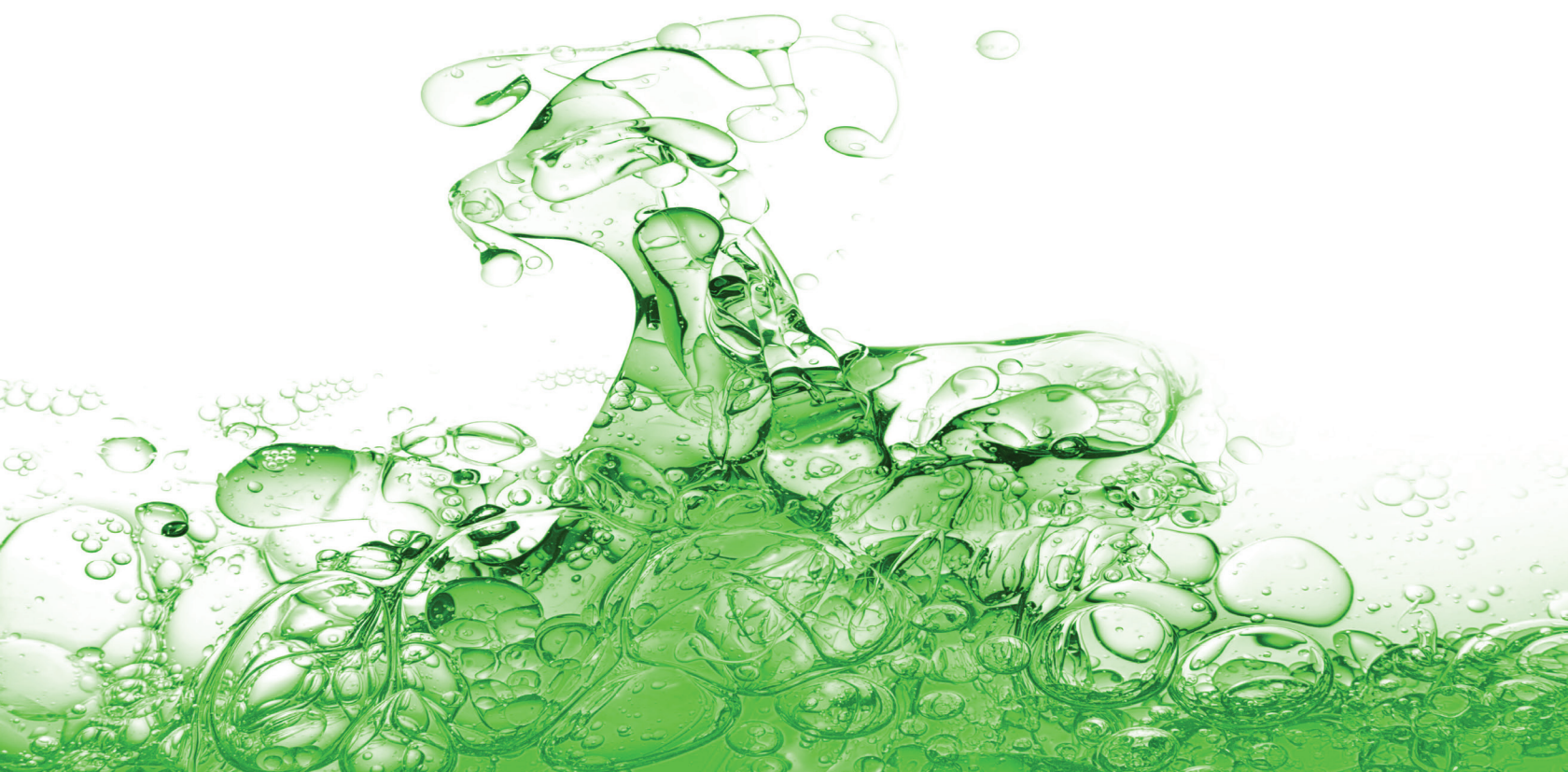


# IntegriGEL O/W 305



Technical Bulletin

# Integrity Ingredients Corporation

“Where **Quality** and **Service** Meet”

IntegriGEL O/W 305



## *About Us...*

Integrity Ingredients Corporation was founded on the belief that our customers deserve two things - high quality raw materials and true customer service.

We offer an extensive line of polymers...

- Highly efficient thickeners/emulsifiers (IntegriGELS), which are available in a variety of formulating options, from broad pH to cationic and anionic.
- Gelling, thickening polymers (Integrity C900 Series and our new easy-to-disperse and electrolyte-resistant C800 Series.
- Conditioning polymers (IntegriQUATS)
- Exfoliating polymers (IntegriEXFOLIANTS)

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## “Where Quality and Service Meet”

### IntegriGEL O/W 305

#### INCI Name: Polyacrylamide (and) C13-14 Isoparaffin (and) Laureth-7

##### Product Description:

IntegriGEL O/W 305 is a thickening and stabilizing agent for emulsions in the form of a pre-neutralized, ready-to-use fluid emulsion. It thickens in a wide range of pH, including extremely acidic and alkaline pH. It emulsifies the oil phase and provides a soft gel-cream texture.

##### Product Characteristics:

IntegriGEL O/W 305 is a ready-to-use liquid form polymer, which swells immediately in water *without neutralization*. Gels and emulsions can be produced *at room temperature*.

Appearance:	Translucent Fluid Emulsion
Odor:	Slightly Acidic / Odorless
Solid Content:	45 - 49%
Viscosity (2% Solution):	60,000 - 90,000 cps
Viscosity (As Supplied):	1,000 - 5,000 cps
pH (2% Solution):	5.0 - 7.0
Residual Acrylamide:	2 ppm Max
Shelf Life:	24 Months

##### Properties:

- **Modifier of Rheology** - IntegriGEL O/W 305 is a thickening agent for aqueous solutions. These solutions are pseudoplastic and non-thixotropic. The gel structure is easily broken down by shear and comes back to its initial value.
- **Effect of Temperature** - Solutions of IntegriGEL O/W 305 do not show significant changes in viscosity and stability at high temperature.
- **Emulsifying Agent** - IntegriGEL O/W 305 allows the formulation of highly stable O/W emulsions, regardless of the oil phase and the HLB value. It can also thicken formulations containing up to 50% of polar solvents. IntegriGEL O/W 305 thickens under a wide range of pH (from 2.0 - 11.0).
- **Stabilizing Agent** - IntegriGEL O/W 305 is an effective ingredient for emulsion stabilization and suspension of solid particles.

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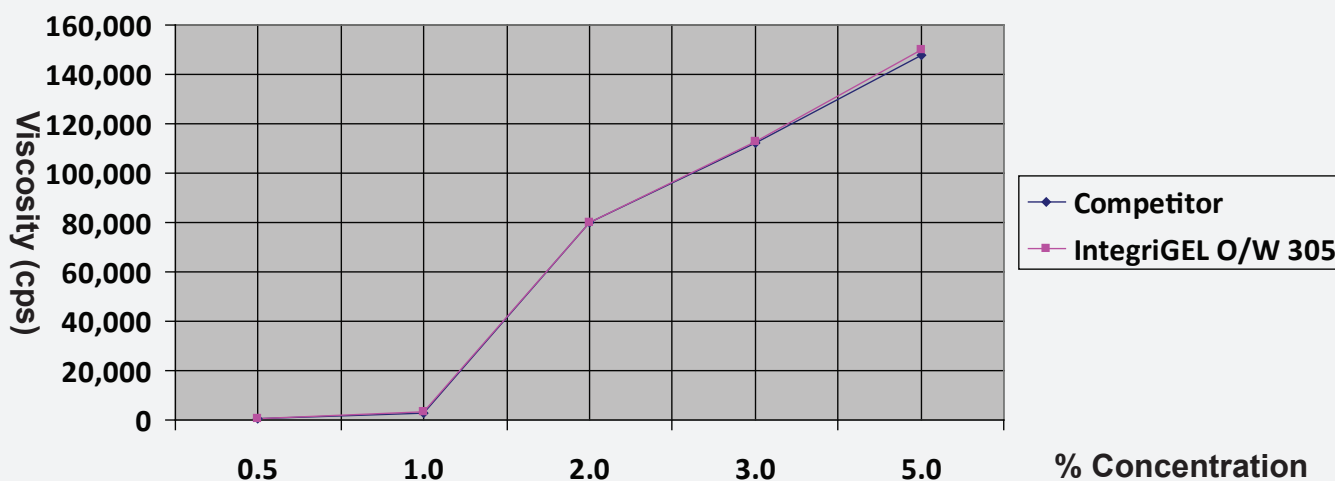
## "Where Quality and Service Meet"

### IntegriGEL O/W 305

#### Specification of IntegriGEL O/W 305 vs. Competitor

Analytical Details	Unit	IntegriGEL O/W 305 Specification	IntegriGEL O/W 305 Example Analysis	Competitor Example Analysis	Remarks
Appearance	n/a	Fluid Emulsion	Conforms	Conforms	
Odor	n/a	Slightly Acrylic/Odorless	Conforms	Conforms	
Solubility	n/a	Dispersible in Water	Conforms	Conforms	
Viscosity as Supplied	cps	1,000 - 5,000	2,700	2,700	RVT Spindle 3 20 rpm
Viscosity at 2%	cps	60,000 - 90,000	80,000	80,000	RVT Spindle 6 5 rpm
Solid Content	%	45 - 49	47.5	48	150° C
Moisture	%		30	30	Karl Fischer
pH at 2% Solution	n/a	5.0 - 7.0	5.76	6.1	
Residual Acrylamide	ppm	2 Max	Conforms	Conforms	

#### Viscosity vs. Concentration (%)



**Test Result:** Obtain similar viscosity vs. concentration as competitor.

Concentration	Competitor	IntegriGEL O/W 305
0.5	400	500
1.0	2,900	3,200
2.0	80,000	80,000
3.0	112,000	113,000
5.0	148,000	150,000

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## "Where Quality and Service Meet"

### IntegriGEL O/W 305

#### Formulation for Viscosity Comparison

Ingredients	Competitor	IntegriGEL O/W 305	Remarks
Thickener	3.0%	3.0%	Polyacrylamide (and) C13-14 Isoparaffin (and) Laureth-7 MP, PP, BP
Preservative	0.6%	0.6%	
Fragrance	1.0%	1.0%	
DI Water	95.4%	95.4%	
Results (Viscosity)	118,000	120,000	Spindle 6, Speed 5

#### Test Summary

- Mixture with common ingredients
- Checked viscosities at room temperature after 10 minutes of mixing

#### Tested Formula

- Thickener = Polyacrylamide (and) C13-14 Isoparaffin (and) Laureth-7
- Preservative = 0.2% each of Methylparaben, Propylparaben and Butylparaben
- Fragrance
- DI Water

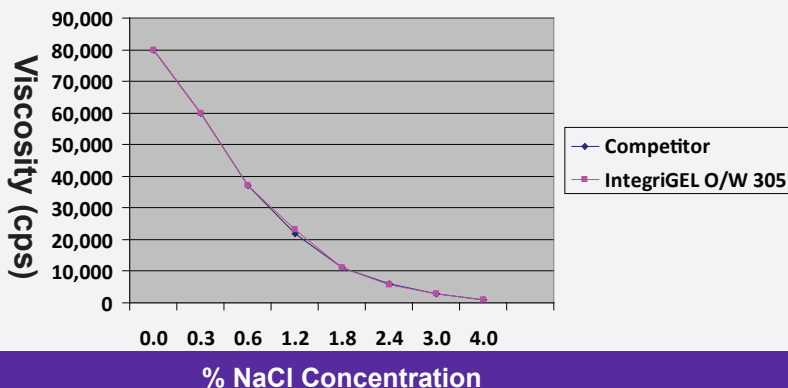
#### Test Result

- Obtain similar viscosity and performance as competitor in same formulation

#### Thickening Effect - Resistance vs. Electrolyte (NaCl)

##### Test Summary

- For testing resistance to electrolyte (NaCl)
- Add NaCl (10%) to the 2% solution and measure change in viscosity



##### Test Result

- Decreasing trend of viscosity is similar to competitor
- 2% solution RVT Spindle #6 speed 5 rpm

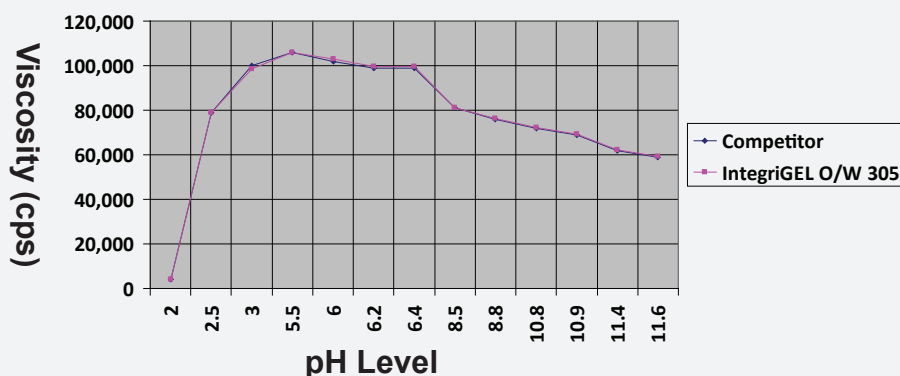
NaCl Concentration	Competitor	IntegriGEL O/W 305
n/a	80,000	80,000
0.3	60,000	60,000
0.6	37,000	37,000
1.2	22,000	23,000
1.8	11,000	11,000
2.4	6,000	5,800
3.0	3,000	2,800
4.0	1,000	1,000

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### IntegriGEL O/W 305

#### Viscosity vs. pH



#### Test Summary

- Test viscosity vs. pH

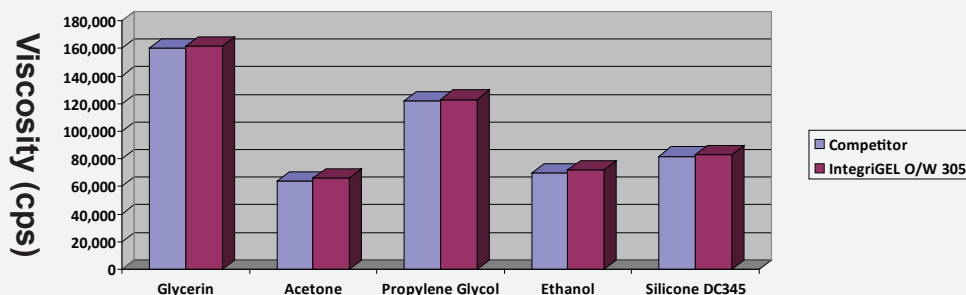
#### Test Result

- Trend of viscosity vs. pH is similar to competitor. Works in a wide range of pH

#### Formulation

- Solution = 97% Water, 3% Lactic Acid and TEA little by little to 3% solution

#### Thickening Effect vs. Solvents



#### Test Summary

- Check effect of viscosity in various solvents
- 50% solvent
- 3% thickener

#### Test Results

- Viscosity is similar to competitor

#### Cosmetic Applications

IntegriGEL O/W 305 enables the formulation of soft, unctuous gel/cream texture.

**Storage:** IntegriGEL O/W 305 should be stored at a temperature between 10 and 40° C in original packaging.

**Packaging:** 60 and 120 kg drums.

#### Skin Care Products

- Creams
- Lotions
- Gels
- Moisture Preparations
- Baby Care
- Cleansing Lotions
- Lubricating Products

#### Hair Care Products

- Conditioners
- Creams

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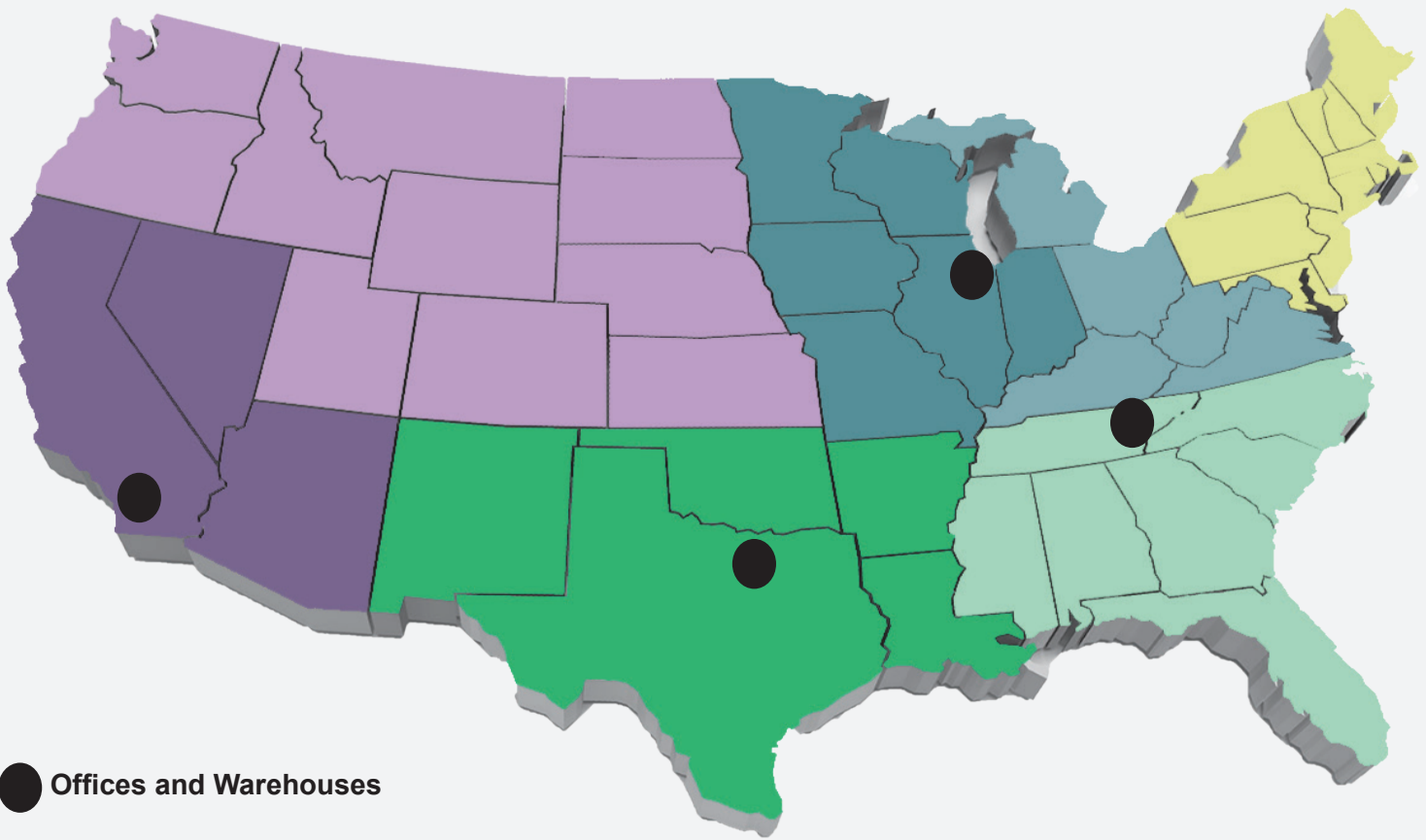


## Technical Support...

Our in-house Technical and Applications Lab is always available to address the growing needs of our customers. Whether you have a raw material technical question or need formulating assistance, we are here and ready to help.

At Integrity Ingredients Corporation, we know the important role our ingredients have in your formulations. Our lab is solely dedicated to actively working with all of our ingredients in a variety of applications. By doing this, we can make accurate recommendations to our customers on how our ingredients will interact and perform with other ingredients and system types.

Our team at Integrity Ingredients Corporation recognizes that you have many choices when formulating or purchasing your raw materials, and we want to thank you for your interest in our products and services.



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