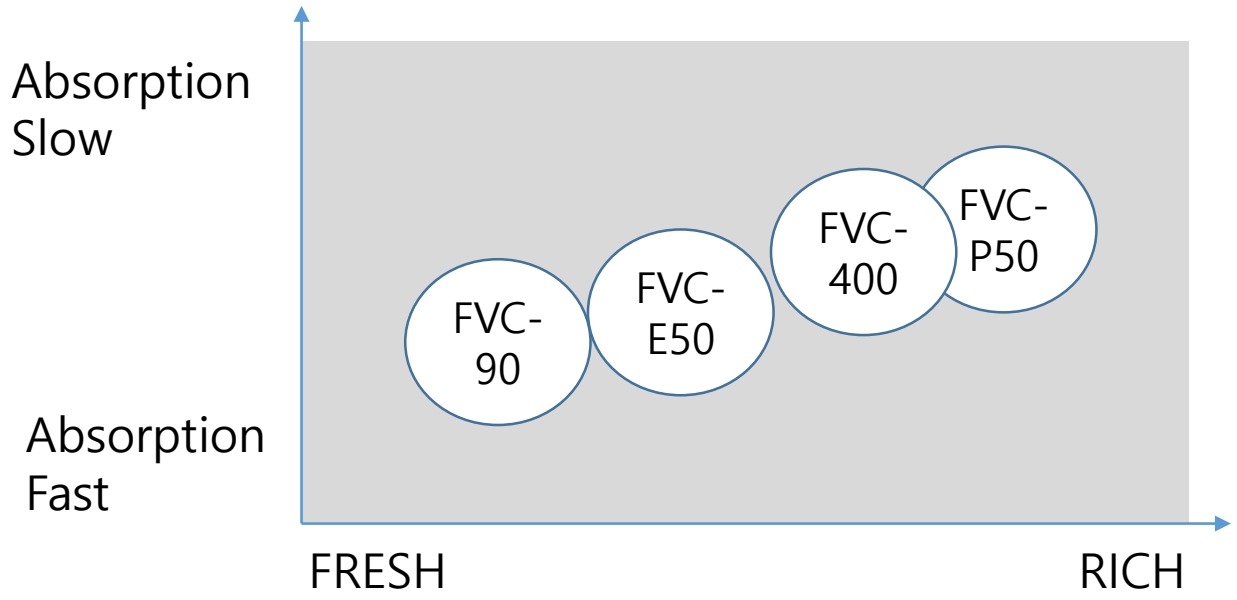
➢ **Result**

- Viscosity is similar to a benchmark's one.

Sensory

FVC-90(Viscocare-HA90F) delivers following sensory.

- A soft texture
- Even if the viscosity is high, it's easy to pick-up
- Refreshing and smooth feel
- Fast absorption for non-sticky use



Formulation Tips

Transparent (Availability) Products – Toner, Gel, Sheet Mask

- No use of additional oil.
- Solubilizer (Tween20, PG10-Laurate, Caprylic Capric Glucose) uses less than 1%.
- Need to add moisturizer (Glycerine, BG, Propanediol).

Cream gel (translucent) products – Moisturizing cream, sleeping pack

- Can be added to oil or water phase.
- Adding to the oil phase makes it easy to disperse the thickener for viscosity generation.

Emulsified (milky) products – lotion, cream

- It is recommended to add the polymer after the emulsification stage and before adding the fragrance and preservatives.
- If added before emulsification, it is recommended to be added to oil phase to facilitate production.

Make-up products - tone-up cream, base makeup

- It is recommended to put the thickener in the last stage of emulsification.
- Inorganic pigment recommends the use of products dispersed in oil or silicon (O/W formulation)

Thank you for your attention

If you have further questions or requests, please contact following

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