Safety Data Sheet

Section 1: Identification of the Substance and the Supplier.

Product Name:	**Sodium Hypochlorite**
Recommended use:	Water treatment chemical, Bleach, Sanitiser
Company details:	Aakland Chemicals (1997) Ltd
Address:	12 Wigram Close, Sockburn PO Box 323, Christchurch 8140
Telephone number:	+64 3 341 8490 **Facsimile**: +64 3 341 8491
Email:	lab@aakland.co.nz
Emergency Phone No:	0800 243 622 (*0800 CHEMCALL*) for out of hours advice

Section 2: Hazards identification

Classified as a dangerous good according to NZS 5433 Transport of Dangerous Goods on land.

Classified as hazardous according to criteria in Hazardous Substances (Hazard Classification) Notice 2020.

EPA NZ Approval: HSR 002681

SIGNAL WORD: Danger

HSNO classifications:	**GHS classifications:**
8.2 C	Skin corrosive Category 1C
8.3 A	Serious eye damage, Category 1
9.1 B	Hazardous to the aquatic environment chronic Category 2

Hazard Statement(s):

H314 – Causes severe skin burns and eye damage.
H318 – Causes serious eye damage.
H410 – Very toxic to aquatic life with long lasting effects.
AUH031 – Contact with acid liberates toxic gas.

Precautionary Statements
Prevention:

P102 – Keep out of reach of children.

P103 – Read label before use.
P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
P264 – Wash face, hands and any exposure skin thoroughly after handling.
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P101 – If medical advice is needed, have product container or label at hand.
P301+P330+P331 – **IF SWALLOWED:** Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 – **IF ON SKIN** (or hair): Remove/take off immediately 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. Call a POISON CENTRE or doctor/physician if you feel unwell.
P305+P351+P338 – **IF IN EYES**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P310 – Immediately call a POISON CENTER or doctor/physician.
P321 – **Specific treatment:** Consider oral administration of sodium thiosulfate solutions if sodium hypochlorite is ingested. Do not administer neutralizing substances since the resultant exothermic reaction could further damage tissue. Endotracheal intubation could be needed if glottic oedema compromises the airway. For individuals with significant inhalation exposure, monitor arterial blood gases and chest x-ray.
P363 – Wash contaminated clothing before reuse.
P391 – Collect spillage.

Storage:

P405 – Store locked up.

Disposal:

P501 – Dispose of the product and packaging at an approved landfill or other approved facility. Avoid contamination of waterways. Do not use container for any other purpose.

Other hazards which do not result in classification:
Contact with acids liberates highly toxic chlorine gas.

Section 3: Information on Ingredients

Components	CAS Number	Proportion
Sodium Hypochlorite	7681-52-9	10-25 % w/v
Sodium chloride	7647-14-5	1-<20 %w/w
Sodium hydroxide	1310-73-2	<1 %w/w
Water	7732-18-5	Balance to 100%

Section 4: First Aid Measures

If medical advice is needed, have product container or label at hand.

First Aid: Call a Doctor or National Poisons Centre 0800 POISON (0800 764 766) following first aid treatment.

Skin Contact: Rinse skin with plenty of water. Remove contaminated clothing and wash before re-use.

Eye Contact: Rinse with water for several minutes, remove contact lenses if present and easy to do, continue rinsing.
IMMEDIATELY seek medical attention.

Ingestion: Rinse mouth, do **NOT** induce vomiting.
IMMEDIATELY call a POISONS CENTRE or doctor.

Inhalation: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTRE or doctor/physician if you feel unwell.

Medical attention and special treatment:
Consider oral administration of sodium thiosulfate solutions if sodium hypochlorite is ingested. Do not administer neutralizing substances since the resultant exothermic reaction could further damage tissue. Endotracheal intubation could be needed if glottic oedema compromises the airway. For individuals with significant inhalation exposure, monitor arterial blood gases and chest x-ray. Capable of causing corneal burns

Section 5: Fire Fighting Measures

Hazards from combustion products: Corrosive hazard. Toxic chlorine gas evolves when heated. Substance releases oxygen when heated, which may increase the severity of an existing fire. Containers may rupture from pressure build-up.

Precautions for fire fighters and special protective equipment: Wear protective firefighting clothing (includes firefighting helmet, coat, trousers boots and gloves). IMPORTANT: - Wear a positive-pressure self-contained breathing apparatus (SCBA).

Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam. Use water spray to cool fire-exposed containers, to dilute liquid, and control vapour.

Hazchem: 2X

Section 6: Accidental Release Methods

Personal Protective Equipment advice is contained in Section 8 of this SDS.

Personal precautions: Avoid contact with skin, eyes and clothing. Do not breathe vapours or mist. Ensure adequate ventilation. Do not touch or walk through spilled material. Evacuate personnel to a safe area. Stop leak if you can do so without risk. Use personal protective equipment as required (see section 8). Wash thoroughly after handling.

Method and materials for containment and clean up: Contain spill with sand or other absorbent material and transfer to plastic drums for approved disposal. Wash away very small spills with water, avoid contamination of waterways.

Environmental precautions: Local authorities to be advice if spillage cannot be contained, or any waterways contaminated (this includes sewers).

Section 7: Handling and Storage

Personal Protective Equipment advice is contained in Section 8 of this SDS.

Precautions for safe handling: Keep out of reach of children. Avoid contact with skin, eyes and clothing. Do not breathe vapours or mist. Ensure adequate ventilation. Use personal protective equipment as required (see section 8). Wash thoroughly after handling.

Conditions for safe storage: Store separate from foodstuffs and acids. Keep containers tightly (use a breather cap or bung) closed when not in use, in a cool, dry and well-ventilated place. Protect from freezing.

Incompatible materials: The following react with sodium hypochlorite causing toxic chlorine fumes to be released: Acids, metals, metal salts, methanol, peroxides, reducing agents, ethylenediamine tetraacetic acid, amines, ammonia, ammonia compounds, aziridine, urea.
May be decomposed by hot water releasing chlorine fumes.

Section 8: Exposure controls/Personal protection

Workplace Exposure guidelines:

No exposure standard set for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standards for constituents and decomposition products.

Sodium hydroxide: Ceiling 2mg/m^3

Chlorine: 8hr WES-TWA of 0.5 ppm (1.5 mg/m^3)
WES-STEL of 1 ppm (2.9 mg/m^3)

As published by the New Zealand Workplace Health & Safety Authority.

WES – Ceiling (Workplace Exposure Standard – Ceiling). A concentration that should not be exceeded during any part of the working day.

WES-TWA (Workplace Exposure Standard – Time Weighed Average) – The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.
WES-STEL (Workplace Exposure Standard – Short Term Exposure Limits) – 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 likely hood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short term and eight-hour, time weighted average exposure should be determined.

Ventilation specification: Ensure that eyewash stations and safety showers are close to the workstation location.

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Protective equipment: The selection of PPE is dependent on a detailed risk assessment.

Skin: Wear impervious protective clothing, including chemical resistant boots, rubber gloves, coveralls, apron, to prevent skin contact.
Eyes: Wear approved tight sealing goggles and a full face shield where splashing is possible.
Inhalation: Where exposure to mist or vapours is apparent wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Section 9: Physical and Chemical Properties

APPEARANCE

Colourless or yellowish, hygroscopic, syrupy liquid.

PHYSICAL PROPERTIES

PROPERTY	VALUE
State:	Liquid
Colour:	Pale yellow to Green
Odour:	Chlorine
Odour threshold:	No data available
Freezing point:	No data available
Melting range:	No data available
Boiling range:	No data available
Solubility in water:	Miscible
Evaporation rate:	No data available
Specific gravity:	1.19 -1.24 @ 20^{o}C
pH: (1% solution)	12.5

Flash point:	No data available
Flammability:	Not applicable as aqueous solution
Upper/lower flammability limits:	Not applicable
Auto ignition temperature:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Partition coefficient: n-octanol/water	No data available

Section 10: Stability and Reactivity

Reactivity: Contact with acids liberates toxic chlorine gas.

Chemical Stability: Strong Oxidiser. Slowly decomposes on contact with air. Rate increases with the concentration and temperature. Exposure to sunlight accelerates decomposition. Sodium hypochlorite becomes less toxic with age.

Conditions to avoid: Contact with foodstuffs. Contact with other chemicals. Exposure to light, heat, acids, incompatibles

Incompatible materials: Acids, metals, metal salts, methanol, peroxides, reducing agents, ethylenediamine tetraacetic acid, amines, ammonia, ammonia compounds, aziridine, urea or any products containing nitrogen.

Possibility of hazardous reactions: Can react with ammonia, amines, or ammonium salts to produce chloramines.

Hazardous decomposition products: Chlorine

Section 11: Toxicological Information

Acute Toxicity

Inhalation: May cause irritation.

Eye Contact: Causes serious eye damage.

Skin contact: Causes burns.

Ingestion: Can burn mouth, throat, and stomach.

Symptons: Irritation/corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Burning

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium hypochlorite	=8.91 g/kg (rat)	>10000mg/kg (rabbit)	-
Sodium chloride	=3g/kg (rat)	>10 g/kg (rabbit)	>42g/m^3 (rat) 1h
Sodium hydroxide	-	=1350 mg/kg (rabbit)	-

Acute toxicity;	Can cause serious health effects
Skin irritation/Corrosion:	Causes severe skin burns and eye damage.
Serious eye: Damage/irritation:	Causes serious eye damage.
Respiratory irritation:	x
Ingestion:	The liquid is corrosive to the gastro-intestinal tract, causing severe tissue damage.
Respiratory or Skin sensitisation:	
Mutagenicity:	**X**
Carcinogenicity:	Hypochlorite salts have been classified International Agency for Research on Cancer (IARC) as a group 3 – Not classified as to its carcinogenicity to humans.
Reproductively:	**X**
STOT – Single exposure:	X
STOT – Repeated exposure:	**X**
Aspiration Hazard:	**X**
Narcotic effect:	**X**
X=	Data either not available or does not fill the criteria for classification.

Section 12: Ecological information

Ecotoxicity: Keep out of waterways. Very toxic to aquatic life with long lasting effects.

Bioccumulative: Material does not bioaccumulate.

Rapidly Degradable: Yes

Persistence & degradability Biodegradable.

Mobility in soil No information available.

Other adverse effects No information available

	End point	Test duration (HR)	Species	Value	Source
Sodium hypochlorite	LC50	96	Fish	0.032mg/l	2
	EC50	48	Crustacea	0.026mg/l	1
	EC50	72	Algae or other aquatic plants	0.0183mg/l	1
	NOEC	72	Algae or other aquatic plants	0.0054mg/l	1
Sodium hydroxide	LC50	96	Fish	125mg/l	1
	NOEC	96	Fish	56mg/l	1
Legend:	Extracted from: 1. Europe ECHA Registered Substances – Ecotoxicogical Information -Aquatic Toxicity. 2. US EPA, Ecotox database -Aquatic Toxicity Data				

Prevent by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

Section 13: Disposal considerations

Disposal of Hazardous Substances is subject to the Resource Management Act and Council By-Laws in addition to HSNO requirements. Do not dispose with household rubbish.

Disposal methods: Return to supplier for reuse or recycling if possible. Dispose of the product and packaging at an approved landfill or other approved facility. Avoid contamination of waterways. **DO NOT** use container for any other purpose.

Section 14: Transport information

Road and Rail Transport: Classified as a Dangerous Good according to NZS 5433 (Transport of Dangerous Goods on Land)

Marine, Air Transport: Similar listing as for Road and Rail Transport apply

UN No.: 1791 **Proper Shipping Name:** Sodium Hypochlorite solution >5%

DG Class(es): 8 **Packing Group:** III **Hazchem:** 2X

Section 15: Regulatory Information

Classified as hazardous according to criteria in Hazardous Substances (Hazard Classification) Notice 2020.

Water treatment Chemicals (corrosive) Group Standard 2020

EPA NZ Approval: HSR 002681

HSNO classifications:	**GHS classifications:**
8.2 C	Skin corrosive Category 1C
8.3 A	Serious eye damage, Category 1
9.1 B	Hazardous to the aquatic environment chronic Category 2

This substance triggers:	Location certificate	N/A
	Certified handler	N/A
	Emergency response plan	1000 litres
	Secondary containment	1000 litres
	Signage	1000 litres

Section 16: Other information

Disclaimer: This SDS summarises our best knowledge at the date of issue, the chemical health and safety limits of the material and general guidance on how to safety handle the material in the workplace. Since Aakland Chemicals (1997) Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material. If clarification or further information is required, the user should contact Aakland Chemicals (1997) Ltd.