

Combi Clean

Nowchem

Version No: 1.4

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 23/05/2017
Revised Date: 02/05/2022
L.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Combi Clean
Synonyms	Not Available
Proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (contains potassium hydroxide)
Other means of identification	Not Available

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

Relevant identified uses	Oven cleaner
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Details of the supplier of the safety data sheet

Registered company name	Nowchem
Address	112A Albatross Road NSW Australia
Telephone	(02) 4421 4099
Fax	(02) 4421 4932
Website	www.nowchem.com.au
Email	sales@nowchem.com.au

Emergency telephone number

Association / Organisation	Nowchem
Emergency telephone numbers	(02) 4421 4099
Other emergency telephone numbers	0413 809 255

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	0	
Toxicity	0	
Body Contact	4	
Reactivity	0	
Chronic	0	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Poisons Schedule	Not Applicable
Classification ^[1]	Metal Corrosion Category 1, Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1
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

DANGER

Hazard statement(s)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) 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.
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 or doctor/physician.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Precautionary statement(s) Storage

P405	Store locked up.
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Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1310-58-3	<10	<u>potassium hydroxide</u>
68515-73-1	<10	<u>decyl polyglucose</u>
64-02-8	<1	<u>EDTA tetrasodium salt</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> Immediately hold eyelids apart and flush the eye continuously with 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. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> Immediately flush body and clothes with large amounts of water. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.
Inhalation	<ul style="list-style-type: none"> If fumes 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, without delay. Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).

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Ingestion

- ▶ For advice, contact a Poisons Information Centre or a doctor at once.
- ▶ Urgent hospital treatment is likely to be needed.
- ▶ 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.
- ▶ Transport to hospital or doctor without delay.

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.

- ▶ 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]

SECTION 5 FIREFIGHTING 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.
- ▶ Equipment should be thoroughly decontaminated after use.

Fire/Explosion Hazard

- ▶ Non combustible.
 - ▶ Not considered a significant fire risk, however containers may burn.
- May emit corrosive fumes.

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SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills

- ▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
- ▶ Check regularly for spills and leaks.
- ▶ 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.

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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.
- ▶ Consider evacuation (or protect in place).
- ▶ 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

Safe handling

- ▶ 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.**
- ▶ Keep containers securely sealed when not in use.
- ▶ Avoid physical damage to containers.
- ▶ Always wash hands with soap and water after handling.
- ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- ▶ Use good occupational work practice.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

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 SDS.
- ▶ **DO NOT store near acids, or oxidising agents**
- ▶ No smoking, naked lights, heat or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ Packing as recommended by manufacturer.
- ▶ Check all containers are clearly labelled and free from leaks.
- ▶ Drums and jerricans must be of the non-removable head type.
- ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.

Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

Storage incompatibility

Sodium hydroxide/ potassium hydroxide:

- ▶ reacts with water evolving heat and corrosive fumes
- ▶ reacts violently with acids, trans-acetylene dichloride, aminotetrazole, p-bis(1,3-dibromoethyl), benzene, bromoform, halogenated compounds, nitrogen-containing compounds, organic halogens, chlorine dioxide ((explodes), chloroform, cresols, cyclopentadiene, 4-chloro-2-methylphenol, cis-dichloroethylene, 2,2-dichloro-3,3-dimethylbutane, ethylene chlorohydrin, germanium, iodine pentafluoride, maleic anhydride, p-nitrotoluene, nitrogen trichloride, o-nitrophenol, phosphonium iodide, potassium peroxodisulfate, propylene oxide, 1,2,4,5-tetrachlorobenzene (highly toxic substance is forme), 2,2,3,3-tetrafluoro-1-propanol, tetrahydrofuran, thorium dicarbide, trichloroethanol, 2,4,6-trinitrotoluene, vinyl acetate
- ▶ reacts with fluorine, nitroalkanes, (forming explosive compounds)
- ▶ incompatible with acetic acid, acetaldehyde, acetic anhydride, acrolein, acrylonitrile, allyl chloride, organic anhydride, acrylates, alcohols, aldehydes, alkylene oxides, substituted allyls, ammonium chloroplatinate, benzanthrone, bromine, benzene-1,4-diol, carbon dioxide, cellulose nitrate, chlorine trifluoride, 4-chlorobutyronitrile, chlorohydrin, chloronitrotoluenes, chlorosulfonic acid, cinnamaldehyde, caprolactam solution, chlorocresols, 1,2-dichloroethylene, epichlorohydrin, ethylene cyanohydrin, formaldehyde (forms formic acid and flammable hydrogen gas), glycols, glyoxal, hexachloroplatinate, hydrogen sulfide, hydroquinone, iron-silicon, isocyanates, ketones, methyl azide, 4-methyl-2-nitrophenol, mineral acids (forming corresponding salt), nitrobenzene, N-nitrosohydroxylamine, nitrates pentol, phenols, phosphorus, phosphorus pentoxide, beta-propiolactone, sodium, sulfur dioxide, tetrahydroborate, 1,1,1,2-tetrachloroethane, 2,2,2-trichloroethanol, trichloronitromethane, zirconium
- ▶ ignites on contact with cinnamaldehyde or zinc and reacts explosively with a mixture of chloroform and methane
- ▶ forms heat-, friction-, and/ or shock-sensitive- explosive salts with nitro-compounds, cyanogen azide, 3-ethyl-4-hydroxy-1,2,5-oxadiazole, 3-methyl-2-penten-4-yn-1-ol, N,N'-bis(2,2,2-trinitroethyl)urea, trichloroethylene (forms dichloroacetylene)
- ▶ increase the explosive sensitivity of nitromethane
- ▶ attacks some plastics, rubber, coatings and metals: aluminium, tin, zinc, etc, and their alloys, producing flammable hydrogen gas
- ▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.
- ▶ Avoid contact with copper, aluminium and their alloys.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Combi Clean

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

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
potassium hydroxide	Potassium hydroxide	0.18 mg/m3	2 mg/m3	54 mg/m3
EDTA tetrasodium salt	Ethylenediaminetetraacetic acid, tetrasodium salt, dihydrate	82 mg/m3	900 mg/m3	5,500 mg/m3
EDTA tetrasodium salt	Ethylenediaminetetraacetic acid, tetrasodium salt; (Tetrasodium EDTA)	75 mg/m3	830 mg/m3	5,000 mg/m3

Ingredient	Original IDLH	Revised IDLH
potassium hydroxide	Not Available	Not Available
decyl polyglucose	Not Available	Not Available
EDTA tetrasodium salt	Not Available	Not Available

MATERIAL DATA

for potassium hydroxide:

The TLV-TWA is protective against respiratory tract irritation produced at higher concentrations

For diethylene glycol monobutyl ether:

CEL TWA: 15.5 ppm, 100 mg/m3


(CEL = Chemwatch Exposure Limit)

In studies involving the inhalation toxicity of diethylene glycol monobutyl ether, exposure for 6 hours daily at 100 mg/m3 had no effect. This concentration is in the range of the saturated vapour concentration.

Local damage was produced following inhalation of concentrations higher than the saturated vapour concentrations, that is, during inhalation of the aerosol (350 mg/m3). Since the only potential effects of inhalation are restricted to local discomfort (in the aerosol concentration range) the substance is classified in category I for the limitation of exposure peaks.

Teratogenicity studies have not revealed prenatal toxic effects at high oral doses and this ether is classified in pregnancy risk group C.

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection.</p> <p>Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.</p> <p>An approved self contained breathing apparatus (SCBA) may be required in some situations.</p> <p>Provide adequate ventilation in warehouse or closed storage area.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure. Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection. Alternatively a gas mask may replace splash goggles and face shields. 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	<ul style="list-style-type: none"> Elbow length PVC gloves When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit and safety shower for bulk installations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear Brown Liquid		
Physical state	Liquid	Relative density (Water = 1)	1.07 - 1.10
Odour	Not Available	Partition coefficient n-octanol / water	Not Available

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Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	12 - 14	Decomposition temperature	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 Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Non Flammable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	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

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> 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

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Inhalation of alkaline corrosives may produce irritation of the respiratory tract with coughing, choking, pain and mucous membrane damage. Pulmonary oedema may develop in more severe cases; this may be immediate or in most cases following a latent period of 5-72 hours. Symptoms may include a tightness in the chest, dyspnoea, frothy sputum, cyanosis and dizziness. Findings may include hypotension, a weak and rapid pulse and moist rales.</p> <p>The material has NOT been classified by EC Directives or other classification systems as 'harmful by inhalation'. This is because of the lack of corroborating animal or human evidence. In the absence of such evidence, care should be taken nevertheless to ensure exposure is kept to a minimum and that suitable control measures be used, in an occupational setting to control vapours, fumes and aerosols.</p>
Ingestion	<p>Ingestion of alkaline corrosives may produce immediate pain, and circumoral burns. Mucous membrane corrosive damage is characterised by a white appearance and soapy feel; this may then become brown, oedematous and ulcerated. Profuse salivation with an inability to swallow or speak may also result. Even where there is limited or no evidence of chemical burns, both the oesophagus and stomach may experience a burning pain; vomiting and diarrhoea may follow. The vomitus may be thick and may be slimy (mucous) and may eventually contain blood and shreds of mucosa. Epiglottal oedema may result in respiratory distress and asphyxia. Marked hypotension is symptomatic of shock; a weak and rapid pulse, shallow respiration and clammy skin may also be evident. Circulatory collapse may occur and, if uncorrected, may produce renal failure. Severe exposures may result in oesophageal or gastric perforation accompanied by mediastinitis, substernal pain, peritonitis, abdominal rigidity and fever. Although oesophageal, gastric or pyloric stricture may be evident initially, these may occur after weeks or even months and years. Death may be quick and results from asphyxia, circulatory collapse or aspiration of even minute amounts. Death may also be delayed as a result of perforation, pneumonia or the effects of stricture formation.</p> <p>The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.</p>
Skin Contact	<p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Potassium hydroxide burns are not immediately painful; onset of pain may be delayed minutes or hours; thus care should be taken to avoid contamination of gloves and boots.</p> <p>Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	<p>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. Direct contact with alkaline corrosives may produce pain and burns. Oedema, destruction of the epithelium, corneal opacification and iritis may occur. In less severe cases these symptoms tend to resolve. In severe injuries the full extent of the damage may not be immediately apparent with late complications comprising a persistent oedema, vascularisation and corneal scarring, permanent opacity, staphyloma, cataract, symblepharon and loss of sight.</p>
Chronic	<p>Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.</p>

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Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Combi Clean	TOXICITY	IRRITATION
	Not Available	Not Available
potassium hydroxide	TOXICITY	IRRITATION
	Oral (rat) LD50: =214-324 mg/kg ^[2]	Eye (rabbit): 1mg/24h rinse-moderate
		Skin (human): 50 mg/24h SEVERE
		Skin (rabbit): 50 mg/24h SEVERE
decyl polyglucose	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Not Available
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	
	Oral (rat) LD50: >2000 mg/kg ^[1]	
	Oral (rat) LD50: >2000 mg/kg ^[1]	
EDTA tetrasodium salt	TOXICITY	IRRITATION
	Oral (rat) LD50: 630 mg/kg ^[2]	Eyes (rabbit): 1.9 mg
		Eyes (rabbit): 100 mg/24h-moderate
		Skin (rabbit): 500 mg/24h-moderate

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

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Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, 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

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Combi Clean	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
potassium hydroxide	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	80mg/L	4
	EC0	48	Crustacea	<1mg/L	2
	NOEC	24	Fish	28mg/L	2
decyl polyglucose	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	62.249mg/L	3
	EC50	96	Algae or other aquatic plants	187.298mg/L	3

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EDTA tetrasodium salt	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1-592mg/L	2
	EC50	48	Crustacea	140mg/L	2
	EC50	72	Algae or other aquatic plants	≈1.01mg/L	1
	EC10	72	Algae or other aquatic plants	≈0.48mg/L	1
	NOEC	71	Algae or other aquatic plants	0.0003802mg/L	4

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

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

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
decyl polyglucose	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
decyl polyglucose	LOW (LogKOW = 1.916)

Mobility in soil

Ingredient	Mobility
decyl polyglucose	LOW (KOC = 10)


SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO Not Applicable
HAZCHEM	2X

Land transport (ADG)

UN number	3266
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (contains potassium hydroxide)
Transport hazard class(es)	Class : 8
	Subrisk : Not Applicable
Packing group	II
Environmental hazard	Not Applicable
Special precautions for user	Special provisions : 274
	Limited quantity : 1 L

Combi Clean

Air transport (ICAO-IATA / DGR)

UN number	3266		
UN proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. * (contains potassium hydroxide)		
Transport hazard class(es)	ICAO/IATA Class	8	
	ICAO / IATA Subrisk	Not Applicable	
	ERG Code	8L	
Packing group	II		
Environmental hazard	Not Applicable		
Special precautions for user	Special provisions	A3 A803	
	Cargo Only Packing Instructions	855	
	Cargo Only Maximum Qty / Pack	30 L	
	Passenger and Cargo Packing Instructions	851	
	Passenger and Cargo Maximum Qty / Pack	1 L	
	Passenger and Cargo Limited Quantity Packing Instructions	Y840	
	Passenger and Cargo Limited Maximum Qty / Pack	0.5 L	

Sea transport (IMDG-Code / GGVSee)

UN number	3266		
UN proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (contains potassium hydroxide)		
Transport hazard class(es)	IMDG Class	8	
	IMDG Subrisk	Not Applicable	
Packing group	II		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number	F-A , S-B	
	Special provisions	274	
	Limited Quantities	1 L	

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

POTASSIUM HYDROXIDE(1310-58-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Exposure Standards	GESAMP/EHS Composite List - GESAMP Hazard Profiles
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Inventory of Chemical Substances (AICS)	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index	International Maritime Dangerous Goods Requirements (IMDG Code)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)

DECYL POLYGLUCOSE(68515-73-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes	International Air Transport Association (IATA) Dangerous Goods Regulations
Australia Inventory of Chemical Substances (AICS)	International Maritime Dangerous Goods Requirements (IMDG Code)
GESAMP/EHS Composite List - GESAMP Hazard Profiles	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)
IMO IBC Code Chapter 17: Summary of minimum requirements	

EDTA TETRASODIUM SALT(64-02-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	GESAMP/EHS Composite List - GESAMP Hazard Profiles
Australia Inventory of Chemical Substances (AICS)	IMO IBC Code Chapter 17: Summary of minimum requirements
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index	IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4	

National Inventory Status

Continued...

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (potassium hydroxide; decyl polyglucose; EDTA tetrasodium salt)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (decyl polyglucose)
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Thailand - TECI	No (decyl polyglucose)
Legend:	Yes = All declared ingredients are on the inventory No = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	23/05/2017
Initial Date	23/05/2017

Other information

Ingredients with multiple cas numbers

Name	CAS No
decyl polyglucose	58846-77-8, 68515-73-1, 110615-47-9
EDTA tetrasodium salt	64-02-8, 10378-23-1, 13235-36-4, 194491-31-1

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
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 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

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