Rowe Scientific Hypochlorite reagent ROWE SCIENTIFIC

Chemwatch: 5154-29 Version No: 6.1

Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: **12/02/2025** Print Date: **12/02/2025** L.GHS.AUS.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier	
Product name	Rowe Scientific Hypochlorite reagent
Chemical Name	Not Applicable
Synonyms	CA0026
Proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (contains sodium hydroxide)
Chemical formula	Not Applicable

Relevant identified uses of the substance or mixture and uses advised against

Not Available

Relevant identified uses Laboratory reagent.

Details of the manufacturer or supplier of the safety data sheet

Registered company name	ROWE SCIENTIFIC
Address	11 Challenge Boulevard Wangara WA 6065 Australia
Telephone	+61 8 9302 1911
Fax	+61 8 9302 1905
Website	https://rowe.com.au/
Email	rowewa@rowe.com.au

Emergency telephone number

Other means of identification

Association / Organisation	ROWE SCIENTIFIC
Emergency telephone number(s)	+61 8 9302 1911 (24 Hrs)
Other emergency telephone number(s)	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	S5
Classification ^[1]	Corrosive to Metals Category 1, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)



Signal word	Dange

Hazard statement(s)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

P260	Do not breathe mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P234	Keep only in original packaging.
P273	Avoid release to the environment.

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P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.	
P303+P361+P353	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P310	Immediately call a POISON CENTER/doctor/physician/first aider.	
P363	Wash contaminated clothing before reuse.	
P390	Absorb spillage to prevent material damage.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	

Precautionary statement(s) Storage

P405 Store locked up.

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1310-73-2	1-2	sodium hydroxide
7681-52-9	<1	sodium hypochlorite
7758-29-4	<1	sodium tripolyphosphate
7732-18-5	>60 <u>water</u>	
Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L * EU IOELVs available		

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: Wash out immediately with fresh 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. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes 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.
Ingestion	 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. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short-term repeated exposures to highly alkaline materials:

- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- Oxygen is given as indicated.
- The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
- Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure. INGESTION:

▶ Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.

- ▶ Neutralising agents should never be given since exothermic heat reaction may compound injury.
- * Catharsis and emesis are absolutely contra-indicated.
- * Activated charcoal does not absorb alkali.
- * Gastric lavage should not be used.

Supportive care involves the following:

- Withhold oral feedings initially.
- If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

▶ Injury should be irrigated for 20-30 minutes.

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Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]

SECTION 5 Firefighting measures

Extinguishing media

- Water spray or fog.
- ▶ Foam.

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- Dry chemical powder.
- ▶ BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

opeolar nazarus arising from the substrate of mixture	
Fire Incompatibility	▶ Reacts with aluminium / zinc producing flammable, explosive hydrogen gas
Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use fire fighting procedures suitable for surrounding area. Do not approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	 Non combustible. Not considered to be a significant fire risk. Expansion or decomposition on heating may lead to violent rupture of containers. Decomposes on heating and may produce toxic/ irritating fumes. May emit acrid smoke. Other decomposition products include: chlorides phosphorus oxides (POx)

SECTION 6 Accidental release measures

HAZCHEM

Personal precautions, protective equipment and emergency procedures

2X

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor 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.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Neutralise/decontaminate residue (see Section 13 for specific agent). 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. If contamination of drains or waterways occurs, advise emergency services.

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

SECTION 7 Handling and storage

Precautions for safe handling ▶ Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. When handling DO NOT eat, drink or smoke. Safe handling Always wash hands with soap and water after handling. Avoid physical damage to containers. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Other information 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.

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Suitable container

▶ Glass container is suitable for laboratory quantities

Storage incompatibility Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA		STEL	Peak	Notes
Australia Exposure Standards	sodium hydroxide	Sodium hydroxide	Not Availab	le	Not Available	2 mg/m3	Not Available
Ingredient	Original IDLH			Revised IDLH			
sodium hydroxide	10 mg/m3			Not Ava	t Available		
sodium hypochlorite	Not Available		Not Ava	ot Available			
sodium tripolyphosphate	Not Available			Not Available			
water	Not Available	Not Available			ailable		

MATERIAL DATA

Exposure controls

(posure controls	
Appropriate engineering controls	Use in a well-ventilated area General exhaust is adequate under normal operating conditions.
Individual protection measures, such as personal protective equipment	
Eye and face protection	 Chemical goggles. Full face shield may be required for supplementary but never for primary protection of eyes. 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. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. Elbow length PVC gloves
Body protection	See Other protection below
Other protection	 Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit. Ensure there is ready access to a safety shower.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer*generated selection:

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Material	СРІ
NEOPRENE	A
BUTYL	С
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PE	С
PE/EVAL/PE	С
PVA	С
PVC	С
SARANEX-23	С
SARANEX-23 2-PLY	С
TEFLON	С

Respiratory protection

Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	B-AUS / Class1 P3	-
up to 50	1000	-	B-AUS / Class 1 P3
up to 50	5000	Airline *	-
up to 100	5000	-	B-2 P3
up to 100	10000	-	B-3 P3
100+			Airline**

^{* -} Continuous Flow ** - Continuous-flow or positive pressure demand $A(AII\ classes) = Organic\ vapours,\ B\ AUS\ or\ B1 = Acid\ gasses,\ B2 = Acid\ gas\ or$ hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

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VITON	С
VITON/CHLOROBUTYL	С

^{*} CPI - Chemwatch Performance Index

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B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation.
* Where the glove is to be used on a short term, casual or infrequent basis, factors

such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Ansell Glove Selection

Glove — In order of recommendation
AlphaTec 02-100
AlphaTec® Solvex® 37-185
AlphaTec® 38-612
AlphaTec® 58-008
AlphaTec® 58-530B
AlphaTec® 58-530W
AlphaTec® 58-735
AlphaTec® 79-700
AlphaTec® Solvex® 37-675
DermaShield™ 73-711

The suggested gloves for use should be confirmed with the glove supplier.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear colourless alkaline liquid; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1 approx
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

A: Best Selection

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SECTION 11 Toxicological information

Information on toxicological effects

a) Acute Toxicity	Based on available data, the classification criteria are not met.		
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.		
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating		
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.		
e) Mutagenicity	Based on available data, the classification criteria are not r	net.	
f) Carcinogenicity	Based on available data, the classification criteria are not r	met.	
g) Reproductivity	Based on available data, the classification criteria are not r		
h) STOT - Single Exposure	Based on available data, the classification criteria are not r		
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not r		
j) Aspiration Hazard	Based on available data, the classification criteria are not r	net.	
Inhaled	Pulmonary oedema may develop in more severe cases; th	t he respiratory tract with coughing, choking, pain and mucous membrane damage. is may be immediate or in most cases following a latent period of 5-72 hours., frothy sputum, cyanosis and dizziness. Findings may include hypotension, a	
Ingestion	The material can produce chemical burns within the oral ca	avity and gastrointestinal tract following ingestion.	
Skin Contact	The material can produce chemical burns following direct of Skin contact with alkaline corrosives may produce severe gelatinous and necrotic; tissue destruction may be deep.	contact with the skin. pain and burns; brownish stains may develop. The corroded area may be soft,	
Еуе	Direct contact with alkaline corrosives may produce pain a may occur. In less severe cases these symptoms tend to re	ing direct contact. Vapours or mists may be extremely irritating. nd burns. Oedema, destruction of the epithelium, corneal opacification and iritis esolve. In severe injuries the full extent of the damage may not be immediately edema, vascularisation and corneal scarring, permanent opacity, staphyloma,	
Chronic		in the erosion of teeth, inflammatory and ulcerative changes in the mouth and and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal lit in dermatitis and/or conjunctivitis.	
Rowe Scientific Hypochlorite	TOXICITY IRRITATION		
reagent	Not Available	Not Available	
	тохісіту	IRRITATION	
	Dermal (rabbit) LD50: 1350 mg/kg ^[2]	Eye (Primate - monkey): 1%/24H - Severe	
	Oral (Rabbit) LD50; 325 mg/kg ^[1]	Eye (Rodent - rabbit): 1% - Severe	
	Oral (Nabbit) Eboo, 525 Hig/kg	Eye (Rodent - rabbit): 100mg	
		Eye (Rodent - rabbit): 1mg/24H - Severe	
		Eye (Rodent - rabbit): 1mg/30S - Severe	
		Eye (Rodent - rabbit): 400ug - Mild	
sodium hydroxide		Eye (Rodent - rabbit): 50ug/24H - Severe	
		Eye: adverse effect observed (irritating) ^[1]	
		Skin (Human): 0.15%/96H	
		Skin (Human): 2%/24H - Mild	
		Skin (Human): 2.50%/24H	
		Skin (Rodent - rabbit): 500mg/24H - Severe	
		Skin: adverse effect observed (corrosive) $^{[1]}$	
	тохісіту	IRRITATION	
	Dermal (rabbit) LD50: >10000 mg/kg ^[1]	Eye (Rodent - rabbit): 1.31mg - Mild	
	Inhalation (Rat) LC50: >2.625 mg/l4h ^[1]	Eye (Rodent - rabbit): 10mg - Moderate	
sodium hypochlorite	Oral (Mouse) LD50; 5800 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]	
		Skin (Human): 4%/48H	
		Skin: adverse effect observed (corrosive) ^[1]	
		Skin: adverse effect observed (irritating) ^[1]	
	TOXICITY	IRRITATION	
	res.	Eye: no adverse effect observed (not irritating) ^[1]	
sodium tripolyphosphate	Dermal (rabbit) LD50: >3160 mg/kg ^[2]	Skin (Rodent - rabbit): 500mg/24H - Moderate	
	Inhalation (Rat) LC50: >0.39 mg/l4h ^[1]	, , , , , , , , , , , , , , , , , , ,	
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]	
water	TOXICITY	IRRITATION	
	Oral (Rat) LD50: >90000 mg/kg ^[2]	Not Available	

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Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

SODIUM HYDROXIDE

SODIUM HYPOCHLORITE

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis.

Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.

as sodium hypochlorite pentahydrate

Hypochlorite salts are classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis

Most of the data for toxicity of hypochlorites by the oral route are from studies performed with sodium hypochlorite or chlorine gas. In biological systems, characterised by pH values in the range of 6-8, the most abundant active chemical species is (hypochlorous acid) HOCI, in equilibrium with hyochlorite anion (CIO-). Such available chlorine is readily absorbed via the oral route and distributed into plasma, bone marrow, testis, skin, kidney and lung. Only about. 50% is excreted mainly with the urine followed by excretion with faeces. HOCl is not enzymatically metabolised.

Acute toxicity: The acute oral LD50 of calcium hypochlorite was 790 mg/kg in male rats. Inhalation exposures to concentrations of greater than about 500 ppm (10 min or more) may be fatal for rats. Based on human experience and control studies in volunteers, it can be concluded that the acute NOAEL for humans was considered to be 0.5 ppm (1.5 mg/m3).

Hypochlorite salts are extremely corrosive and can cause severe damage to the eyes and skin. Calcium hypochlorite is reported to be corrosive to the skin and has severe effects that can be expected from exposure to the eyes, which is ascribable to the alkalinity of calcium cation (pH=12.0 at 1 % as free available chlorine (FAC*)). Moderate to severe lesions in the respiratory tract were reported after exposure to chlorine that may emerge in case of accidental

misuse of hypochlorite salts. Exposure to chlorine at 9 ppm (27 mg/m3) for 6 h/day during 1, 3 and 5 days was reported to cause epithelial necrosis, cellular exfoliation, erosion, ulceration and squamous metaplasia in the nasal passage of rats and mice. For either of Ca or Na salt, reliable skin sensitisation studies are not available and case reports are available but no reliable case report could be found showing a sensitisation potential in humans.

Repeat dose toxicity: In a 13-week study, male and female F-344 rats (10/sex/group) received sodium hypochlorite (NaClO) in drinking water at level of 0.025, 0.05, 0.1, 0.2, or 0.4 %. A weight gain was significantly decreased in male rats at 0.2 and 0.4 % and in females at 0.4 %. These effects were dose related and obviously correlated with reduced water consumption. No histopathological changes attributable to the treatment were found. But an increase of AAT in the blood gave evidence of the adverse effects on the liver. Based on significant bodyweight reduction at the top dose, a subchronic NOAEL of 59.5 mg/kg bw/day as free available chlorine (FAC*) (at 0.1% NaClO level in the drinking water) can be calculated for male rats.

For female rats a subchronic NOAEL of 215.7 mg/kg bw/day as FAC (at 0.2 % NaClO level in the drinking water) can be calculated. A NOAEL of 950 ppm available chlorine (59.5 mg/kg bw/day) can be derived from a 13-week rat study with sodium hypochlorite in drinking water.

In a life-time guideline NTP-study, 70 male and female F344 rats and B6C3F1 mice were administered chlorine via drinking water at dose levels of 0, 70, 140 and 275 mg (equivalent to FAC)/L in buffered water. These concentrations were equivalent to 0, 4.8, 7.5 and 13.9 mg/kg bw/day for male rats and 0, 3.8, 6.9 and 13.2 mg/kg

bw/day for female rats. Mean body weights of male and female rats were similar among treated and control groups at both 14-week and 66week interim evaluations. Those of male mice were significantly lower at week 66. Dose-related decrease in water consumption was observed throughout the study in both species and sexes. Food

consumption was comparable among chlorine-treated and control groups. There were no clinical findings, alterations in haematological parameters and biologically significant differences in relative organ weights attributable to the treatment at 14/15-week and 66-week interim evaluations. Survival rate in chlorine-treated groups of rats and mice

were similar to those of the controls after two groups. There was no evidence for non-neoplastic lesions to be associated with the consumption of chlorinated drinking water [NTP, 1992]. Based on these findings, a NOAEL (chronic) can be calculated to be approximately 14 mg available chlorine /kg bw/day for rats and 22.5 mg available chlorine /kg bw/day for mice.

Reproductive toxicity: No reproductive toxic effects were shown up to 5 mg/kg (highest dose tested) of sodium salt (equivalent to 4.8 mg/kg of calcium salt) in a one generation oral study in rats. No evidence of adverse developmental effects were reported in animals. Moreover, epidemiological studies in humans did not show any evidence of toxic effects on reproduction and development. Genotoxicity: There are data from in vitro studies to suggest that solutions of chlorine/hypochlorite have some mutagenic potential, but it

can be concluded that they are not mutagenic in vivo. No carcinogenicity was observed in mice or rats exposed by inhalation to chlorine and orally to sodium hypochlorite, except some equivocal

results were reported for female rats by oral route. For human carcinogenicity, no causal relationship between hypochlorite exposure and tumour incidence was observed. The observation is applicable to calcium hypochlorite.

A number of fibrosarcomas and squamous cell carcinomas were observed in mice treated dermally with repeated subcarcinogenic doses of 4-nitroquinoline-1-oxide, followed by dermal treatment with sodium hypochlorite.

WATER

No significant acute toxicological data identified in literature search

SODIUM HYDROXIDE & SODIUM HYPOCHLORITE & SODIUM TRIPOLYPHOSPHATE

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	✓	Reproductivity	×
Serious Eye Damage/Irritation	*	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend:

— Data either not available or does not fill the criteria for classification

Data available to make classification

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Toxicity

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0.1. 475. 11 11 4	Endpoint	Test Duration (hr)	S	pecies		Value	Source
we Scientific Hypochlorite reagent	Not Available	Not Available	N	lot Available		Not Available	Not Available
	Endpoint	Test Duration (hr)	5	Species		Value	Source
	EC50(ECx)	48h	Crustacea			34.59- 47.13mg/l	4
sodium hydroxide	EC50	48h	(Crustacea		34.59- 47.13mg/l	4
	LC50	96h	F	Fish		144- 267mg/l	4
	Endpoint	Test Duration (hr)	Spec	cies	Value		Source
sodium hypochlorite	EC50	72h	Alga	Algae or other aquatic plants 0.018mg		mg/l	2
	EC50	96h	Algae	Algae or other aquatic plants ~0.1~0.		0.4mg/l	2
	NOEC(ECx)	72h	Algae	Algae or other aquatic plants 0.005mg		mg/l	2
	EC50	48h	Crus	Crustacea 0.01mg/		ıg/l	4
	LC50	96h	Fish		>0.023-		4
	Endpoint	Test Duration (hr)	Spe	ecies	Valu	ıe	Source
	EC50	96h	Alga	ae or other aquatic plants	69.2	?mg/l	2
sodium tripolyphosphate	EC50(ECx)	Not Reportedh	Alga	ae or other aquatic plants	25-6	60mg/L	4
	EC50	48h	Crus	stacea	>70	.7<101.3mg/l	2
	Endpoint	Test Duration (hr)	S	pecies		Value	Source
water	Not Available	Not Available	N	lot Available		Not Available	Not Available

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
sodium hydroxide	LOW	LOW
water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
sodium hydroxide	LOW (LogKOW = -3.88)
sodium tripolyphosphate	LOW (LogKOW = -7.74)
water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
sodium hydroxide	LOW (Log KOC = 14.3)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Management Authority for disposal.
- ▶ Treat and neutralise with dilute acid at an effluent treatment plant.
- Recycle containers, otherwise dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required



Marine Pollutant

A7CHEM	

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Land transport (ADG)

14.1. UN number or ID number	3266		
14.2. UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (contains sodium hydroxide)		
14.3. Transport hazard class(es)	Class Subsidiary Hazard	8 Not Applicable	
14.4. Packing group			
14.5. Environmental hazard	Not Applicable		
14.6. Special precautions for user	Special provisions 223 274 Limited quantity 5 L		

Air transport (ICAO-IATA / DGR)

tir transport (ICAO-IATA / DGF	9			
14.1. UN number	3266			
14.2. UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. * (contains sodium hydroxide)			
	ICAO/IATA Class	8		
14.3. Transport hazard class(es)	ICAO / IATA Subsidiary Hazard	Not Applicable		
ciass(es)	ERG Code	8L		
14.4. Packing group	III			
14.5. Environmental hazard	Not Applicable			
	Special provisions		A3 A803	
	Cargo Only Packing Instructions		856	
	Cargo Only Maximum Qty / Pack		60 L	
14.6. Special precautions for user	Passenger and Cargo Packing Instructions		852	
	Passenger and Cargo Maximum Qty / Pack		5 L	
	Passenger and Cargo Limited Quantity Packing Instructions		Y841	
	Passenger and Cargo Limited Maximum Qty / Pack		1 L	

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	3266		
14.2. UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (contains sodium hydroxide)		
14.3. Transport hazard	IMDG Class 8		
class(es)	IMDG Subsidiary Ha	zard Not A	pplicable
14.4. Packing group	III		
14.5 Environmental hazard	Not Applicable		
	EMS Number	F-A, S-B	
14.6. Special precautions for user	Special provisions	223 274	
	Limited Quantities	5 L	

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
sodium hydroxide	Not Available
sodium hypochlorite	Not Available
sodium tripolyphosphate	Not Available
water	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
sodium hydroxide	Not Available
sodium hypochlorite	Not Available
sodium tripolyphosphate	Not Available
water	Not Available

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SECTION 15 Regulatory information

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Safety, health and environmental regulations / legislation specific for the substance or mixture

sodium hydroxide is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australian Inventory of Industrial Chemicals (AIIC)

sodium hypochlorite is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule ${\bf 5}$

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

sodium tripolyphosphate is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 3

Australian Inventory of Industrial Chemicals (AIIC)

water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non- Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (sodium hydroxide; sodium hypochlorite; sodium tripolyphosphate; water)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	12/02/2025
Initial Date	17/10/2014

SDS Version Summary

Version	Date of Update	Sections Updated
5.1	28/06/2024	Classification change due to full database hazard calculation/update.
6.1	12/02/2025	Physical and chemical properties - Appearance

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- ▶ PC TWA: Permissible Concentration-Time Weighted Average
- ▶ PC STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ► TEEL: Temporary Emergency Exposure Limit。
- ► IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level

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- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ► TLV: Threshold Limit Value
- LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- BEI: Biological Exposure Index
 DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European Inventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ► TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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