



SAFETY DATA SHEET

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

Section 1. Identification of the material and the supplier

Product: **FS1C Chlorinated Warewash Detergent**
Other Names: FS1C Chlorinated Warewash
Product Use: Commercial Dishwasher for removal of stains from crockery
Restriction of Use: Refer to Section 15

New Zealand Supplier: **2CARE PRODUCTS**
Address: 9 Donnor Place
Mt Wellington
Auckland

Telephone: 0800 753 753
Fax: 09 574 5999
Emergency No: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 16 June 2022 v2

Section 2. Hazards Identification

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

EPA Approval No: Cleaning Products (Corrosive) – HSR002526

Pictograms:



Signal Word: **DANGER**

GHS Classification and Category	HSNO Classification	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 4	6.1D(oral)	H302	Harmful if swallowed.
Corrosive to metals Cat. 1	8.1A	H290	May be corrosive to metals.
Skin corrosion Cat. 1B	8.2B	H314	Causes severe skin burns and eye damage.
Serious eye damage Cat. 1	8.3A	H318	Causes serious eye damage.
Hazardous to the aquatic environment chronic Cat. 4	9.1D	H413	May cause long lasting harmful effects to aquatic life.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P234	Keep only in original container.
P260	Do not breathe dust, fumes, gas, mist, vapours or spray.

P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in 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.
P390	Absorb spillage to prevent material damage.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.
P406	Store in corrosive resistant container with a resistant inner liner.

Disposal Code	Disposal Statement
P501	Do not let this product enter the environment. Do not dispose of in waterways or sewers. Dispose of this material and its container as hazardous waste, via a licensed facility. See local council for disposal/recycling information.

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
Sodium Hypochlorite	20-30%	7681-52-9
Potassium Hydroxide	20-30%	1310-58-3
2-Phosphonobutane-1,2,4-tricarboxylic acid	<10%	37971-36-1
Non Hazardous ingredients	<5%	Proprietary
Water	Balance	7732-18-5

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	IMMEDIATELY flush eyes with copious amounts of water for at least 30 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Washing must be started within 10 seconds of contact and continued for 30 minutes to prevent permanent injury. Seek immediate medical attention. An Ophthalmology consultation is a must.
If on Skin	REMOVE contaminated clothing. IMMEDIATELY flush the contaminated skin thoroughly with water for at least 15 minutes. Seek medical attention URGENTLY if burning or irritation persists.
If Swallowed	Do not induce vomiting. Give water to drink immediately to dilute. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower

than the hips to prevent vomit entering the lungs. 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: Harmful if swallowed.

Inhalation: Not applicable

Skin: Causes skin burns.

Eye: Causes severe eye damage.

Notes to Doctor: For acute or short-term repeated exposures to highly alkaline materials: Respiratory stress is uncommon but present occasionally because of soft tissue oedema. 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.

Safety measures: Potable water should be available to rinse eyes or skin. Provide eye baths and safety showers. Treat symptomatically.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from combustion products	The product is non-combustible; however, the packaging material may burn to emit noxious fumes. Contact with metals may liberate hydrogen gas which is extremely flammable.
Suitable Extinguishing media	Use extinguishing media appropriate for surrounding fire.
Precautions for firefighters and special protective clothing	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire-fighting clothing (includes fire-fighting helmet, coat, trousers, boots and gloves) or chemical splash suit. Please note: Structural fire fighters protective clothing is recommended for fire situations only, it is not effective in spills. Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. DO NOT allow firefighting water to reach waterways, drains or sewers. Store fire-fighting water for treatment.
HAZCHEM CODE	2X

Section 6. Accidental Release Measures

General Response Procedures:

Clear area of all unprotected personnel. Allow only trained personnel wearing appropriate protective equipment to be involved in spill response. Contain spill, avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilt. **CAUTION:** Prolonged contact with metals may liberate hydrogen gas which is extremely flammable.

Environmental Precautionary Measures:

Prevent run off into drains and waterways. If contamination of sewers or waterways has occurred advise the Environmental Protection Authority and/or your local Waste Authority.

Clean Up Procedures:

Stop leak if safe to do so. Contain spill immediately. Mechanically collect as much of the spill as possible. Absorb with sand, earth or clay. Transfer to suitable, labelled corrosion resistant containers and dispose of promptly as hazardous waste. Spill on areas other than pavement (e.g. dirt and sand) may be handled by removing the affected soils and placing in approved containers. Dilute acid (preferably acetic acid may be used to neutralise residual traces of caustic soda) after flushing. Dispose as per Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Keep only in original container.
- Do not breathe dust, fumes, gas, mist, vapours or spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- Ensure an eye bath and safety shower is available and ready for use.
- Avoid contact with eyes, skin and clothing. Do not inhale product vapours.
- Do not smoke, eat or drink when handling product.
- Product can react violently with acids.
- Emergency showers and eye-washes must be available.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Store locked up.
- Store in corrosive resistant container with a resistant inner liner.
- Store in a cool, dry, well-ventilated protected area out of direct sunlight and away from foodstuffs.
- Keep containers tightly closed when not in use.
- Inspect regularly for deficiencies such as damage or leaks.
- Protect against physical damage.
- Store away from aluminium, tin, zinc and alloys (bronzes), chrome and lead. Protect from damp and kept apart from acids, halogenated hydrocarbons, nitroparaffins, etc.
- The floor must be waterproof and anti-slip.
- A water supply or source must be provided in the place of storage.
- Emergency showers and eye-washes must be available.
- Keep out of reach of children.
- Do not store in Aluminium or galvanised containers nor use die cast zinc or aluminium fittings (e.g. valves and bungs.)

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA	STEL
	ppm mg/m ³	ppm mg/m ³
Potassium hydroxide [1310-58-3]	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 (WES-STEL). 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 APRIL 2022 13TH EDITION.

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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.

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SDS Prepared by: 2 Care Products
Version: 002

Adequate ventilation should be provided so that exposure limits are not exceeded.

Personal Protection Equipment



Eyes	Use splash proof safety goggles, and/or if necessary an appropriate full-face shield that conform to AS1336/1337.
Hands	Any Gloves approved for chemical hazards that conform to AS2161.
Skin	Trousers, Long sleeved shirt and closed shoes.
Respiratory	If determined an inhalation risk is present. Use a P2 grade disposable mask which conforms to the requirements of AS1715/1716).

Section 9 Physical and Chemical Properties

Appearance	Free Flowing Liquid
Colour	Colourless
Odour	Odourless
Odour Threshold	Not available
pH	13.0 - 14.0
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	Not available
Water Solubility	Complete in water
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available
Shelf life	2 years from manufacturing date (when stored as directed)

Section 10. Stability and Reactivity

Stability of Substance	The substance is stable under normal environmental and foreseeable conditions of temperature and pressure during storage and handling.
Possibility of hazardous reactions	No data available.
Conditions to Avoid	Avoid contact with foodstuffs. Do not combine part drums of the same product.
Incompatible Materials	Highly exothermic reaction with strong acids, aluminium, tin, zinc and their alloys, copper, lead, etc, acetic acid, allyl chloride, chlorine trifluoride, chloroform, methylic alcohol, chloronitrotoluene, chlorosulphonic acid, glyoxal, cyanohydrin, hydrochloric acid, hydrofluoric acid, hydroquinone, nitric acid, sulphuric acid and oleum, nitropropane, phosphorous, propiolactone, phosphorous pentoxide, tetrachlorobenzene, tetrahydrofuran, nitromethane and nitroparaffins. Caustic soda solutions may react readily with various reducing

	sugars (i.e.: fructose, galactose, maltose, dry whey solids) to produce carbon monoxide.
Hazardous Decomposition Products	The packaging material may burn to emit noxious fumes. Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen. When the product decomposes, toxic sodium oxide gases are given off.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes serious eye damage. Can cause ulceration of the conjunctiva and cornea.
Skin	Causes skin burns.

Chronic Effects:

Carcinogenicity	The substance did not induce mutagenicity in in vitro and in vivo studies (EU RAR, 2007). Systemic carcinogenicity is not expected to occur because the substance is not expected to be systemically available in the body under normal handling and use conditions.
Reproductive Toxicity	Not applicable. The substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason it can be stated that the substance will not reach the foetus nor reach male and female reproductive organs
Germ Cell Mutagenicity	Not applicable. Both the in vitro and the in vivo genetic toxicity tests indicated no evidence of mutagenic activity. Furthermore, the substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason additional testing is considered unnecessary (EU RAR, 2007).
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable. Repeated exposure: Corrosive substance. In addition, the substance is not expected to be systemically available in the body under normal handling and use conditions and therefore systemic effects of the substance after repeated exposure are not expected to occur.

Individual component information:

Acute Toxicity:

Chemical Name	Oral – LD50	Dermal – LD50	Inhalation – LC50
Sodium Hypochlorite	237 mg/kg (rat)	>10000 mg/kg (rabbit)	-
Potassium Hydroxide	273 mg/kg (rat)	50 mg/kg (Human)	-

Section 12. Ecotoxicological Information

May cause long lasting harmful effects to aquatic life.

Product:	
Persistence and degradability	Readily Biodegradable. Other relevant information Abiotic degradation: NaOH is a strong alkaline substance that dissociates completely in water to Na ⁺ and OH ⁻ . High water solubility and low vapour pressure indicate that NaOH will be found predominantly in aquatic environment. This implies that it will not adsorb on particulate matter or surfaces. Atmospheric emissions as aerosols are rapidly

	neutralized by carbon dioxide and the salts will be washed out by rain.
Bioaccumulation	Potassium Hydroxide does not bioaccumulate in organism. In addition, sodium is a naturally occurring element that is prevalent in the environment and to which organism are exposed regularly for which they have some capacity to regulate the concentration in the organism.
Mobility	High water solubility and mobility.
Other adverse effects	No information available.

ECOTOXICITY Potassium Hydroxide – LC₅₀ – 80mg/L (Gambusia affinis – 96hr).

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:

Dispose of in accordance with all local, regional and national regulations. All empty packaging should be disposed of in accordance with local, regional, and national regulations or recycled/reconditioned at an approved facility.

Precautions or methods to avoid:

Containers should be triple rinsed then rinsed with dilute hydrochloric acid to neutralise potassium hydroxide residues which should be added slowly by trained staff wearing proper protection. Disposal of this product must comply with any requirements of the Resource Management Act for which approval should be sought from the Regional Authority.

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	II
Proper Shipping Name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S (contains Potassium Hydroxide)
Marine Pollutant	No
Special Provisions	If the product's individual container is below 1L, 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: Cleaning Products (Corrosive) – HSR002526

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handler	Not required
Location Certificate	250L
Tracking Trigger Quantities	Not required

Signage Trigger Quantities	250L
Emergency Response Plan	1000L
Secondary Containment	1000L
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 April 2022 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

This SDS has been prepared from current technical data and summarises at the date of issue our best knowledge of the health and safety information of the product, and how to safely handle and use the product in the work place. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact the company.

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