SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1: Identification of the Substance/Mixture and of the Supplier

Product:	**Moss Kill Lemon**
Product Use:	Moss, Mould & Lichen Remover
Restriction of Use:	Refer to Section 15
Cmpany Details:	**Marketing Chemicals Ltd**
Address:	2 Rymer Place, Mangere Bridge Auckland. New Zealand
Telephone:	+64 9 634 3862 [8.00 am to 4.30pm – Monday to Friday]
Fax:	+64 9 634 3864
Emergency No:	**+64 274 736008(24 hours)** **0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	6 September 2019

Section 2: Hazard Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval No: Cleaning Products (Corrosive) - HSR0002526

Pictograms:

Corrosive Ecotoxic

Signal Word: **DANGER**

HSNO Classes	Hazard Code	Hazard Statement	GHS Category
8.2C	H314	Causes severe skin burns and eye damage.	Skin Corr. 1C
8.3A	H318	Causes serious eye damage.	Eye Corr. 1
9.1B	H411	Toxic to aquatic life with long lasting effects.	Aquatic Chronic 2

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe fumes or vapours.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection*.

Response code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

P301 + P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.

Storage Code	**Storage Statement**
P405	Store locked up.

Disposal Code	**Disposal Statement**
P501	Refer to Section 13.

Section 3: Composition/Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Sodium Hypochlorite	<10 - 15	7681-52-9
Sodium Hydroxide	<2.0	1310-73-2
Water & Sodium Chloride	To 100	

Section 4: First Aid Measures

Routes of Exposure:

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.
If on Skin	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.
If Swallowed	Rinse mouth. 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. Immediately call a POISON CENTER or doctor/physician if you feel unwell.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed
Symptoms:

Ingestion	Not applicable
Inhalation	Not applicable
Skin	Causes skin burns.
Eyes	Causes serious eye damage.
Chronic	Not applicable.

Section 5: Fire Fighting Measures

Hazard Type	Non Flammable.
Hazards from products	None known.
Suitable Extinguishing	All

media	
Precautions for firefighters and special protective clothing	Wear full protective gear.
HAZCHEM CODE	**2X**

Section 6: Accidental Release Measures

Wear protective clothing as detailed in Section 8. Evacuate all unnecessary personnel.

Do not allow to enter waterways.

Stop the leak, if possible. Ventilate the space involved. Contain, vacuum up, place in non-sparking container for disposal. Construct a dike to prevent spreading. Collect run-off and transfer to drums or tanks for later disposal. Dispose of according to Local Regulations.

Section 7: Handling and Storage

Handling:

- Read label before use.
- Do not breathe fumes or vapours.
- Wash hands thoroughly after handling.
- Do not breathe fume, mist, vapours or spray.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective clothing.
- Protect from physical damage.
- Clean up all spills immediately to prevent secondary accidents.

Storage:

- Store locked up.
- Store in a well-ventilated place. Keep cool.
- Keep out of reach of children.
- Store in original container.
- Store away from incompatible materials listed in Section 10.

Section 8: Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		STEL	
Substance	**ppm**	**mg/m^3**	**ppm**	**mg/m^3**
Sodium hydroxide [1310-73-2]		Ceiling 2 mg/m3		

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Personal Protection Equipment

Engineering Controls:	General (mechanical) room ventilation is considered satisfactory in enclosed spaces.
Eye / Face Protection:	Safety Glasses/Full face masks.
Body Protection:	PVC-coated gloves. Avoid skin contact. If skin contact or contamination of clothing is likely, protective clothing should be worn.
Respiratory Protection:	Not required.

Section 9: Physical and Chemical Properties

Appearance	Liquid
Colour	Clear Lemon
Odour	Not available
Odour Threshold	Not available
pH	13
Boiling Point	$>100^0$C
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Non Flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	1.16
Solubility in Water	Completely
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not applicable
Evaporation Rate	Not available

Section 10: Stability and Reactivity

Stability of the Substance:	Stable under normal storage and use conditions.
Conditions to avoid:	Heat, spark
Materials to avoid:	Oxidising agents
Hazardous Decomposition Products:	None known.
Conditions Contributing to Hazardous Polymerization	None known.

Section 11: Toxicological Information

Acute Effects:

Swallowed	Not applicable.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes serious damage to eyes.
Skin	Causes severe skin burns.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable.

Individual component information:
Acute Toxicity:

Chemical Name	Oral – LD50	Dermal – LD50	Inhalation – LC50
Sodium Hydroxide (Cas No 1310-73-2)	-	1350mg/kg (rabbit)	-

Section 12: Ecotoxicological Information

HSNO Classes: 9.1B = Toxic to aquatic life with long lasting effects.

Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Individual component information (Please refer to www.epa.govt.co.nz for full details):
Sodium hydroxide (Cas No 1310-73-2):

Route	Species	Duration	Value LC50/EC50
Acute aquatic, fish	Oncorhynchus mykiss (Fish, fresh water)	96 hr	45.4 mg/L
Acute aquatic, Crustacean	Ceriodaphnia dubia Water flea	48 hr	40.38 mg/L
Bioaccumulative	No		
Rapidly Degradable	Yes		

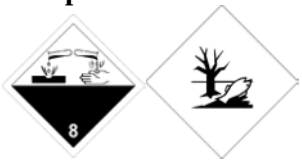
Section 13: Disposal Considerations

Disposal Method: Empty packaging completely prior to disposal. Do not pierce or burn, even after use. Place any recovered product into an appropriate waste container for disposal through appropriate waste company or specialized landfill in accordance with local regulations.

Precautions: Ensure waste container containing recovered product or contaminated spill media is labelled “Hazardous Waste – Corrosive”. Do not allow to enter waterways if possible.

Section 14: Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012



Road, Rail, Sea and Air Transport

UN No	3266
Class - Primary	8
Packing Group	III
Proper Shipping Name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.

Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 5L, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.
Hazchem Code	2X

Section 15: Regulatory Information

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval Code: Cleaning Product(corrosive) - HSR002526

HSNO Classification: 8.2C, 8.3A, 9.1B

HSW (HS) Regulations 2017 and EPA Notices	**Trigger Quantity**
Certified Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000L (9.1B)
Emergency Response Plan	1000L(9.1B)
Secondary Containment	1000L(9.1B)
Restriction of Use	None

Section 16: Other Information

Glossary

EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

Marketing Chemicals Ltd has taken care in compiling this information. No liability is accepted directly or indirectly from its application as conditions of use are outside the Company's control. End users are obliged to conform to relevant Local Government regulations.

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