

Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON, Canada, L9S 3W4 Telephone: (705) 436 5580

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION Product identifier used on the label Calcium Hydroxide (Slaked Lime, Hydrated Lime) Product Code(s) : Not available. Recommended use of the chemical and restrictions on use : Used in various industrial processes including chemicals; dyes; food; glass / ceramics; metals; petroleum and process water treatment. Use pattern: Professional use only Recommended restrictions: None known. **Chemical family** : Inorganic acid Name, address, and telephone number Name, address, and telephone number of of the supplier: the manufacturer: Comet Chemical Company Ltd. Refer to supplier 3463 Thomas Street Innisfill, ON, Canada L9S 3W4 Supplier's Telephone # : 705-436-5580 24 Hr. Emergency Tel # **TERRRAPURE ENVIRONMENTAL: 800-567-7455** •

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

White powder Odorless.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification :

Eye damage/irritation: Category 1 Skin corrosion/irritation: Category 1 Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Label elements

Hazard pictogram(s)





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Hazard statement(s)

Causes severe skin burns and eye damage. May cause respiratory irritation.

Precautionary statement(s)

Wash thoroughly after handling. Do not breathe dust or fume. Wear protective gloves/clothing and eye/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Absorb spillage to prevent material damage.

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Other hazards which do not result in classification:

Ingestion may cause severe irritation to the mouth, throat and stomach. Contact with metals may release small amounts of flammable hydrogen gas. May be corrosive to metals. Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Prolonged or repeated inhalation of fumes or vapours, may cause chronic lung effects, such as bronchitis, and tooth enamel erosion. Chronic skin contact with low concentrations may cause dermatitis.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

Chemical name	Common name and synonyms	<u>CAS #</u>	<u>Concentration</u>	
Calcium hydroxide	Slaked lime	1305-62-0	100.00	

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion	: Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Seek immediate medical attention/advice. Never give anything by mouth if victim is unconscious.
Inhalation	: Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.
Skin contact	: Take off all contaminated clothing immediately. Immediately flush skin with gently flowing, running water for at least 20 minutes. Do not rub area of contact. Cover wound with sterile dressing. Seek immediate medical attention/advice. Wash contaminated clothing before reuse. Leather and shoes that have been contaminated with the solution may need to be destroyed.



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Eye contact	 Immediately flush eyes with running water for at least 20 minutes. Protect unharmed eye. Seek immediate medical attention/advice.
lost important symptoms	s and effects, both acute and delayed
ndication of any immedia	 May cause serious eye irritation or damage. Symptoms may include redness, pain, tearing and conjunctivitis. May cause irreversible eye damage. Severe skin irritant. Prolonged contact, such as when trapped against the skin under clothing or jewelry, may result in severe corrosive burns. Symptoms may include blistering, ulcerations and scarring. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include severe abdominal pain, vomiting, burns and bleeding. Inhalation can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Prolonged or repeated inhalation of fumes or vapours, may cause chronic lung effects such as bronchitis, and tooth enamel erosion.
-	Immediate medical attention is required. Causes burns. Treat symptomatically.

Extinguishing media

Extinguishing media	
Suitable extinguishing media	
	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water with caution. Contact with water will generate considerable heat.
Unsuitable extinguishing media	
:	Do not use a solid water stream as it may scatter and spread fire.
Special hazards arising from the sub	ostance or mixture / Conditions of flammability
:	Not considered flammable. Burning produces obnoxious and toxic fumes. Contact with metals may release small amounts of flammable hydrogen gas. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Contact with water will generate considerable heat.
Flammability classification (OSHA 2	9 CFR 1910.106)
:	Non-flammable.
Hazardous combustion products	
:	Carbon dioxide and carbon monoxide. Calcium oxides
Special protective equipment and pr Protective equipment for fire-fight	-
:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Special fire-fighting procedures	· · ·
:	Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Dike for water control. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.



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Environmental precautions	: Do not allow material to contaminate ground water system. For large spills, dike the area to prevent spreading.
Methods and material for contain	ment and cleaning up
	: Remove all sources of ignition. Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. Sweep up or vacuum up spillage and collect in suitable container for disposal. Contact the proper local authorities.
Special spill response procedure	5 · · · · · · · · · · · · · · · · · · ·
	 In case of transportation accident, contact TERRAPURE ENVIRONMENTAL at 1-800-567-7455. US CERCLA Reportable quantity (RQ): None.
SECTION 7. HANDLING AND	STORAGE
Precautions for safe handling	
	: Use in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. See Section 8 for additional personal protection advice when handling this product. Do not ingest. Do not breathe dust or fume. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Keep away from bases, metals and other incompatibles. Keep container tightly closed when not in use. Keep only in

Conditions for safe storage	 original container. Wash thoroughly after handling. During preparation or dilution, always add liquid slowly to water and with constant stirring. Store in a cool, dry, well-ventilated area. Store locked up. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store in corrosion-resistant containers. Keep only in original container.
Incompatible materials	: Aluminum; Acids; Phosphorous; Tin; Zinc; Acetone; Chloroform; Sugars.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	<u>STEL</u>
Calcium hydroxide	5 mg/m³	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (Respirable fraction)	N/Av

Exposure controls

Ventilation and engineering measures

Respiratory protection	 Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Confirmation of which type of respirator is most suitable for the intended application should be obtained from respiratory protection suppliers. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA
Skin protection	 (29 CFR 1910.134) or CSA Z94.4-02. Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Advice should be sought from glove suppliers.
Eye / face protection	 Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.



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Other protective equipment	:	Other equipment may be required depending on workplace standards. An eyewash station and safety shower should be made available in the immediate working area.
General hygiene considerations	;	station and servery shower should be made available in the initialiate working died.
	:	Do not breathe dust or fume. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home.
SECTION 9. PHYSICAL AND) CH	
	- 011	
Appearance	:	White powder
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	12.5-12.7 (Saturated Solution)
Melting/Freezing point	:	Decomposes before melting.
Initial boiling point and boiling r	range	
	:	Decomposes.
Flash point	:	Not applicable.
Flashpoint (Method)	:	Not applicable.
Evaporation rate (BuAe = 1)	:	Not applicable.
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by vol	l.)	
	<i>.</i> :	Not applicable.
Upper flammable limit (% by vol	.)	
	:	Not applicable.
Oxidizing properties	:	None known.
Explosive properties	:	Not explosive
Vapour pressure	:	zero
Vapour density	:	Not applicable.
Relative density / Specific gravit	tv	
<i>,</i> , , , , , , , , , , , , , , , , , ,	-	2.25
Solubility in water	:	Slightly soluble.
Other solubility(ies)	:	Soluble in acids (with evolution of much heat), glycerol and ammonia salt solutions; insoluble in ethanol.
Partition coefficient: n-octanol/v	vater	or Coefficient of water/oil distribution
		Not applicable.
Auto-ignition temperature	:	N/Ap
Decomposition temperature	:	580°C (1076°F)
Viscosity	:	N/Av
Volatiles (% by weight)		Not available.
Volatile organic Compounds (V	00'e'	
Foracio organic compounds (VC		, Not available.
Absolute pressure of container	•	
Associate pressure or contailler		N/Ap
Flamma and a dam to da	:	N/Ap
Flame projection length	:	Ν/Αρ
Other physical/chemical comme	ents	
	:	None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

: Not normally reactive. May be corrosive to metals.



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Chemical stability	: Stable under the recommended storage and handling conditions prescribed.		
Possibility of hazardous react	ions		
	 Hazardous polymerization does not occur. Contact with metals may release small amounts of flammable hydrogen gas. 		
Conditions to avoid	: Avoid heat and open flame. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.		
Incompatible materials	: Aluminum; Acids; Phosphorous; Tin; Zinc; Acetone; Chloroform; Sugars.		
Hazardous decomposition pro	ducts		
 Corrosive calcium oxide fumes may be generated by thermal decomposition at temperatures of 580 deg C and above. 			
SECTION 11. TOXICOLOGICAL INFORMATION			

Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin absorption			
	:	NO	

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

Sign and symptoms ingestion	:	May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.
	:	May be harmful if swallowed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include severe abdominal pain, vomiting, burns and bleeding.
Sign and symptoms skin	:	This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Skin corrosion/irritation: Category 1. Causes severe skin burns. Causes severe irritation. Prolonged contact, such as when trapped against the skin under clothing or jewelry, may result in severe corrosive burns. Symptoms may include blistering, ulcerations and scarring.
Sign and symptoms eyes	:	This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Eye damage/irritation: Category 1. Causes serious eye damage. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. Contact may lead to permanent injury and blindness.
Potential Chronic Health Effects		
	:	Chronic skin contact with low concentrations may cause dermatitis. Prolonged or repeated inhalation of fumes or vapours, may cause chronic lung effects, such as bronchitis, and tooth enamel erosion.
Mutagenicity	:	Not expected to be mutagenic.
Carcinogenicity	:	No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects & Teratoge	nici	ity
	:	This product is not expected to cause reproductive or developmental effects.
Sensitization to material	:	Not expected to be a skin or respiratory sensitizer.



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	LC₅₀(4hr)	LD50
Toxicological data	: See below for toxicologica	data on the substance.
Synergistic materials	: Not available.	
	: Pre-existing skin, eye and	respiratory disorders.
Medical conditions aggrava		arget organ toxicity-repeated exposure.
	1910.1200) (Hazcom 2012	2) and Canadian WHMIS regulations (Hazardous Products 5). Classification: Specific Target Organ Toxicity, Single piratory)
Specific target organ effects		as hazardous under U.S. OSHA regulations (29CFR

	LC50(4hr)	LD50			
Chemical name	inh, rat	(Oral, rat) (Rabbit, derm			
Calcium hydroxide	N/Av	7340 mg/kg	> 2500 mg/kg		

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See data for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	040.04	Toxicity to Fish				
	CAS No	LC50 / 96h	NOEC / 21 day	M Factor		
Calcium hydroxide	1305-62-0	50.6 mg/L Rainbow trout	N/Av	None.		

Ingredients	CAS No	Toxicity to Daphnia					
		EC50 / 48h	NOEC / 21 day	M Factor			
Calcium hydroxide	1305-62-0	49.1 mg/L (Daphnia magna)	N/Av	None.			

Ingredients	CAS No	То	xicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor	
Calcium hydroxide	1305-62-0	184.57 mg/L/72hr (Green algae)	N/Av	None.	

Persistence and degradability

: Biodegradation is not applicable to inorganic materials.

Bioaccumulation potential

: No data is available on the product itself.



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<u>Components</u>	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)					
Calcium hydroxide (CAS 1305-62-0)	N/Ap	N/Ap					
Mobility in soil	: No data is available on the product itself.						
Other Adverse Environmental effects							
	: No additional information.						
SECTION 13. DISPOSAL C	CONSIDERATIONS						
Handling for Disposal	for Disposal : Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous.						
Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.							
RCRA	 If this product, as supplied, becomes a waste in criteria of a hazardous waste as defined under responsibility of the waste generator to determin disposal method. For disposal of unused or was federal environmental agencies. 	RCRA, Title 40 CFR 261. It is the ine the proper waste identification and					

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	\bigotimes
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	\bigotimes
TDG Additional information	None.	1		<u> </u>	
ICAO/IATA	None.	Not regulated.	not regulated	none	\bigotimes
ICAO/IATA Additional information	None.			-	
IMDG	None.	Not regulated.	not regulated	none	\bigotimes
IMDG Additional information	None.			<u> </u>	



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Environmental hazards

This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

	TSCA		CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients CAS #	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration		
Calcium hydroxide	1305-62-0	Yes	N/Ap	N/Av	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	Ingredients CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Calcium hydroxide	1305-62-0	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Calcium hydroxide	1305-62-0	215-137-3	Present	Present	(1)-181	KE-04518	Present	HSR002925, HSC000322

SECTION 16. OTHER INFORMATION

: ACGIH: American Conference of Governmental Industrial Hygienists CA: California CAS: Chemical Abstract Services



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CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations DOT: Department of Transportation EPA: Environmental Protection Agency HMIS: Hazardous Materials Identification System HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer Inh: Inhalation IUCLID: International Uniform ChemicaL Information Database MA: Massachusetts MN: Minnesota MSHA: Mine Safety and Health Administration N/Ap: Not Applicable N/Av: Not Available NFPA: National Fire Protection Association NIOSH: National Institute of Occupational Safety and Health NJ: New Jersey NTP: National Toxicology Program OSHA: Occupational Safety and Health Administration PA: Pennsylvania PEL: Permissible exposure limit RCRA: Resource Conservation and Recovery Act RI: Rhode Island RTECS: Registry of Toxic Effects of Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit TDG: Canadian Transportation of Dangerous Goods Act & Regulations TLV: Threshold Limit Values TWA: Time Weighted Average WHMIS: Workplace Hazardous Materials Identification System Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2015 References : (Chempendium, RTECs, HSDB, INCHEM). European Chemicals Agency, Classification Legislation, 2015 Material Safety Data Sheet from manufacturer OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2015

Preparation Date (mm/dd/yyyy)

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.





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DISCLAIMER

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