FVC-400(Viscocare-P400F)

Emulsion Type Thickener with Emulsification and Stabilization power

Product Description

FVC-400(Viscocare-P400F)

INCI/CTFA Name	Polyacrylate-13 & Polyisobutene & Polysorbate-20
Appearance	White Emulsion Liquid
Solid Content	60% Min.
pH 2%	5.0~6.5
Viscosity 2%	80,000 ~ 120,000 mPas
Viscosity2%+0.1NaCl	10,000 ~ 30,000 mPas
Shelf life	24 Month
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

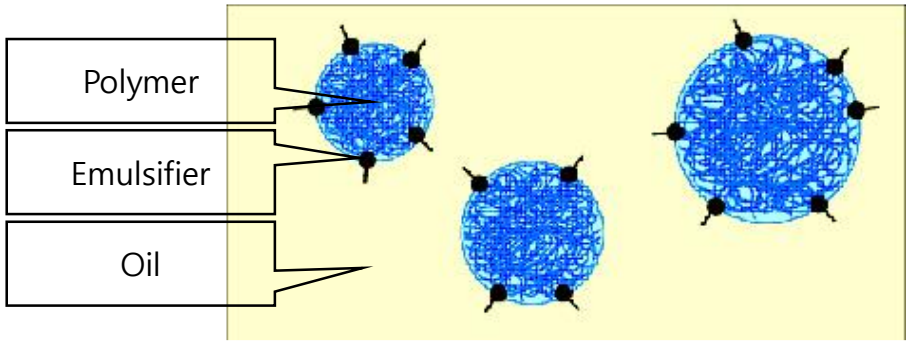
Product Features

- Emulsion type thickener that does not require neutralization, is easy to disperse, and can self phase inversion-able.
- Excellent resistance to electrolytes, capable of forming viscosity under a wide range of pH (3–11).
- Excellent thickener, stabilizer, emulsifier at low usage
- Emuilsification capacity for a variety of oils
- Stable structure provides excellent thickening 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)

Self Phase Inversion-able Emulsion Thickener

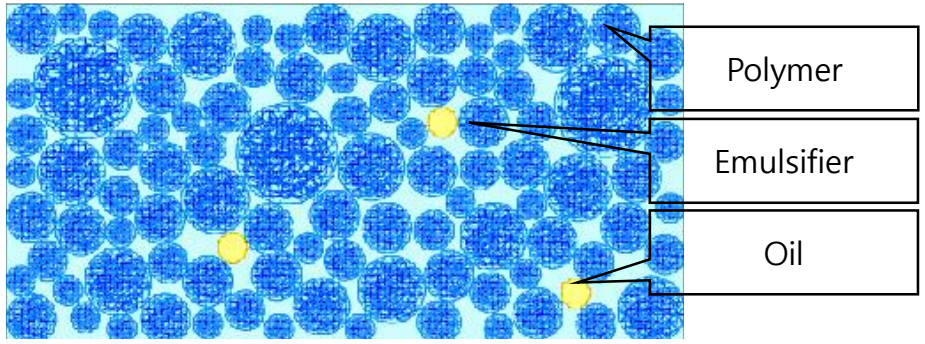
➢Convenient to use compared to traditional thickener

- A thickener in the form of a W/O emulsion that does not require neutralization and is easy to disperse in water
- Easy to store in humid places.
- Residual solvent free



W/O Emulsion
FVC-400(Viscocare-P400F)

Add into
Water Phase
(Phase Inversion)



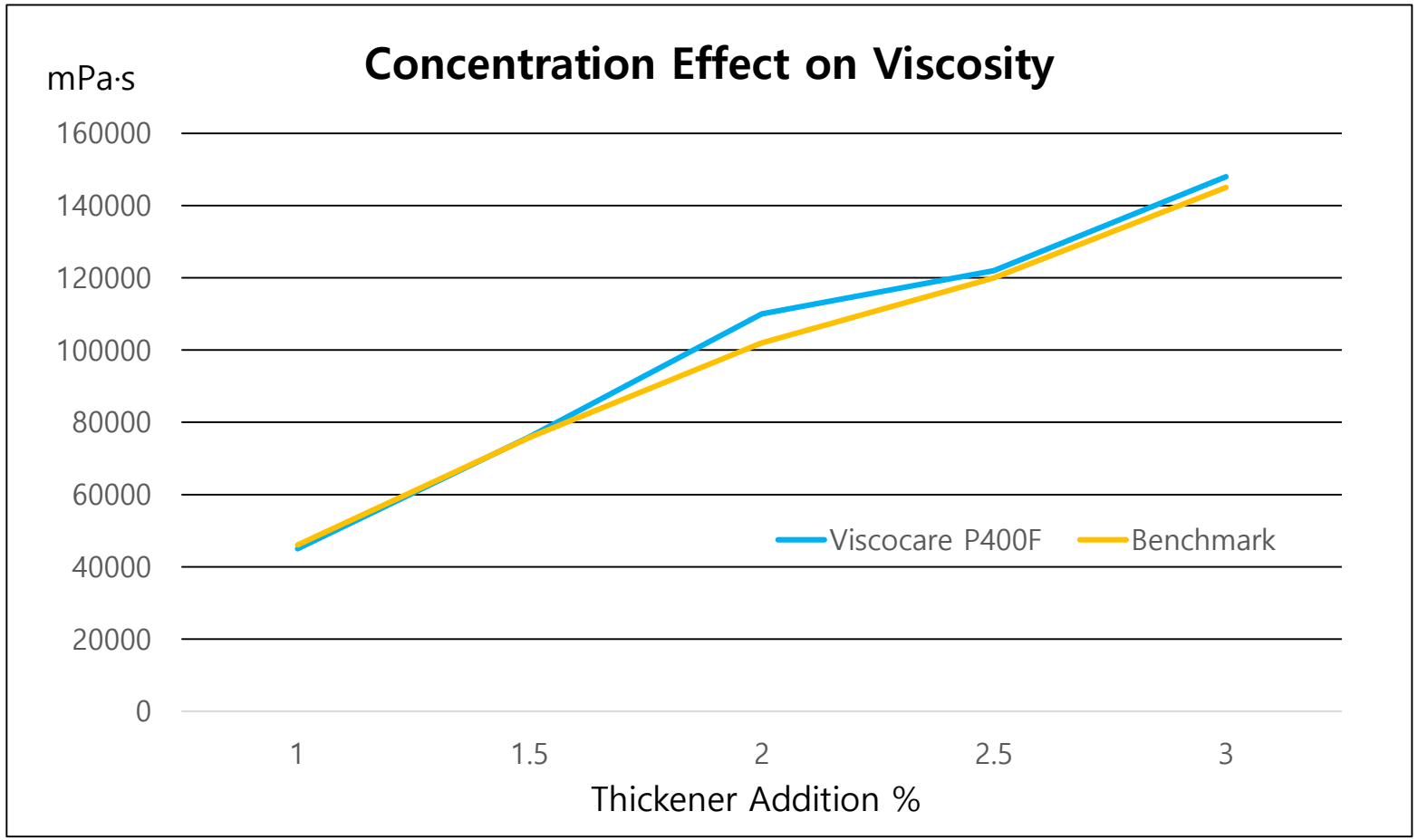
O/W Emulsion
Water + FVC-400(Viscocare-P400F)

Emulsification Power

	*MCT 15%	JOJOBA OIL 15%	*LP 15%	*DC 245 10%	*CEH 15%
Cream-gel (Thickener 2%) Viscosity (LVT No. 6, mPa.s)	>100, 000	>100, 000	>100, 000	>100, 000	>100, 000
Stability	Stable	Stable	Stable	Stable	Stable
Remark	Stability measurement conditions: 3-month, 45°c Composition of formula to measure the stability : Thickener (2%)/ Oil (15%) / Water (q.s.)				

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 in DI water and it compares with benchmark.

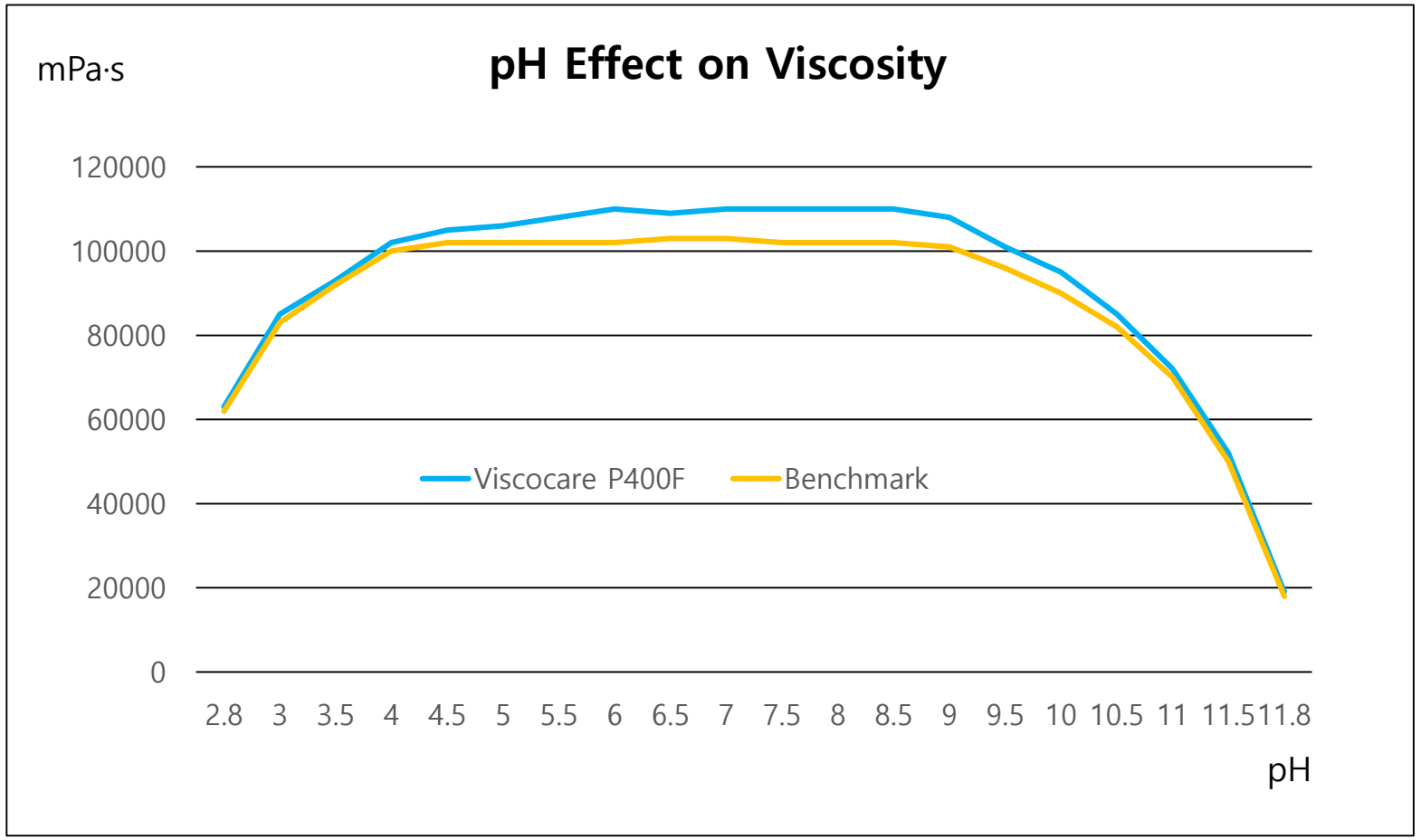
➢ **Methods**

- Prepare solution of 1.0 – 3.0 % concentration of FVC-400(Viscocare-P400F) and benchmark, respectively.
- Using automatic agitation in low concentration
- In high concentration, using manual agitation
- RVT Viscometer

➢ **Result**

- Viscosity profile of FVC-400(Viscocare-P400F)shows its capability to increase the viscosity. Its result 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.

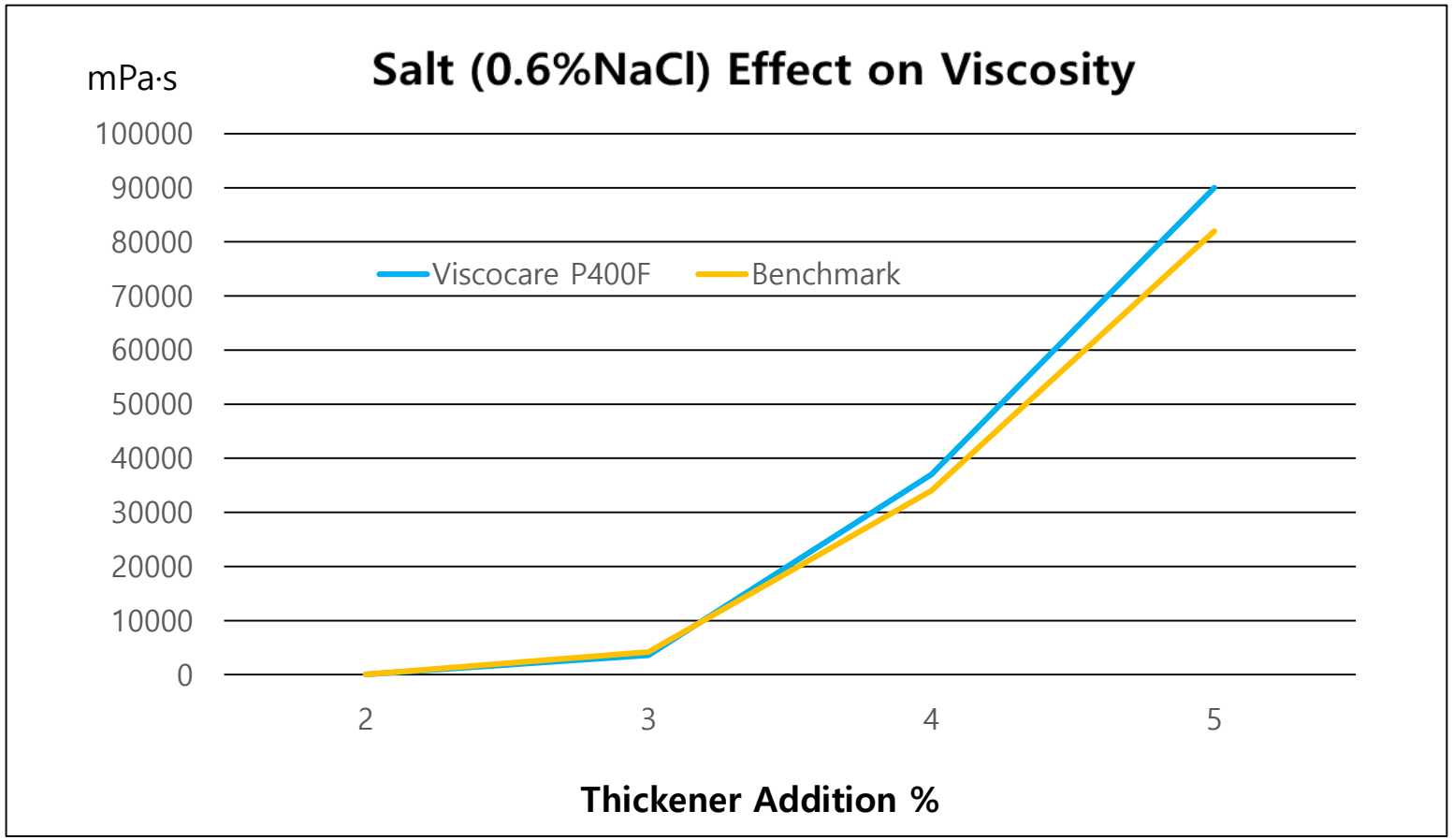
➢ **Methods**

- Prepare 2% FVC-400(Viscocare-P400F) and benchmark solution in DI Water, respectively.
- Add Lactic acid or 10% NaOH solution to make a designed pH in 2% FVC-400(Viscocare-P400F) solution and benchmark, respectively
- Measure the viscosity

➢ **Result**

- Viscosity profile is similar to a benchmark's one. We confirm 2% FVC-400(Viscocare-P400F) solution in DI water is generating the viscosity between pH 3.0 and 11.0 and it is similar to the benchmark.

Thickening capability in presence of electrolytes



➢ **Objectives**

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

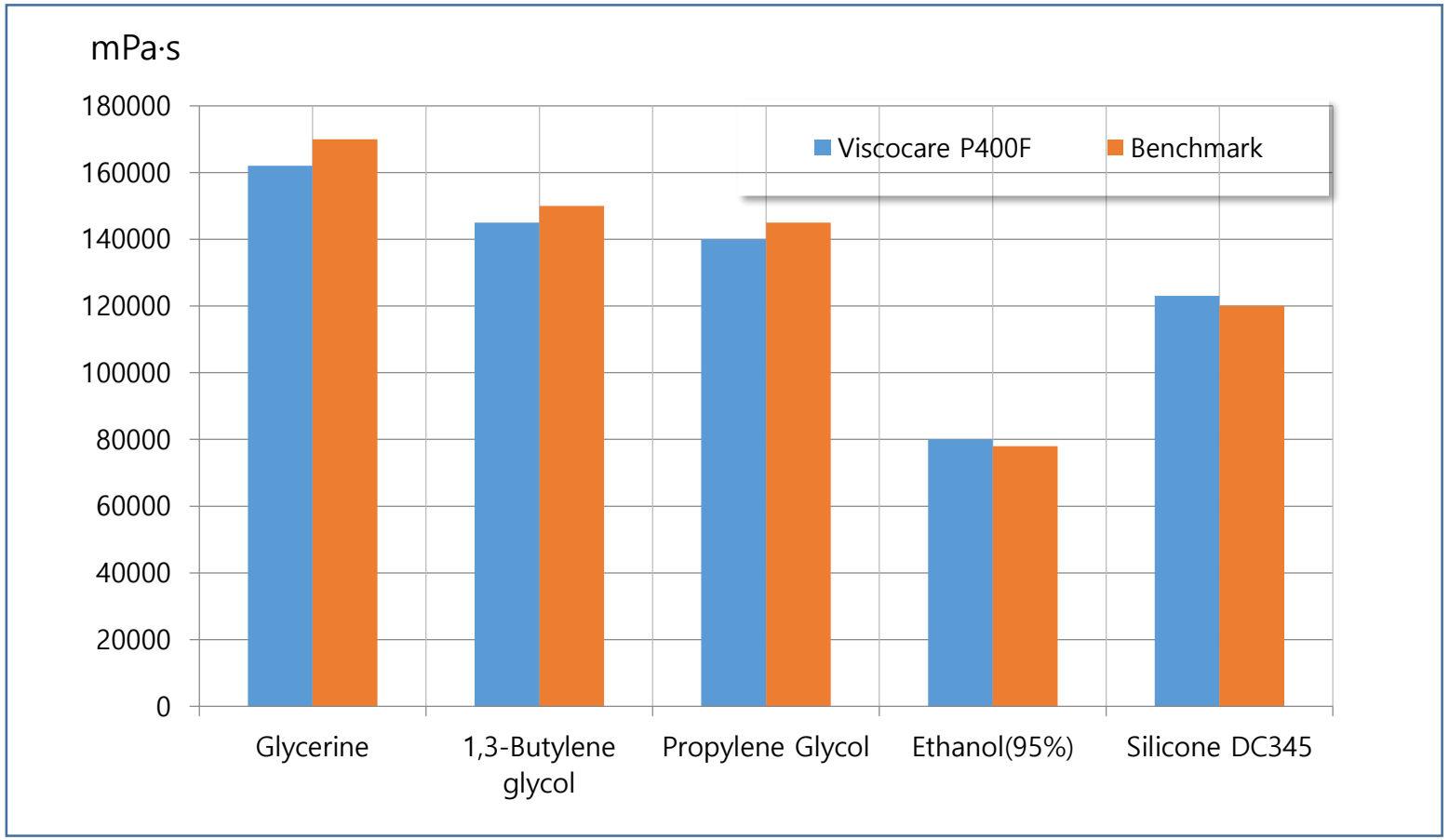
➢ **Methods**

- Prepare solution of FVC-400(Viscocare-P400F), NaCl with DI water. Do it again with benchmark.
- For each sample increase FVC-400(Viscocare-P400F) and benchmark by 1 % at 2% to 5%, respectively. 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-400(Viscocare-P400F) concentration is more than 3%, its viscosity is higher than that by benchmark.

Compatibility with Solvents



➢ **Objectives**

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

➢ **Methods**

- Prepare solution of 2% FVC-400(Viscocare-P400F) & benchmark, 48% DI Water and 50 % solvent of Glycerine, 1,3-Butylene glycol, ethanol, propylene glycol, respectively.
- Prepare solution of 2% FVC-400(Viscocare-P400F) & benchmark, 88% DI Water and 10 % Silicone DC345, respectively.
- Measure the viscosity to use Brookfield RVT , 5rpm, spindle no 6

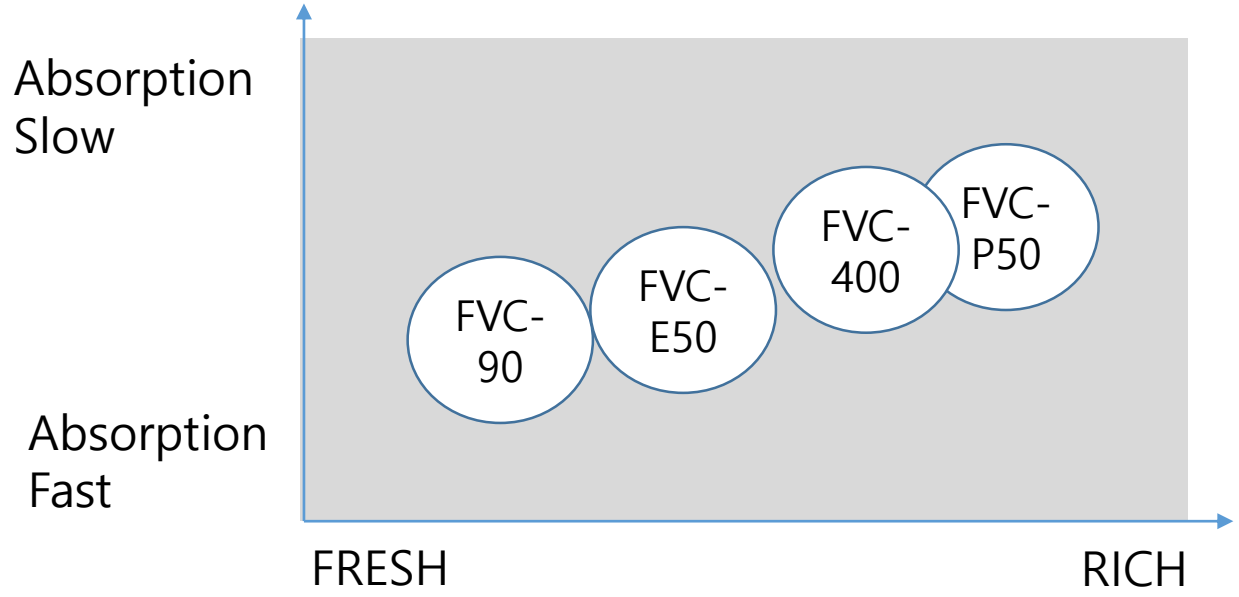
➢ **Result**

- Viscosity is similar to a benchmark's one.

Sensory

FVC-400(Viscocare-P400F) Sensory

- A soft feeling of use
- Ease of pick-up for luxury
- A non-sticky feel to use
- It's absorbed and it's rich and nourishing



Formulation Tips

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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