Safety Data Sheet

Infosafe No™ 1CH6G Issue Date : May 2018 RE-ISSUED by CHEMSUPP

Product Name : **SODIUM HYPOCHLORITE Solution 8 -12.5% avail. Chlorine**

Classified as hazardous

1. Identification

GHS Product Identifier	SODIUM HYPOCHLORITE Solution 8 -12.5% avail. Chlorine	
Company Name	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)	
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia	
Telephone/Fax Number	Tel: (08) 8440-2000 Fax: (08) 8440-2001	
Recommended use of the chemical and restrictions on use	Bleaching agent, water purification, pharmaceuticals, fungicides, household bleach, intermediate, organic chemicals, swimming pool disinfectant, laundering, germicide and laboratory reagent.	
Other Names	**Name**	**Product Code**
	Pool chlorine, Dakins solution	
	SODIUM HYPOCHLORITE Solution 8 -12.5% avail. Chlorine	ST044
Other Information	EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm, Monday to Friday. Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.	

2. Hazard Identification

GHS classification of the substance/mixture	Skin Corrosion/Irritation: Category 1B Specific target Organ Toxicity - Single Exposure Category 3 (respiratory tract irritation) Hazardous to the Aquatic Environment - Acute Hazard: Category 1
Signal Word (s)	DANGER
Hazard Statement (s)	H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation. H400 Very toxic to aquatic life. AUH031 Contact with acids liberates toxic gas
Pictogram (s)	Corrosion, Environment, Exclamation mark

Precautionary statement – Prevention	P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P273 Avoid release to the environment. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement – Response	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. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 Immediately call a POISON CENTER or doctor/physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Precautionary statement – Storage	P405 Store locked up.

Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization	Liquid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Water	7732-18-5	87.5-92 %		
Sodium Hypochlorite	7681-52-9	8-12.5 %	C	R31, R34

4. First-aid measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Wash clothing before reuse. Decontaminate clothing, shoes and leather goods before re-use, or discard. Seek medical attention.
Eye contact	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical assistance.
First Aid Facilities	Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor	Treat symptomatically and supportively. Consider oral administration of sodium thiosulfate solutions if sodium hypochlorite is ingested. Do not administer neutralizing substances (e.g., acid antidotes) since the resultant exothermic reaction could further damage tissue. Sodium thiosulphate immediately reduces hypochlorite to non toxic products but may produce hydrogen sulphide in contact with acids. 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. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.
Protection for First Aiders	No action shall be taken involving any personal risk or without suitable training. Take proper precautions to ensure your own safety before attempting rescue; (e.g. wear appropriate protective equipment, use the 'buddy' system.) Can release corrosive chlorine gas. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Avoid mouth-to-mouth contact by using mouth guards or shields. Wash contaminated clothing thoroughly with water before removing or wear gloves.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products	Dangerous, corrosive, irritating, toxic and/or hazardous combustion fumes, vapours, or gases including chlorine gas (above 35 °C, or when mixed with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, faeces, etc.)), hydrogen chloride gas (HCl), hydrochloric acid, sodium chlorate, oxygen gas (when exposed to sunlight), chloramine gas (when mixed with ammonia), flammable hydrogen gas (upon contact with metals) and sodium oxide (Na_2O) (at high temperatures).
Specific Methods	Use extinguishing media most appropriate for the surrounding fire. This product contains a substantial proportion of water therefore ther are no restrictions on the type of extinguishing media which may be used.
Specific hazards arising from the chemical	Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated.
Hazchem Code	2X
Decomposition Temp.	> 35 °C; 96 - 120 °C at 1013 hPa (boiling point).
Precautions in connection with Fire	Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

6. Accidental release measures

Personal Precautions	Evacuate the area of all non-essential personnel. Do not breathe fumes, vapour, gas. Avoid inhalation, contact with skin, eyes and clothing.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum. The flush area with a large quantity of water.
Environmental Precautions	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

7. Handling and storage

Precautions for Safe Handling	Avoid ingestion and inhalation of vapour (or) spray mist. Avoid contact with eyes, skin, or clothing. Avoid prolonged or repeated exposure. Ensure adequate ventilation when using. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Wear appropriate protective equipment and clothing. Wash hands after use. It is essential that all who come into contact with this material, maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or going to the toilet. Do not mix with other chemicals. Do not mix with different types of chlorinating chemicals. Keep away from incompatibles such as reducing agents, combustible materials, organic materials, metals, acids. Limited shelf life.
Conditions for safe storage, including any incompatabilities	Corrosives area. Store under cover in a suitable, light-resistant, labelled, tightly closed containers, in a dry, clean, cool, well ventilated place away from sunlight. Cannot be stored indefinitely. May decompose forming gaseous products, especially when stored over long periods. Store and transport in an upright container. Close containers in such a way to enable internal pressure to escape (e.g. excess pressure valve). Store away from incompatible materials. Do not mix with other chemicals. Do not mix with different types of chlorinating chemicals. Store away from flammable, combustible and reducing substances, acids, alkalies, food and feedstuffs. Store away from sources of heat or ignition. Vent caps should be checked with full personal protection. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product.
Corrosiveness	Corrosivity to Metals: Sodium hypochlorite solutions (20%) are corrosive to brass (aluminium, naval and silicon) bronze, carbon steel, cast iron, Hastelloy, Inconel, nickel, stainless steels (types 304/347, 316 and 400 series) and silicon copper. Concentrated sodium hypochlorite is corrosive to most metals, including aluminium, copper, brass, bronze, carbon steel, Hastelloy, Inconel, lead, Monel, nickel and stainless steel type 400 series. Sodium hypochlorite solutions are not corrosive to tantalum, titanium and zirconium. Dilute solutions are not corrosive to Hastelloy C/C-276 (10%), Incolloy (5%) and high silicon iron. Corrosivity to Non-Metals: Sodium hypochlorite solutions attack some plastics (such as nylon, Bisphenol A-fumarate and isophthalic polyesters), elastomers (such as soft rubber, neoprene and nitrile Buna-N) and coatings (such as coal tar epoxy, epoxy and vinyls). Sodium hypochlorite solutions do not attack acrylonitrile-butadiene-styrene (ABS), Butyl rubber, isoprene, hard rubber, natural rubber, polyvinyl chloride (PVC), chlorinated polyvinyl chloride (CPVC), polyethylene, polypropylene, polystyrene, Teflon and Viton.
Storage Regulations	Refer Australian Standard AS 3780-1994 'The storage and handling of corrosive substances'.
Storage Temperatures	Below 25°C.
Unsuitable Materials	Metal, ceramic and glass containers.

8. Exposure controls/personal protection

Other Exposure Information	A time weighted average (TWA) has been established for Chlorine (Safe Work Australia) of 3 mg/m^3 (Peak limitation), (1 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Peak Limitation - a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.
Appropriate engineering controls	Provide sufficient ventilation to ensure that the working environment is below the TWA (time weighted average). Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flame proof exhaust ventilation system is required. Refer to AS 1940-The storage and handling of flammable and combustible liquids and AS 2430-Explosive gas atmospheres for further information concerning ventilation requirements.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective

	Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: Vinyl gloves. Good: Nitrile rubber gloves Fair: NR latex and neoprene.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Flame retardant antistatic protective clothing. Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear, pale yellow or greenish liquid.
Odour	Characteristic, pungent, chlorine-like (bleach) odour; disagreeable, sweetish odour.
Decomposition Temperature	> 35 °C; 96 - 120 °C at 1013 hPa (boiling point).
Melting Point	-6 °C (5% solution); -25 °C approx. (12% solution).
Boiling Point	96 - 120 °C at 1013 hPa (decomposition).
Solubility in Water	Miscible (soluble) in all proportions.
Solubility in Organic Solvents	Reacts with many organic solvents.
Specific Gravity	Approx. 1.1 (6% aqueous solution); 1.21 (14% aqueous solution) (water = 1).
pH	Approx. 13 (Alkaline).
Vapour Pressure	17.4 - 25 hPa at 20 °C.
Evaporation Rate	Not available; probably very low.
Odour Threshold	Not applicable. Odour is due to breakdown products such as chlorine.
Partition Coefficient: n-octanol/water	Log P(oct) = -3.42 (estimated).
Flammability	Non combustible material.
Explosion Properties	Slightly explosive in presence of heat. Explosive decomposition may occur under fire conditions and closed containers may rupture violently due to rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time. The anhydrous solid obtained by dessication of the sodium hypochlorite pentahydrate will decompose violently on heating or friction. May react to form normal chloroamines, which are explosive. Interaction with ethyleneimine gives the explosive N-chloro compound. Removal of formic acid from industrial waste streams with sodium hypochlorite solution becomes explosive at 55 °C. Several explosions involving methanol and sodium hypochlorite were attributed to formation of methyl hypochlorite, especially in presence of acid or other esterification catalyst. Use of sodium hypochlorite solution to destroy acidified benzyl cyanide residues caused a violent explosion, thought to have been due to formation of nitrogen trichloride. Containers may rupture from pressure build-up.
Molecular Weight	74.44
Oxidising Properties	Sodium hypochlorite solutions give off oxygen when heated or when exposed to sunlight. However, the amount is small and will not cause or contribute to combustion. The solutions are, therefore, not considered to be oxidizing agents.
Dynamic Viscosity	2.6 mPas (20 ºC).

10. Stability and reactivity

Chemical Stability	Sodium hypochlorite solutions decompose slowly on contact with carbon dioxide from air at normal temperatures releasing low concentrations of corrosive chlorine gas. Decomposition is influenced by temperature, concentration, pH, ionic strength, exposure to light and the presence of metals, such as copper, nickel or cobalt, metal oxides, e.g. rust and other impurities, such as acids and amines. Shelf life

	is limited.
Conditions to Avoid	Exposure to light, air or heat, acidic conditions, the presence of combustible materials, metals and other impurities and incompatible materials.
Incompatible Materials	Primary amines (e.g. ethylamine) and aromatic amines (e.g. aniline); ammonium salts (e.g. ammonium sulfate and ammonium nitrate), ammonia, urea or phenylacetonitrile if acid is present; acids (especially hydrochloric acid); metals (especially copper, nickel and cobalt); reducing agents (e.g. hydrides, such as lithium aluminum hydride); ethyleneimine (aziridine); methanol, especially in the presence of acids or other etherification catalysts; formic acid (at 55 °C); furfuraldehyde; ethanediol (ethylene glycol); sodium ethylenediaminetetracetate (EDTA) solution and sodium hydroxide solution + mixing.
Hazardous Decomposition Products	Dangerous, corrosive, irritating, toxic and/or hazardous combustion fumes, vapours, or gases including chlorine gas (above 35 °C, or when mixed with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, faeces, etc.)), hydrogen chloride gas (HCl), hydrochloric acid, sodium chlorate, oxygen gas (when exposed to sunlight), chloramine gas (when mixed with ammonia), flammable hydrogen gas (upon contact with metals) and sodium oxide ($Na2O$) (at high temperatures).
Possibility of hazardous reactions	Reaction with primary amines (e.g. ethylamine) and aromatic amines (e.g. aniline) forms explosively unstable N-mono- or di- chloramines. Reaction with ammonium salts (e.g. ammonium sulfate and ammonium nitrate), ammonia, urea or phenylacetonitrile forms explosive nitrogen trichloride, if acid is present. Contact with acids (especially hydrochloric acid) releases toxic and corrosive chlorine gas. Reactions with reducing agents (e.g. hydrides, such as lithium aluminium hydride) are violent. Reactions with ethyleneimine (aziridine) form the explosive N- chloroethyleneimine. Reactions with methanol can form explosive methyl hypochlorite, especially in the presence of acids or other etherification catalysts. Reactions with formic acid become explosive at 55 °C. Dropwise addition of the furfuraldehyde to a 10% excess of sodium hypochlorite solution at 20-25 °C can lead to a violent explosion. Reaction with ethanediol (ethylene glycol) is explosively violent after an induction period of about 4 to 8 minutes. Reaction with sodium ethylenediaminetetracetate (EDTA) solution and sodium hydroxide solution with mixing leads to vigorous foaming decomposition.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Ingestion	Ingestion can cause irritation, pain and inflammation of the mouth, throat and stomach, as well as vomiting. In severe cases, serious effects including nausea, vomiting, choking, coughing, haemorrhage, oedema of the pharynx, glottis, larynx with stridor and obstruction, ulceration and perforation of the gastrointestinal tract, with mediastinitis or peritonitis, circulatory collapse, confusion, coma and possible death. Risk of aspiration! The amount ingested, the concentration and pH of the solution affect the severity of the symptoms. As little as 30 mL of a solution with 15% available chlorine may be lethal. Ingestion is not a typical route of occupational exposure.
Inhalation	Excessive inhalation of vapours, mists, or fumes, especially if the pH is lowered, if the solution is heated or if mixed with acids, resulting in the release of hazardous concentrations of chlorine, may cause irritations of the mucous membranes of the nose, throat and lungs, burning sensation, coughing, wheezing, dyspnoea, shortness of breath, sore throat, laryngitis, headache, nausea, vomiting, pulmonary oedema, pneumonitis and emphysema. Symptoms may be delayed. Additional effects have included circulatory collapse and confusion, delirium, coma, and even death.
Skin	May cause severe irritation or skin burns depending on the duration of contact, the concentration and pH of the solution. Contact with skin may also cause redness, itching, severe pain, vesicular eruptions and eczematoid dermatitis which becomes evident upon re-exposure.
Eye	Contact may cause severe irritation and corrosive injury, especially at higher concentration. May cause stinging, blurring, tearing, severe pain and possible permanent corneal damage. Risk of blindness! Heating or mixing with acids can cause significant concentrations of chlorine gas (a severe eye irritant) to be released. Chlorine concentrations of 1 ppm and higher have reportedly caused stinging, a burning sensation, rapid blinking, redness and watering of the eyes.
Carcinogenicity	Hypochlorite salts are evaluated in the IARC Monographs (Vol. 52; 1991) as Group 3: Not classifiable as to carcinogenicity to humans.
Chronic Effects	Prolonged or repeated inhalation may cause allergic respiratory reaction (asthma). Prolonged or repeated skin contact may cause redness, dryness, blistering, cracking, irritation, with possible dermatitis following. Prolonged or repeated eye contact may cause conjunctivitis.

12. Ecological information

Ecotoxicity	Forms corrosive mixtures with water even if diluted. Highly toxic for aquatic organisms. Harmful effect due to pH shift.

Persistence and degradability	Methods for the determination of biodegradability are not applicable to inorganic substances.
Environmental Protection	Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following: Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity.
U.N. Number	1791
UN proper shipping name	HYPOCHLORITE SOLUTION
Transport hazard class(es)	8
Hazchem Code	2X
Packaging Method	3.8.8RT7,RT8
Packing Group	III
EPG Number	8A1
IERG Number	37

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	S5

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.
Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
Empirical Formula & Structural Formula	NaOCl

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