



## **FLUID OAT COLLOIDS**

### **VP-9960.000W**

This multi-benefit, cost-effective natural product is highly effective as an Anti-Aging ingredient due to its 100% inhibition of Collagenase & nearly 100% inhibition of Elastase at levels as low as 0.3%. Fluid Oat Colloids delivers all the benefits of oats, such as accelerated Wound Healing, reduction in Erythema & Skin Soothing characteristics in a pourable, easy to use opaque liquid. It has all the essential components of wholesome oats with only insoluble fiber and cellulosic constituents eliminated. The high concentration of starches & beta glucan as well as a significant proportion of oat oil are responsible for its Protective & Moisturizing benefits, while the presence of phenols confer Antioxidant and Anti-Inflammatory activity.

Vege Tech Fluid Oat Colloids is an ideal mild Cleanser because of its naturally occurring Saponins, and has a mild Tightening effect on the skin due to its Film-Forming properties. Fluid Oat Colloids is ideal for use in a wide variety of Serious Skin Care & Spa Treatment products, Sun Care preparations, Exfoliators & Scrubs, Anti-Acne products, Bath & Body Soaps, Moisturizers & Lotions, Ethnic Skin Care, Shave Care formulations and it's perfect for Pet Care applications.

### **Features & Benefits**

- Cost effective Anti-Aging ingredient efficacious at >0.3%
- 100% inhibition of Collagenase
- Nearly 100% inhibition of Elastase
- Reduction in Erythema
- Accelerates Wound Healing
- Soothing / Mildness at low levels
- Moisturizing Oat Oil ( $\pm 8\%$ )
- Anti-Inflammatory / Anti-Oxidant Activity

### **Oat Oil Composition:**

Myristic Acid	0.4%	Oleic Acid	31.9%	Linolenic Acid	1.2%
Palmitic Acid	22.5%	Linoleic Acid	42.9%	Stearic Acid	1.2%

## **Collagenase Inhibition Assay**

### **Introduction**

An independent laboratory assayed the following sample for collagenase inhibition activity.

<b>CL Sample ID #</b>	<b>Vege Tech #</b>	<b>Description</b>
CT 616	VP-9960.000W	Fluid Oat Colloids

### **Methods**

2-Furanacryloyl-L-prolyl-L-alanine was used in this assay as a substrate for Collagenase. Collagenase cleaves this substrate and results in a decrease in optical density (OD). The rate of change of OD is proportional to the activity and/or concentration of the enzyme. The rate of decrease of OD over time that gives the enzyme rate was measured in this assay. In the absence of inhibitor, this is 100%. The rate in the presence of various concentrations of inhibitor is then measured and is expressed as a percentage of the uninhibited control. EC50, the concentration of test sample that inhibits 50% of Collagenase activity that is seen in the absence of inhibitor, was calculated for each sample.

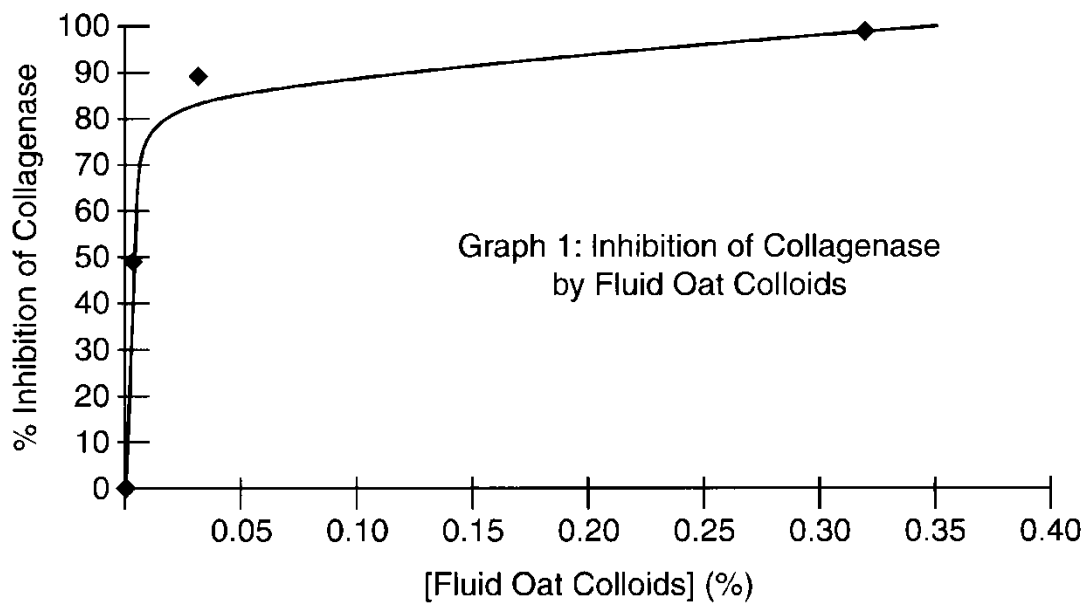
### **Results and Discussion**

Various concentrations of sample CT 616 was mixed with a fixed concentration of Collagenase (Type I) and the rate of the enzyme catalyzed reaction was measured (Table I). Microsoft Excel was used to fit a logarithmic equation to the data and EC50 was calculated via that means. Note that in the case of active sample the EC50 was often below the lowest concentration measured in the assay, therefore the calculated number is not accurate. This sample is a potent inhibitor of collagenase and the EC50 is less than 0.0031%.

**Table I. Inhibition of Collagenase by Fluid Oat Colloids**

<b>% of Sample</b>	<b>Rate of Reaction</b>	<b>% Inhibition</b>	<b>EC 50 (%)</b>
0.0000	0.2237	0.0000	
0.0031	0.1148	48.6736	less than 0.0031
0.0313	0.0252	86.7134	(0.0007)
0.3125	0.0000	100.0000	

**Figure 1. Inhibition of Collagenase by Fluid Oat Colloids**



## **Elastase Inhibition Assay**

### **Executive Summary**

Fluid Oat Colloids is a potent elastase inhibitor and EC50 is 0.42%

### **Introduction**

An independent laboratory assayed the following sample for elastase inhibition activity.

<b>CL Sample ID #</b>	<b>Vege Tech Code No.</b>	<b>Description</b>	<b>Lot No.</b>
CT 859	VP-9960.000W	Fluid Oat Colloids	D0299606

### **Methods**

Methoxy succinyl alanine alanine proline valine paranitroanilide (MeOSucAlaAlaProValNA) was used in this assay as a substrate for elastase. Elastase cleaves this substrate and releases paranitroanilide. The rate of change of OD is recorded at 405 nm by a spectrophotometer and is proportional to the activity and/or concentration of the enzyme. In the absence of inhibitor, the rate is 100%. The rate in the presence of various concentrations of inhibitor is then measured and expressed as a percentage of the uninhibited control. EC50, the concentration of test sample that inhibits 50% of elastase activity that is seen in the absence of inhibitor, was calculated for the sample.

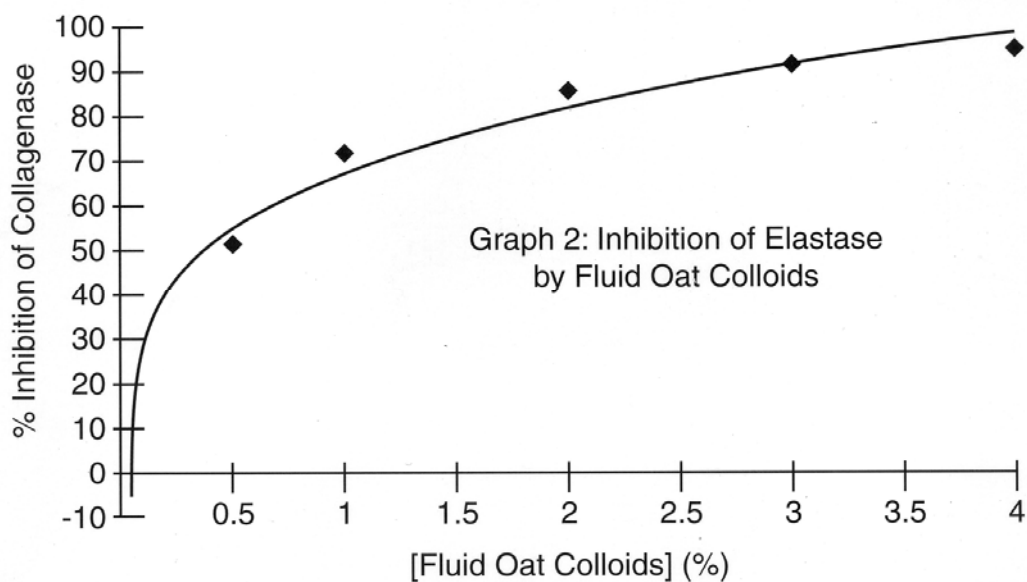
### **Results and Discussion**

Various concentrations of *Fluid Oat Colloids* were mixed with a fixed concentration of human neutrophil elastase and the rate of the enzyme catalyzed reaction was measured (Table 2). Microsoft Excel was used to fit a logarithmic equation to the data and EC50 was calculated via that means. Note that in the case of active sample the EC50 was often below the lowest concentration measured in the assay, therefore the calculated number may not be accurate. This sample is a potent inhibitor of elastase and the EC50 is 0.42%.

**Table 2. Inhibition of Elastase By *Fluid Oat Colloids***

<b>% of sample</b>	<b>Rate of Reaction</b>	<b>% inhibition</b>
0	0.120	
0.5	0.059	50.8
1	0.034	71.7
2	0.017	85.8
3	0.010	91.7
4	0.006	95.0

**Figure 2. Inhibition of Elastase by *Fluid Oat Colloids***



## References

The original data for the work described in this report is found in CL notebook pages: 235044-235045.

<b>INCI:</b>	<b>CAS:</b>	<b>EINECS/ELINCS:</b>	<b>JIC:</b>
Avena Sativa (Oat) Kernel Extract	84012-26-0	281-672-4	520306

**Suggested Use Levels:** 0.3% - 5%

**pH Levels:** 4 - 6

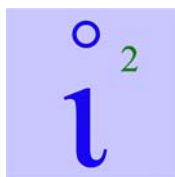
### **Packaging:**

Vege Tech Fluid Oat Colloids is available in the following standard sizes:

- Sample size (2 fl. oz.)
- 8 lbs. (1 gal.)
- 40 lbs. (5 gal. pail)
- 240 lbs. (30 gal. drum)
- 400 lbs. (55 gal. drum)
- 2,200 lbs. (275 gal. tote)

**Shelf Life:** 1 year @ 25° C (77° F). Protect from freezing.

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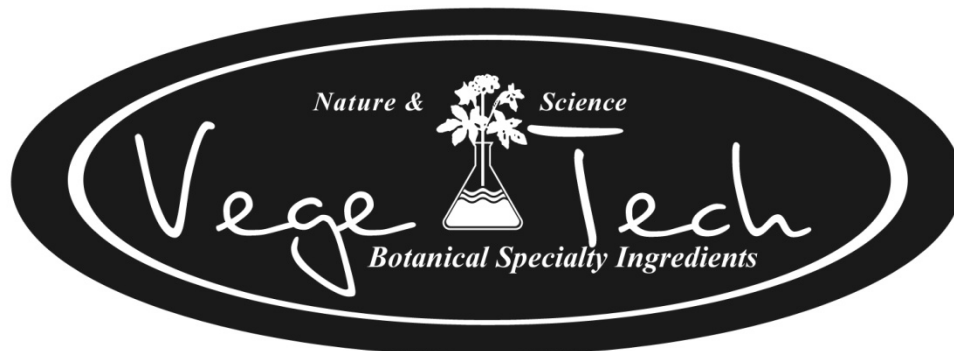


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