







Comparison of Regulatory Requirements for FloMag[®] H Magnesium Hydroxide Slurry vs. Quicklime

	Magnesium Hydroxide	Quicklime
Common Name	Magnesium Hydroxide, Milk of Magnesia, "Mag" Slurry	Calcium Oxide Quicklime, Dry Lime, Pebble Lime, Unslaked Lime
Chemical Formula	Mg(OH) ₂	CaO
GHS Signal Word	None Required	 Per the National Lime Association (NLA)
GHS Pictogram	None Required	 Health Hazard*  Corrosive  Acute Hazard
NFPA Rating	NFPA Rating 0-0-0	NFPA Rating 3-0-1
HMIS Ratings & PPE	HMIS Rating 0-0-0-A	HMIS Rating 3-0-1-E
California Proposition 65 & Carcinogenicity	Not subject to California Proposition 65 warning label requirements.	*Subject to California Proposition 65 warning labeling requirements due to potential presence of crystalline silica (respirable) above instrument detection levels. Crystalline silica is listed by IARC and NTP but not by OSHA. In 1997, IARC determined that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans" (Group 1). OSHA requires that products containing >0.1% of a known carcinogen must be labeled. NTP states that "silica, crystalline (respirable)" may reasonably be anticipated to be a carcinogen (1991). Quicklime or hydrated lime itself is not listed by MSHA, OSHA, or IARC as a Group 1 carcinogen to humans.
CDC – NIOSH	Not Listed	RTECS Number: EW3100000 IDLH - Immediate Danger to Life and Health Concentration: 25 mg/m ³ NIOSH Recommended Exposure Limit: 2 mg/m ³ TWA
TSCA (40 CFR 710)	ID 8137 CAS 1309-42-8	ID 8150 CAS 1305-78-8
USA – OSHA	Not Listed	Hazardous by definition of 29 CFR 1910.1200. Standard 29 CFR 1910.133 (a) (1) – IMIS Substance 0520 OSHA PEL (TWA) – 15 mg/m ³ Total Dust
Canada WIMS	WHMIS: Not Listed Domestic Substance List: Listed	WHMIS Class "D2A" – Materials Causing Other Toxic Effects Class "E" Corrosive Materials (listed due to corrosive effect on aluminum) Domestic Substance List: Listed
European Union (REACH)	Not Classified	Classification according to Regulation (EC) No. 1272/2008 – Hazard Category 2.
USDOT, RCRA, SARA 311/312, CERCLA RQ, MSHA	Not Listed	Not listed except if transported by air. If transported by air then USDOT Title 49CFR Parts 104, 171-180, and 390-397 apply, including special provisions 172.102-IB8, IP3, T1, TP33. Placard Advisory – Consult 172.504 & 172.505 "Corrosive".
Stability & Reactivity	Stable	Calcium oxide reacts exothermically with water to form calcium hydroxide. Calcium oxide reacts exothermically with acids to form Calcium salts, and may generate heat sufficient to ignite combustible materials in specific instances. Lime is not considered to be an explosion hazard, although reaction with acids or other incompatible materials may rupture containers. Calcium oxide reacts with aluminum and brass in the presence of moisture leading to production of flammable hydrogen gas. Violent or vigorous reaction with fluoridated, brominated, inter-halogenated, nitro-organic, or reactive phosphorus compounds; powdered metals; organic acids; or acids (unless in a controlled process).

	Magnesium Hydroxide	Quicklime
Special Precautions in case of Fire	None	Keep personnel away from and upwind of fire. Use Carbon Dioxide, Dry Powder, or foam to extinguish the surrounding fire. Do not use extinguishing media containing water. Minimize generation of dust. Do not discharge into drains or the environment. Store spilled materials in sealed plastic or non-aluminum metal containers.
Special Precautions in case Accidental Release	Prevent entry into sewers and public waters. Avoid accidental discharge into drains and waterways.	This material is expected to be toxic to aquatic life. Acute pH effect. Although this product is used to correct water acidity, an excess of more than 1 g/l may be harmful to aquatic life. pH value of >12 possible.
Special Slurry Precautions	None	In contrast to the powder itself, the product, when diluted with water, can produce severe skin damage in humans (alkaline burns), especially if prolonged skin contact takes place. Freshly diluted quicklime is very hot, and creates a potential thermal burn hazard.
ACGIH	Not Listed	ACGIH Threshold Limit Value: 10 mg/m ³ TWA Total Dust
GHS Hazard Statements	None Required	H315: Causes skin irritation H319: Causes eye irritation H335: May cause respiratory irritation
GHS Precautionary Statements	None Required	P261: Avoid breathing dust/fume/gas/mist/vapor/spray P264: Wash hands thoroughly after handling P271: Use only outdoors or in a well-ventilated area P280: Wear protective gloves/eye protection/face protection P302+P352: IF ON SKIN: Wash with plenty of soap and water P304+P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing. P332+P313: If skin irritation occurs: Get medical advice/attention P362: Take off contaminated clothing and wash before reuse P403+P233: Store in a well-ventilated place. Keep container tightly closed P501: Dispose of contents/container to an approved waste plant
GHS Risk Phrases	None Required	R37: Irritating to the respiratory system R38: Irritating to the skin R41: Risk of serious damage to the eyes
GHS Safety Phrases	None Required	S25: Avoid contact with eyes S26: In case of contact with the eyes, rinse immediately with plenty of water S37: Wear suitable gloves S39: Wear eye/face protection
PPE	Safety glasses with side shields.	Respirators: EN 149 category FFP2. Nitrile impregnated gloves having CE marks. Tight fitting EN 166 standard goggles. No contact lenses. Individual pocket eyewash.

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