



Oshenite® | *renewable performance mineral*

Oshenite® Presentation



Oshenite® supplied by U.S. Aragonite Enterprises LLC | *reinventing plastics*



Oshenite® | *renewable performance mineral*



Reinventing Plastics

- Oshenite® - a renewable and sustainable ***performance mineral*** created naturally in the ocean around Ocean Cay in Bahamas
- Brings increased performance and sustainability to plastics **at reduced costs**
- Helps reduce dependence on fossil fuel based resins





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Renewable Resource

- A USDA lab tested renewable resource
- Organically formed as part of a constant precipitation cycle on the Bahaman Bank
- A consistent source of ultra 97-99% pure precipitated form of calcium carbonate with very low levels of trace elements
- 3-5 years to be produced





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Sustainable Supply

- Existing exclusive supply area has 1 billion ton reserve of Oshenite® available
- Harvesting rights area produces approximately 2 million tons (4 billion lbs.) a year
- Committed to never harvest more than annual amount naturally produced





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Oshenite® Performance Processing, LLC

- Owned and operated by USAE and M & M Milling
- Located in Texarkana, AR
- Dedicated to exclusive production of ground Oshenite®
- Screening, drying, grinding, coating capabilities
- Ability to produce wide range of particles sizes (1 micron-500 micron)
- Current annual capacity: 75 MM lbs.
- Year 2 capacity: 150 MM lbs.+





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Unique Performance Mineral

- Improves production: reduces temperatures and energy
- Offers cost savings in all applications
- Allows for down gauging
- Replaces higher priced plastic resins at up to 50% loads
- Unique Crystalline Structure, Zeta Potential, Purity and Consistency allows for excellent dispersion and significantly higher loading vs. mined minerals
- Very low levels trace elements and heavy metals





Oshenite® | *renewable performance mineral* TRACE MINERALS COMPARISON

Analysis (%)	Oshenite®	Mined Calcium Carbonate
Total Sulfur	0.12	0.36
Total Iron	0.02	0.15
Total Manganese	<0.01	28 ppm
Total Copper	<0.01	6.3 ppm
Total Zinc	<0.01	24 ppm
Total Lead	<5 ppm	20 ppm
Total Boron	<0.01	0.022
Available Potassium	0.03	0.05
Total Nitrogen	0.07	0.13
Phosphorus	0.06	0.22

Results supplied by: A.L. Eastern Laboratories
Thornton Laboratories Testing Inspection Services, Inc.





Comparison of Virgin LDPE film with Oshenite® LDPE film

TEST	LDPE	LDPE w/ 20% Oshenite	LDPE w/ 30% Oshenite	LDPE w/ 40% Oshenite
Energy to melt (w/g)	Standard	N/A	11% decrease	22.3% decrease
Melt Flow Index (g/10 min)	0.8	1.2	1.5	2
Tensile Modulus of Elasticity (Mpa)	210	320	360	390
Peak Tensile Strength (Mpa)	13.4	13	13.5	12.9
Extension at Break (mm)	80	70	80	75

Summary

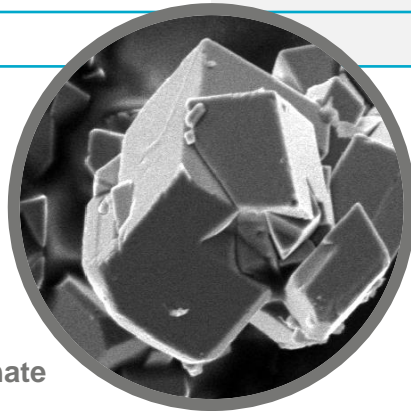
- Strong potential to use up to 40%
- At 40% only a 6.9% reduction of strength
- Stiffness increase by 81% while only 6% reduction in extension at break
- Appears to be a synergistic effect at 30% Oshenite® in all mechanical properties
- Adding Oshenite® at 20% or more reduces energy required to process





Oshenite® | *renewable performance mineral* PHYSICAL PROPERTIES

Test	Calcite/Limestone	Oolitic Aragonite
Specific Gravity	2.7	2.8
Mohs Hardness	3	3.5-4
Crystal Structure	Trigonal	Orthorhombic
Surface Area	.55 m2/g	1.82 m2/g
Zeta Potential	-1.01mV to 11.55mV	-33.85mV to -6.65mV
Crystallinity	Low	High
Microporosity	Low	Very High



Mined Calcium Carbonate



Oshenite®





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Oshenite® MC

Microbial Inhibiting version for food and non-food applications

- Effective against a wide range of bacteria
- Patented
- Ingredients are FDA approved GRAS
- Long term and wide temperature range effectiveness
- Cost neutral compared to existing finished product





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Product Examples





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Ground Oshenite®

Film Grade: 3 Micron average particle size
Rigid Grade: 10 micron average particle size
Custom particle sizes available
Coated or uncoated

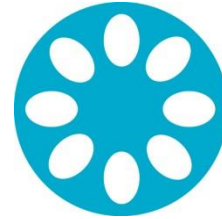
Master Batches

PE, PP, PS, Bio-based carriers
Film Grades
Rigid application Grades
Oshenite® MC (bacteria inhibiting)
Oshenite® Silver (2% TIO₂)
Oshenite® White (5% TIO₂)





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*made with
Oshenite®*

Packaging Mfg's / Brand Owners Retailers / Stakeholders

- Your product is made with a sustainable and naturally renewable resource
- Your product is made with a FDA compliant material
- Your product reduces dependence on fossil fuel resins
- Your product uses an ultra-pure mineral
- Your product addresses bacteria related issues





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Branding Opportunities

United Dairy

ECO JUG

INTRODUCING OUR NEW GALLON
USES 25% LESS PLASTIC*
**versus same gallon package*

United Dairy's goodness starts from the inside with our high quality products that have been a family tradition for over sixty years. We are happy to introduce our new packaging, the EcoJug, which is greatly minimizing our impact on the environment. Actually, our new packaging may be one of the most environmentally responsible dairy containers in the industry. The sleek new look and feel of the EcoJug gallon packaging not only is easier to handle but is less harsh on our environment. The new packaging is 100% recyclable and contains Oshenite® a naturally renewable resource pure from the ocean.

With our New EcoJug packaging, we have made great strides in decreasing our carbon footprint. The New EcoJug uses up to 25% less plastic (vs. same gallon packaging) which will result in over 850,000 fewer pounds of plastic used per year. This new packaging will make us the leader in our industry in reducing the amount of plastic used in packaging.

Another way we are enhancing sustainability is by using Oshenite®, a naturally renewable mineral that allows us to reduce United Dairy's use of fossil fuel based plastic resin. It is an ultra-pure form of calcium carbonate - about as pure as you can get- formed naturally and constantly as warm and cool waters combine in the shallow ocean waters of the Bahamas. "Made with Oshenite®" is another way we at United Dairy will be reducing the environmental impact of our packaging and lessening the dependence on fossil fuels and other finite resources.

Other beverages may claim to be a greener choice, but with our new packaging it is clear that we are one of the most environmental friendly dairy producers in the country.

ECO JUG
USES UP TO 25% LESS PLASTIC*
**versus same gallon package*

NO ANTIBIOTICS - NO HORMONES ADDED
United Dairy
EXCELLENT SOURCE OF CALCIUM
2% REDUCED FAT MILK
2% LESS FAT FROM WHOLE MILK (NOT SKIMMED MILK OR 1%)

Nutrition Facts

Total Fat 8g	Total Carb 12g	Total Protein 16g
Sat. Fat 5g	Fiber 0g	Sugar 11g
Trans Fat 0g		Protein 16g
Cholesterol 20mg		Sodium 100mg
Fat Cal 45		

Recyclable Naturally Renewable Resource Please Recycle.

PLEASE RECYCLE

For more information on our EcoJug visit us online at: udecojug.com



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For more information about Oshenite®:

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