Ultramag 10

Ultramag is a naturally ground, white, high-purity **Brucite based Magnesium Hydroxide Powder; - Mg OH.**

Industrial Grade Magnesium Hydroxide Powder is suitable for a wide range of applications including water treatment slurries, plastics, rubber and flame-retardants/smoke suppressants. It has low corrosiveness and is non-toxic. UltraMag is a cost effective alternative to Hydrated Alumina's and precipitated Magnesium Hydroxide. Its higher initial decomposition temperature is about 340° Celsius, versus 230° C for ATH, which allows for use under higher processing temperature situations. Offered in bulk, mini- bulk bags, 50 lb. bags and slurry tank truckloads.

TYPICAL PHYSICAL PROPERTIES	
MgO	64%
Median Particle Size: (Microns)	10
% Passing through 325 Mesh Screen (min.)	99.0
Mohs Hardness	2.5
Moisture Content	< 0.1
pH approx.	9-10
Specific Gravity	2.42
LOI @ 600 C	29 %

Sales Contact: (800) 852-6868\www.cimbar.com

Because the conditions of use of this product are beyond seller's control the product is sold without warranty either express or implied and upon condition that the purchaser make its own tests to determine the suitability for purchaser's applications. Purchaser assumes all risk of use and handling of this product. This product will be replaced if defective in manufacture or packaging or if damaged, except for such replacement, seller is not liable for any damages caused by this product or its use. Any data and any statements and recommendations presented herein are believed to be accurate but no guarantee of their accuracy is made. **Rev.2 (03/01/16) DBS**

GARRISON MINERALS

Technical Data Sheet

Version 2.0

Magnesium Hydroxide Powder; Brucite Based
$Mg(OH)_2$: 91-95% ; MgO: 62-67% ; Mg: ~40%

Typical Physical Analysis:

SG: 2.42 g/cm^3 - - - Moisture: <0.2 - - - pH: 10-11 - - - LOI: 30.5% (1200°C)

Typical XRF Analysis: Brucite Based – $Mg(OH)_2$

---------- Wt % ----------

	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	S	Cl	K_2O	CaO	TiO_2	MnO_2	Fe_2O_3	BaO
Brucite	< 0.05	67.4	< 0.03	2.37	0.06	< 0.05	< 0.02	< 0.01	1.72	< 0.01	0.03	0.26	0.14
Quality Control- Replicate (R) sample and standard reference material (GSP-2) analyzed with sample													
Brucite (R)	< 0.05	67.6	< 0.03	2.37	0.06	< 0.05	< 0.02	< 0.01	1.73	< 0.01	0.03	0.26	0.14
GSP-2-XRF	2.71	1.22	16.1	67.6	0.32	< 0.05	0.02	5.50	2.08	0.64	0.05	4.66	0.16
GSP-2-known	2.78	0.96	14.9	66.6	0.29	----	----	5.38	2.10	0.66	0.04	4.90	0.15

----------PPM----------

	V	Cr	Co	Ni	W	Cu	Zn	As	Sn	Pb	Mo	Sr	U
Brucite	38	23	< 10	< 10	20	< 10	< 10	25	< 50	10	< 10	84	< 20
Quality Control													
Brucite (R)	38	23	< 10	< 10	18	< 10	< 10	24	< 50	11	< 10	85	< 20
GSP-2-XRF	46	12	14	14	12	49	135	< 20	80	41	< 10	246	< 20
GSP-2-known	52	20	7	17	--	43	120	--	--	42	--	240	2

----------PPM----------

	Th	Nb	Zr	Rb	Y
Brucite	< 20	< 10	< 10	< 10	< 10
Quality Control					
Brucite (R)	< 20	< 10	< 10	< 10	< 10
GSP-2-XRF	101	17	499	206	49
GSP-2-known	105	27	550	245	28

w garrisonminerals.com | o 720.389.7609 | f 720.889.9470 | p 2054 Broadway Denver, CO 80205 | m PO Box 2940 Denver, CO 80201

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Particle Size Analysis:

Material	D10	D50	Mean
UM 1*	0.11	**1.74**	2.37
UM 3*	0.35	**3.44**	4.50
UM 10	1.27	**8.29**	14.58
UM 6090	1.99	**24.12**	43.70

*Specialty coating available for greater dispersion and compounding

Neutralization Table:

Alkali Reactions with	Lbs. of Reactant; 100% Pure	Stoichiometric Quantities of 100% Pure Alkalis Required for Reactions			
		Magnesium Hydroxide $Mg(OH)_2$	Quick Lime: CaO	Caustic Soda: NaOH	Soda Ash: Na_2CO_3
Sulfuric Acid	100	59.4	57.2	81.6	108.1
Hydrochloric Acid	100	80		109.7	145.3
Nitric Acid	100	46.3	44.5	63.5	84.1
Hydrofluoric Acid	100	145.8	140.1	200	264.3
Phosphoric Acid	100	89.2	85.8	122.5	162.2
Sodium Cyanide and Chlorine	100	238.3	228.8	326	
Chlorine	100	82.2	79.1	112.8	

Chemical Comparisons:
1 dry lb of $Mg(OH)_2$ = 1.70 lbs of Alkalinity ($CaCO_3$)
1 dry lb of $Mg(OH)_2$ = 0.56 lbs of OH^-
1 dry lb of $Mg(OH)_2$ = 1.35 lbs of NaOH (Caustic)
1 dry lb of $Mg(OH)_2$ = 1.27 lbs of CaOH (Lime)

Typical $Mg(OH)_2$ Slurry Analysis:
50% liquid solution
12.0 lbs per gallon (wet weight)
6.00 dry lbs $Mg(OH)_2$ per gallon
1.42 specific gravity

CO_2 Footprint associated with $Mg(OH)_2$
100 lb brucite (natural source) = 0.84 lbs of CO_2
100 lb magnesite ($MgCO_3$) = 63.7 lbs of CO_2
100 lb brine/seawater (synthetic) = 38.0 lbs de CO_2

Available Packaging
50 lb bags & 2000 lb bags
Bulk pneumatic truck available
Class 50 shipping

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