1. Chemical Product and Company Identification

Product Name	**Auto Dishwashing Detergent**
Product Code	5lt: 44-522, 15lt: 44-517, 20lt: 44-500
Product Use	Alkaline and chlorine mixture for automating dishwashing machines
Supplier	Solo Pak Pty Ltd
ABN	29 076 652 269
Mail Address	PO Box 67, Brisbane Markets QLD, 4106
Email	sales@solopak.com.au
Telephone:	1300 307 755
Emergency Telephone:	Poisons Information Centre (National) 131126

2. Hazards Identification

Statement of Hazardous Nature
This product is classified as: N, Dangerous to the environment. C, Corrosive. Hazardous according to the criteria of SWA.
Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

SUSMP Classification:	S6
ADG Classification:	Class 8: Corrosive Substances.
UN Number:	1814, Potassium Hydroxide Solution, N.O.S. (Potassium hydroxide, Sodium hypochlorite)
Poisons Schedule	Not Applicable

GHS Label Elements

SIGNAL WORD — DANGER

Acute Toxicity Oral – Category 4
Skin corrosion – Category 1
Eye corrosion – Category 1

Hazard Statement(s)

H302	Harmful if swallowed.
H312	Causes severe skin burns and eye damage.
H401	Toxic to aquatic life.

Prevention(s)

P102	Keep out of reach of children.
P260	Do not breathe fumes, mists, vapours or spray.
P264	Wash contacted areas thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing and eye or face protection.

Refer to the SDS before using the product

Response

P301+P312:	IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P304+P340	IF INHALED: Remove victim 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.
P310	Immediately call a POISON CENTRE phone Australia 131 126 or doctor/physician.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

Storage

P405	Store locked up

Disposal

P501	If they can not be recycled, dispose of contents to an approved waste disposal plant and containers to landfill (see Section 13 of this SDS).

3. Composition/Information on Ingredients

(Listed when present at 1% or greater, carcinogens at 0.1% or greater)

Chemical Name	CAS Registry Number	% Weight	Hazard Information
Potassium hydroxide	1310-58-3	10 – 30	H290: May be corrosive to metals. H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. TWA: 2 mg/m3 STEL: 2 mg/m3 “peak”
Sodium hypochlorite	7681-52-9	< 10	H314 Causes severe skin burns and eye damage H305 STOT SE3
Ingredients determined to be non-hazardous	various	10 - 30	None
Water	7732-18-5	To 100	None

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

4. First Aid Measures

For Advice contact a Poisons Information Centre (phone eg. Australia 131126: New Zealand 0 800 764 766) or a Doctor.

Inhalation	If irritation occurs, contact a Poisons Information Centre, or call a doctor. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. In severe cases, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.
Skin:	Seek urgent medical attention. Flush contaminated area with lukewarm, gently flowing water for at least 60 minutes, by the clock. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Strongly basic ingredients tend to penetrate the skin and so need longer rinsing than other substances.
Eyes	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 60 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Take care not to rinse

	contaminated water into the unaffected eye or onto face. Call a Poisons Information Centre or a doctor urgently. Take special care if exposed person is wearing contact lenses.
Ingestion:	If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre. Urgent hospital treatment is likely to be needed. Give activated charcoal if instructed.
First aid facilities	Ensure eyewash and safety shower facilities are available in workplace.

Advice to Doctor

Indication of any immediate medical attention and special treatment needed

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

5. Fire Fighting Measures

Extinguishing Media

Water spray or fog.
Foam.
Dry chemical powder.

	BCF (where regulations permit). Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

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. Non combustible. Not considered a significant fire risk, however containers may burn.
Fire/Explosion Hazard	Decomposes on heating and produces toxic fumes of chlorides

6. Accidental Release Measures

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.

7. Precautions for handling and storage

Safe Handling:	**DO NOT allow clothing wet with material to stay in contact with skin** Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. **WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.** Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke.

Other Information	Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. 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 MSDS.

Conditions for safe storage, including any incompatibilities

Storage:	Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Store in a cool place. Avoid contact with incompatible substances as listed in Section 10. Containers (and outer packaging) must bear the prescribed labeling.
Storage Incompatibilities	Segregate from strong acids Contact with acids produces toxic fumes of chlorine
Package material incompatibilities	Not Available

8. Exposure controls /personal protection

Control parameters
OCCUPATIONAL EXPOSURE LIMITS (OEL)
INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak
Australia Exposure Standards	potassium hydroxide	Potassium hydroxide	Not Available	Not Available	2 (mg/m3)

EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TE
potassium hydroxide	2(ppm)	2(ppm)	2(ppm)	150
sodium hypochlorite	0.6 / 0.075(ppm)	2 / 0.2(ppm)	1.5 / 50(ppm)	500
water	500(ppm)	500(ppm)	500(ppm)	500

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation	This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.
Eye Protection	Your eyes must be completely protected from this product by splash resistant goggles with face shield. All surrounding skin areas must be covered. Emergency eye wash facilities must also be available in an area close to where this product is being used.
Skin Protection	Because of the dangerous nature of this product, make sure that all skin areas are completely covered by impermeable gloves, overalls, hair covering, apron and face shield. See below for suitable material types.
Protective Material Types	We suggest that protective clothing be made from the following materials: rubber, Viton, nitrile, butyl rubber,

	Barricade, neoprene, Teflon, polyethylene, PE/EVAL, Saranex, Responder.
Respirator	Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

9. Physical and chemical properties

Appearance	Clear water like liquid
Odour:	faint chlorine odour
pH	13.5 neat
Vapour pressure:	No data.
Vapour Density:	No data.
Boiling Point:	Approximately 100°C (for liquid concentrate)
Boiling range	No data.
Melting point	No data.
Solubility in water	Miscible
Specific Gravity:	1.1 – 1.2 @ 25 C
Flash point	Non Flammable
Solubility limits	N/a

10. Stability and Reactivity

Chemical Stability	Stable at normal temperatures and pressure.
Conditions to Avoid	ACIDS: violent reaction can occur, yielding heat and pressure which can burst an enclosed container. Attacks many reactive metals (aluminium/magnesium/zinc alloys) releasing highly flammable gas (hydrogen) which generates fire or explosion hazards. Reacts slowly with ambient air (particularly carbon dioxide) which may cause certain insoluble salts top form in solutions.
Incompatible Materials	Incompatible with amines, ammonium salts, aziridine, methanol and phenylacetonitrile. Reacts with metal salts, peroxides and reducing agents. Reacts violently with acids.
Hazardous Decomposition Products	Product can decompose on combustion to form Carbon Monoxide, Carbon Dioxide, and other possibly toxic gases and vapours on burning. Reacts vigorously with acids producing dangerous levels of gaseous chlorine.

11. Toxicological information

Health effects from acute exposure

Swallowed	Corrosive. Can cause damage to throat, lungs and stomach.
Eye	Corrosive and may cause severe or permanent eye damage, Concentrated solutions can cause severe irritation and corrosion injury unless washed out immediately
Skin	Irritating to skin. Brief contact may cause redness. Repeated or prolonged contact may result in corrosion.

Inhaled Health effects from chronic exposure	Can be irritating to the nose, throat and upper respiratory tract. Prolonged or repeated contact may cause dermatitis. No other specific data is available for the product for chronic exposure symptoms.
Carcinogenicity	No known effect
Mutagenicity	No known effect
Teratogenicity	No known effect

12. Ecological information

This product is harmful to aquatic organisms. This product will not accumulate in the soil or water or cause long term problems. However, until diluted or neutralised it will kill all aquatic organisms it contacts due to extreme pH.

13. Disposal considerations

Disposal	Review federal, state and local government requirements prior to disposal.

14. Transport Information

UN Number	1814
Proper Shipping Name	Potassium Hydroxide Solution
DG Class	8
SUBSIDARY RISK	none allocated
Packaging Group	II
Recommended Use	Detergent for machine dishwashing, food process cleaning.

15. Regulatory Information

AICS	All of the significant ingredients in this formulation are compliant with NICNAS regulations.

16. Other information

Abbreviations

AICS	Australian Inventory of Chemical Substances
CAS Number	Unique Chemical Abstracts Service Registry Number
EC50	Ecotoxic Concentration 50% — concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
ES	Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters

IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
LD50	Lethal Dose 50% — dose which is fatal to 50% of a test population (usually rats).
LC50	Lethal Concentration 50% — concentration in air which is fatal to 50% of a test population (usually rats)
NICNAS	National Industrial Chemicals Notification and Assessment Scheme
Peak Limitation	Peak Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
SDS	Safety Data Sheet
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
TWA	Time Weighted Average — generally referred to ES averaged over typical work day (usually 8 hours)
UEL	Upper Explosive Limit
UN Number	United Nations Number

References

Data	Unless otherwise stated comes from IUCLID datasheet for the specific chemical.
NOHSC: 1003	National Occupational Health and Safety Commission 1995, Exposure Standards for Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(199511
Prepared By	Jon Sprinkhuizen
Date of Issue	9th of October 2016
Changes Made	Update SDS to GHS format
References	Australian Dangerous Goods Code Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice 2011. Standard for the Uniform Scheduling of Medicines & Poisons (SUSMP) Guidance
Contact Person/Point	Australia 24 HOUR EMERGENCY CONTACT Poisons Information Centre 13 11 26
Legal Disclaimer	The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

End of SDS