CHLOR-ALKALI

Section 1. Identification of the material and the supplier

Product:	**CHLOR-ALKALI**
Product Use:	Cleaning of product contact surfaces in dairy plant. Not intended for domestic applications.
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Deosan Manufacturing Ltd**
Address:	20 Seddon Street Waharoa New Zealand
Email:	info@deosan.co.nz
Telephone:	0800 336 726 (0800 DEOSAN) / +64 7 888 5628
24 Hour Emergency Contact:	**0800 243 622 (CHEMCALL)**
Emergency No:	**0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	12 June 2025

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval No: Oxidising Liquids and Solids (Corrosive) – HSR002632

Pictograms

Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Oxidising liquids Cat. 2	H272	May intensify fire oxidiser.
Specific target organ toxicity – single exposure Cat. 3 respiratory tract irritation	H335	May cause respiratory irritation.
Skin corrosion Cat. 1C	H314	Causes severe skin burns and eye damage.
Serious eye damage Cat. 1	H318	Causes serious eye damage.
Hazardous to the aquatic environment acute Cat. 1	H400	Very toxic to aquatic life.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220	Keep or store away from clothing and other combustible materials.
P260	Do not breathe fumes, gas, mist, vapours or spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in SDS Section 8.

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.
P370 + P378	In case of fire: Use water, water spray, dry powder, foam, carbon dioxide (CO2 to extinguish.

Storage Code	**Storage Statement**
P405	Store locked up.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

Disposal Code	**Disposal Statement**
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	**CAS NUMBER.**	**Wt%**
Sodium Hypochlorite	7681-52-9	40-45
Sodium Hydroxide	1310-73-2	5-10
Non-Hazardous ingredients or ingredients not contributing to final classification		To 100%

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for 15 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. Wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician.

If Swallowed — Do not induce vomiting. Give water to rinse out mouth, then spit out rinse water. Provide water or milk slowly and as much as casualty can comfortably drink. Transport to hospital or doctor without delay with a copy of this safety data sheet.

If Inhaled — If fumes, aerosols or combustion products are inhaled 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 with a copy of this safety data sheet.

Most important symptoms and effects, both acute and delayed

Symptoms: Exposure will cause severe chemical burns and pain to skin, eyes and the gastrointestinal tract. Cough, sore throat and burning sensation will occur if inhaled. Refer to Section 11 for more information.

Notes to Doctor: Treat symptomatically based on individual reactions of patient and judgement of doctor.

Section 5. Fire Fighting Measures

Hazard Type	Oxidising Liquid
Hazards from combustion products	Spilled product will give off heat and toxic vapours on contact with water. Spilled product may react violently and give off toxic and/or corrosive fumes on contact with acids. Spilled product will release chlorine gas on contact with acids. Non-combustible. Will not self-ignite or explode. Not considered a fire risk, however containers may melt and release product.
Suitable Extinguishing media	In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions: water, water spray, dry powder, foam, carbon dioxide (CO2).
Precautions for firefighters and special protective clothing	Fire-fighters should wear full protective clothing suitable for chemical hazards with self-contained breathing apparatus. The substance must be contained and prevented from entering drains and water courses in all circumstances. Alert Fire Brigade and tell them location and nature of hazard. Clear fire area of all non-emergency personnel. Prevent, by any means available, spillage from entering drains or water course. Use firefighting procedures suitable for surrounding area. Equipment should be thoroughly decontaminated after use.
HAZCHEM CODE	**2X**

Section 6. Accidental Release Measures

For emergency responders:
Wear protective equipment detailed in Section 8. Keep unnecessary people away from the hazardous area. Avoid contact with skin and eyes.

Environmental precautions:
Prevent, by any means available, spillage from entering drains or water course. If significant contamination of drains or waterways occurs, advise emergency services.

Methods and material for containment and cleaning up:
If possible, dike spillage area to prevent runoff and contamination of water sources. Alert Fire Brigade and tell them location and nature of hazard. An exothermic reaction will occur on exposure to water.
Contain spilled material with sand, earth, vermiculite or another non-combustible material.
Prevent, by any means available, spillage from entering drains or water courses.
Neutralise/decontaminate residue.
Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains.
After clean-up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. Dispose of as per Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- **WARNING**: To avoid violent exothermic reaction, ALWAYS add Chlor-Alkali to water; NEVER add water to Chlor-Alkali.
- Operators should be trained in procedures for safe use of this material. Contact lenses should not be worn when working with this chemical.
- Avoid all personal contact.
- Implement controls to reduce risk of exposure, such as closed systems and isolated operations.
- Wear chemical resistant protective clothing that completely covers skin. Use appropriate personal protective equipment. See section 8 of the SDS.
- Read carefully and follow all instructions.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep or store away from clothing and other combustible materials.
- Do not breathe fumes, gas, mist, vapours or spray.
- Wash hands thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Operators should be trained in procedures for safe use of this material.
- When handling, DO NOT eat, drink, or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10 and foodstuff containers.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Store in original containers. Check all packaging is clearly labelled and free from leaks.
- Keep containers securely sealed to protect from moisture contamination.
- Store away from acids.
- Protect containers against physical damage and check regularly for leaks.
- Suitable Packaging: Corrosive resistant Plastic (HDPE) drum

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

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

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 Feb 2025 15TH EDITION.

Engineering Controls

No specific ventilation systems are required.

Personal Protection Equipment

Eyes	Use approved chemical safety goggles and a full-face shield. Refer to Personal eye protection Part 1: Eye and face protectors for occupational applications, Australian/New Zealand Standard: AS/NZS 1337.1:2010. Ensure that there is ready access to eye wash unit.
Skin	Wear impervious protective clothing, including chemical resistant boots, gloves, apron or overalls as appropriate to prevent skin contact. Refer to AS/NZS 2161.1:2016 Occupational Protective Gloves – Selection, use and

	maintenance; AS/NZS 2210.1:2010 for Safety footwear; AS/NZS 4501.1:2008 Occupational protective clothing – Guidelines on the selection, use, care and maintenance of protective clothing. Ensure ready access to an emergency shower.
Respiratory	No specific exposure controls are needed.

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Colourless to slightly yellow
Odour	Chlorine
Odour Threshold	Not available
pH	11.7 – 12.0
Boiling Point	~100°C
Melting Point	~0°C
Freezing Point	Not available
Flash Point	Not available
Flammability	Non-flammable – Oxidising Liquid
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	1.22 (water=1)
Bulk Density	1121 – 1221 kg/m^3
Water Solubility	Completely at any amount
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	Product is stable under normal conditions of use, storage, and temperature.
Possibility of hazardous reactions	Violent reaction on contact with Acids. Chlorine gas will be released on contact with acid.
Conditions to Avoid	Avoid excessive heat, direct sunlight, moisture, high temperatures.
Incompatible Materials	Acids and many metals.
Hazardous Decomposition Products	May produce toxic and corrosive fumes.

Section 11 Toxicological Information

Acute Effects:

Swallowed	This product is not classified as acutely toxic. Causes chemical burns to the oral cavity and gastrointestinal tract following ingestion. Mixture Calculation = LD50 = 6622 mg/kg
Dermal	This product is not classified as acutely toxic. Mixture Calculation = LD50 = 17880 mg/kg
Inhalation	Will irritate the respiratory tract. Symptoms include coughing, choking, pain and damage to the mucous membrane. Prolonged or repeated exposure may cause organ damage.
Eye	Causes chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage. May be intensely irritating to

	the eyes and precautions should be taken to ensure direct eye contact is avoided.
Skin	May produce severe chemical burns to skin if left untreated.

Chronic Effects:

Carcinogenicity	This product is not classified as carcinogenic.
Reproductive Toxicity	This product is not classified as toxic for reproduction.
Germ Cell Mutagenicity	This product is not classified as mutagenic.
Aspiration	This product is not classified as Asp Tox.
STOT/SE	This product is not classified as STOT SE.
STOT/RE	This product is not classified as STOT RE.
Chronic Health Effects	Substance accumulation in the human body may occur and may cause concern following repeated or long- term occupational exposure. 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. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

Section 12. Ecotoxicological Information

Very toxic to aquatic life.

Product:	
Persistence and degradability	No data available
Bioaccumulation	The substance has no known potential for bioaccumulation.
Mobility	Soluble in water.
Other adverse effects	No data available

Do not allow to enter waterways.

Section 13. Disposal Considerations

PRODUCT
Return unwanted product to the manufacturer for disposal or contact the Regional Council for local chemical disposal area details.
Treatment in a biological wastewater treatment system with prior approval and arrangement is also permissible providing that the substance is rendered non-hazardous and does not pose any adverse effects to human health or the environment.
Alternatively consult an approved Waste Management company for disposal options.
PACKAGING
NZ: Triple-rinse empty containers. Contact AgRecovery to arrange for pick-up or drop-off at a collection depot.
Overseas: Triple-rinse empty containers. Dispose of containers in accordance with guidance / regulations from relevant local authorities.
Observe all label safeguards until containers are cleaned and destroyed.

AGRECOVERY

Precautions or methods to avoid: Do not allow to enter waterways.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2020 and SNZ HB 5433:2021

Road, Rail, Sea and Air Transport

UN No	3098
Class - Primary	5
Packing Group	II
Proper Shipping Name	OXIDIZING LIQUID, CORROSIVE, N.O.S
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 1L/kg, 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.

Section 15 Regulatory Information

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval Code: Oxidising Liquids and Solids (Corrosive) – HSR002632

HSW (HS) Regulations 2017 and EPA Notices	**Trigger Quantity**
Certified Handler	Not required
Location Certificate	>50L (opened); 500L (closed)
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100L
Emergency Response Plan	100L
Secondary Containment	100L
Restriction of Use	Only use for the intended purpose.

Section 16 Other Information

Glossary

Cat	Category
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 Feb 2025 15th edition.

3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017

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Please contact the New Zealand distributor, if further information is required.

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