Safety Data Sheet

Section 1 - Identification of Chemical Product And Company

CDK STONE NZ Ltd	**Emergency Phone:**	**0800 764766**
2/40 Canaveral Drive	**NZ Emergency Services:**	**111**
Rosedale		
Auckland	**Phone:**	**0800 803 932**
NEW ZEALAND	**Fax:**	**+64 9 479 2424**

Substance:

Trade Name: **Lithofin MN Outdoor Cleaner**

Product Use: **Cleaner**

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: HAZARDOUS SUBSTANCE: according to the criteria of HSNO.
REGULATED under NZS5433:2007 Transport of Dangerous Goods on Land

HSNO Signal Word: DANGER

Emergency Overview

Physical Description & colour: Light Yellow Liquid

Odour: Chlorine

Hazard Classification:

Metallic Corrosivity	Category 1	8.1A
Skin Effects	Category 1B	8.2B
Eye Effects	Category 1	8.3A
Acute Aquatic Hazard	Category 1	9.1A
Chronic Aquatic Hazard	Category 1	9.1A

Signal Word DANGER

Hazard Statements:

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements

Prevention

P260	Do not breathe mist/ vapours/ sprays
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection
P234	Keep only in original packaging
P273	Avoid release to the environment

Response

P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+361+352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water and soap.

	P363	Wash contaminated clothing before reuse
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
	P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
	P308+311	If exposed or concerned. Call a POISON CENTRE/ doctor/ physician/ first aider
	P390	Absorb spillage to prevent material damage
Storage		
	P405	Store cloaked up
Disposal		
	P501	Dispose of content/ container to an authorised hazardous or special waste collection point in accordance with local regulation

Section 3 - Composition/Information on Ingredients

Ingredients	**CAS No**	**Conc.%**
Sodium hypochlorite	7681-52-9	1 – 10 %
Sodium carbonate	497-19-8	1 – 10 %
Sodium hydroxide	1310-73-2	1 – 10 %
C_{12-14} alkyldimethylamine oxide	308062-28 4	< 1 %

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 0800 764766 from anywhere in New Zealand (13 1126 in Australia) and is available at all times. Have this SDS or product label with you when you call.

Eye Contact: Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact: Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.

Inhalation: remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay. Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. This must definitely be left to a doctor or person authorised by him/her.

Ingestion: For advice, contact a Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely to be needed. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with

	reduced awareness, i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink Transport to hospital or doctor without delay.
Note to Physician:	Treat symptomatically

Section 5 - Fire Fighting Measures

Extinguishing Media:	Preferred extinguishing media are water spray or fog, dry chemical, BCF or foam
Fire and Explosion Hazards:	Non-combustible
Fire Fighting:	Alert Fire & Emergency New Zealand and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers suspected to be hot. Equipment should be thoroughly decontaminated after use
Fire Decomposition:	Carbon monoxide (CO), Carbon dioxide (CO_2), Chlorine (Cl) and other pyrolysis products typical of burning organic material.

Section 6 - Accidental Release Measures

Minor Spills:	Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. Check regularly for spills and leaks.
Major Spills:	Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.

Section 7 - Handling and Storage

Handling:	Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. DO NOT allow clothing wet with material to stay in contact with skin
Storage:	Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS. DO NOT store near acids, or oxidising agents No smoking, naked lights, heat or ignition sources.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:
Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Exposure limits

CAS no.	Substance or ingredient	WES-TWA	WES-STEL

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5-day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no

longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Engineering Controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh

Personal Protective Equipment

Eye Protection:

Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly

Skin Protection:

Wear elbow length PVC gloves.Wear safety footwear or safety gumboots, e.g. Rubber Overalls. PVC Apron. PVC protective suit may be required if exposure severe.

Protective Material Types:

We suggest that protective clothing be made from the following materials:

PVA

Teflon

Respirator:

Respirators may be necessary when engineering and administrative controlsdo not adequately prevent exposures.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	light yellow liquid
Odour:	chlorine
pH:	14
Vapour Pressure:	300 kPa
Relative Vapour Density:	not available
Viscosity	13 sec ISO2431 /4mm
Boiling Point:	102 °C
Volatiles:	no data %
Water Solubility:	miscible
Freezing/Melting Point:	-11 °C
Specific Gravity:	1.1 g/ml
Flashpoint	not applicable °C
Auto ignition temp:	no data °C
Evaporation Rate:	not available
Coeff Octanol/water distribution	no data

Section 10 - Stability and Reactivity

Stability	Product is considered stable
Conditions to Avoid:	Avoid contact with ignition sources
Incompatibilities:	Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids i.e. cyanides, sulfides, carbonates. Avoid reaction with oxidizing agents, i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result
Polymerisation:	This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Inhaled:

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane. The material has NOT been classified by EC Directives or other classification systems as "harmful by inhalation". This is because of the lack of corroborating animal or human evidence.

Ingestion

Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow. Both the oesophagus and stomach may experience burning pain; vomiting and diarrhoea may follow. The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.

Skin Contact

The material can produce severe chemical burns following direct contact with the skin. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep. Contact may cause severe itchiness, skin lesions and mild eczema. Exudation and sloughing may occur. Two patients were reported with chronic allergic dermatitis of the hand, related to sensitization to sodium hypochlorite as the active component of laundry bleach. Open cuts abraded or irritated skin should not be exposed to this material Entry into the bloodstream, through for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Eye Contact

If applied to the eyes, this material causes severe eye damage. Direct eye contact with corrosive bases can cause pain and burns. There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris. Mild cases often resolve; severe cases can be prolonged with complications such as persistent swelling, scarring, permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the eyeball and blindness.

Chronic Health Effects

Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Reduced breathing capacity may result from chronic low-level exposure to chlorine gas. Chronic poisoning may result in cough, severe chest pains, sore throat and blood in the phlegm. Moderate to severe exposures over 3 years produced decreased lung capacity in a number of workers. Delayed effects can include shortness of breath, violent headaches, lung swelling and pneumonia. Chloralkali workers exposed over many years showed fatigue, and a modest increase in anxiety and dizziness. There may be an increase in white blood cell and decrease in red blood cell count. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

TOXICITY AND IRRITATION

Ingredient	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Sodium hypochlorite	> 5000 mg/kg		
Sodium carbonate	2800 mg/kg	> 2000 mg/kg	1.15 mg/L/2hr
Sodium hydroxide		1350 mg/kg	
C_{12-14} alkyldimethylamine oxide	4610 mg/kg		0.6 mg/L/4hr

Section 12 - Ecological Information

Vert toxic to aquatic life with long lasting effects
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.

Ingredient	Fish	Crustacea	Algae
Sodium hypochlorite	$LC_{50\ 96hr}$ 0.037 mg/L	$EC_{50\ 48hr}$ 0.026 mg/L	$EC_{50\ 72hr}$ 0.018 mg/L $NOEC_{\ 72hr}$ 0.005 mg/L
Sodium carbonate	$LC_{50\ 96hr}$ 300 mg/L $NOEC_{\ 96hr}$ 550 mg/L	$EC_{50\ 48hr}$ 265 mg/L	
Sodium hydroxide	$LC_{50\ 96hr}$ 125 mg/L $NOEC_{\ 96hr}$ 56 mg/L	$EC_{50\ 48hr}$ 40.4 mg/L	$EC_{50\ 96hr}$ 31800 mg/L
C_{12-14} alkyldimethylamine oxide	$LC_{50\ 96hr}$ 2.67 mg/L	$EC_{50\ 48hr}$ 2.9 mg/L	$EC_{50\ 72hr}$ 0.015 mg/L $EC_{10\ 72hr}$ 0.002 mg/L $NOEC_{\ 72hr}$ 0.003 mg/L

	Persistence H_2O/ Soil	Persistence Air	Bioaccumulation	Mobility
Sodium carbonate	LOW	LOW	LOW	HIGH
Sodium hydroxide	LOW	LOW	LOW	LOW
C_{12-14} alkyldimethylamine oxide	LOW	LOW	HIGH	LOW

Section 13 - Disposal Considerations

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: If container cannot be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product.
DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled. The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous. Only dispose to the environment if a tolerable exposure limit has been set for the substance. Only deposit the hazardous substance into or onto a landfill or sewage facility or incinerator, where the hazardous substance can be handled and treated appropriately.

Section 14 - Transport Information

HAZCHEM 2R

Land Transport UNDG

Class or division	8
Subsidiary Risk	None
UN Number	**1719**
UN Packing Group	II
Special Provisions	274
Limited Quantity	1 Lt
Shipping Name	CAUSTIC ALKALI, LIQUID, N.O.S. (contains sodium hypochlorite)

Air Transport IATA	
ICAO/IATA Class	8
ICAO/IATA Subrisk	None
UN/ID Number	**1719**
ERG Code	8L
Packing Group	II
Special provision	A3 A803
Cargo only	
Packing instructions	855
Maximum Qty/pack	30 Lt
Passenger and Cargo	
Packing instructions	851
Maximum Qty/pack	1 Lt
Passenger & Cargo Limited Quantity	
Packing instructions	Y840
Maximum Qty/pack	0.5 Lt
Shipping Name	CAUSTIC ALKALI, LIQUID, N.O.S. (contains sodium hypochlorite)

Marine Transport IMDG	
IMDG Class	8
IMDG Subrisk	None
UN Number	**1719**
UN Packing Group	II
EmS Number	F-A S-B
Special provisions	274
Limited quantities	1 Lt
Marine pollutant	No
Shipping Name	CAUSTIC ALKALI, LIQUID, N.O.S. (contains sodium hypochlorite)

Section 15 - Regulatory Information

HSNO Approval: **HSR002526 Cleaning Products (Corrosive)**

Group Standard conditions and other regulations:

Condition	**Requirement**
SDS	Safety data sheet must be available to a person handling the substance within 10 minutes.
Emergency plan	Required when quantities exceed 250 Lt
Certified handler	Not required
Tracking	Not applicable
Bunding and secondary containment	Required dependent on pack size and total volume
Signage	Required when quantities exceed 250 Lt
Location Compliance Certificate	Required when quantities exceed 250 Lt
Hazardous Area	Not required
Fire extinguisher	Not required

National Inventories

Australia	AICS	Y
Canada	DSL	Y
Canada	NDSL	N
China	IECSC	Y
Europe	EINEC/ELINCS/NLP	Y
Japan	ENCS	Y
Korea	KECI	Y
New Zealand	NZIOC	Y
Philippines	PICCS	Y
USA	TSCA	Y
Taiwan	TCSI	Y
Mexico	INSQ	N
Vietnam	NCI	Y
Russia	ARIPS	Y

Section 16 - Other Information

Revision History

August 2020	Initial Preparation

Acronyms:

CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters
HSNO	Hazardous Substances & New Organisms Act
IARC	International Agency for Research on Cancer
ICAO Technical Instruction	International Civil Aviation Organization Technical Instructions
IMDG Code	International Maritime Dangerous Goods Code controlled by the International Maritime Organisation (IMO)
LC_{50}	Lethal concentration 50% - concentration fatal to 50% of a population
LD_{50}	Lethal dose 50% - concentration fatal to 50% of a population
NZS 5433	New Zealand Standard 5433 (Standard for the Transport of Dangerous Goods on Land)
SDS	Safety Datasheet
STEL	Short Term Exposure Limit
TWA	Time Weighted Average (typically measured as 8-hours)
UN Number	United Nations Number
WES	Workplace Exposure standard

References

Chemical properties and HSNO classifications derived from the New Zealand chemical classification information database (CCID).
www.epa.govt.nz
Workplace exposure limits derived from Workplace Exposure Standards and Biological Exposure Indices 11th Edition (November 2019).

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material in combination with any other material or in any process, unless specified in the text.

This SDS was prepared by Collievale Enterprises Ltd in accord with the Hazardous Substances (Safety Data Sheets) Notice 2017
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End of SDS