## Multi Mix 10 - Automatic Dishwashing Liquid Chlorinated Auto Klene Solutions

Chemwatch: **5199-81** Version No: **5.1.1.1** 

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: **01/11/2019**Print Date: **01/02/2021**S.GHS.AUS.EN

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

# Product Identifier Product name Multi Mix 10 - Automatic Dishwashing Liquid Chlorinated Chemical Name Not Applicable Synonyms Not Available Proper shipping name POTASSIUM HYDROXIDE SOLUTION Chemical formula Not Applicable Other means of identification Not Available

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

Relevant identified uses

Chlorinated detergent, specifically designed for dishwashing machines.
Use according to manufacturer's directions.

### Details of the supplier of the safety data sheet

Registered company name	Auto Klene Solutions	
Address	1/83 Merrindale Drive Croydon VIC 3136 Australia	
Telephone	Telephone +61 3 8761 1900	
Fax	Fax +61 3 8761 1955	
Website http://www.autoklene.com/msds/		
Email	Not Available	

### **Emergency telephone number**

• , .		
Association / Organisation	Auto Klene Solutions	
Emergency telephone numbers	131 126 (Poisons Information Centre)	
Other emergency telephone numbers	0800 764 766 (New Zealand Poisons Information Centre)	

### **SECTION 2 Hazards identification**

### Classification of the substance or mixture

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

ChemWatch Ha	zard Ratings		
	Min	Max	
Flammability	0		
Toxicity	1	i	0 = Minimum
Body Contact	4		1 = Low
Reactivity	0		2 = Moderate
Chronic	0	į	3 = High 4 = Extreme

Poisons Schedule	S6
Classification <sup>[1]</sup>	Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Acute Aquatic Hazard Category 2
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

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H314	Causes severe skin burns and eye damage.	
H335	May cause respiratory irritation.	
H401 Toxic to aquatic life.		
AUH031	Contact with acid liberates toxic gas.	

### Precautionary statement(s) Prevention

P260	Do not breathe mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P273	Avoid release to the environment.

### Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.	
P303+P361+P353	P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.	
P305+P351+P338	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.	
P321 Specific treatment (see advice on this label).		
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.	

### Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

### Precautionary statement(s) Disposal

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

### **SECTION 3 Composition / information on ingredients**

considered.

### Substances

See section below for composition of Mixtures

### **Mixtures**

CAS No	%[weight]	Name
1310-58-3	10-30	potassium hydroxide
7681-52-9	<10	sodium hypochlorite
1344-09-8	<10	sodium metasilicate
Not Available	<10	aminotris(methylenephosphonic acid) salt
7722-88-5	<10	tetrasodium pyrophosphate
7732-18-5	>60	<u>water</u>

### **SECTION 4 First aid measures**

### De

Description of first aid measures		
Eye Contact	If this product comes in contact with the eyes:  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	If skin or hair contact occurs:  Immediately flush body and clothes with large amounts of water, using safety shower if available.  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> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>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.</li> <li>Transport to hospital, or doctor, without delay.</li> <li>Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.</li> <li>Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be</li> </ul>	

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This must definitely be left to a doctor or person authorised by him/her.
(ICSC13719)

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 repeated exposures to hypochlorite solutions:

- P Release of small amounts of hypochlorous acid and acid gases from the stomach following ingestion, is usually too low to cause damage but may be irritating to mucous membranes. Buffering with antacid may be helpful if discomfort is evident.
- Evaluate as potential caustic exposure.
- ▶ Decontaminate skin and eyes with copious saline irrigation. Check exposed eyes for corneal abrasions with fluorescein staining.
- Emesis or lavage and catharsis may be indicated for mild caustic exposure.
- Chlorine exposures require evaluation of acid/base and respiratory status.
- Inhalation of vapours or mists may result in pulmonary oedema.

ELLENHORN and BARCELOUX: Medical Toxicology.

Treat symptomatically.

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

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

Alkalis continue to cause damage after exposure.

INGESTION:

Milk and water are the preferred diluents

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

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

Supportive care involves the following:

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

SKIN AND EYE:

Injury should be irrigated for 20-30 minutes.

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

Excellent warning properties force rapid escape of personnel from chlorine vapour thus most inhalations are mild to moderate. If escape is not possible, exposure to high concentrations for a very short time can result in dyspnea, haemophysis and cyanosis with later complications being tracheobroncho-pneumonitis and pulmonary oedema. Oxygen, intermittent positive pressure breathing apparatus and aerosolysed bronchodilators are of therapeutic value where chlorine inhalation has been light to moderate. Severe inhalation should result in hospitalisation and treatment for a respiratory emergency.

Any chlorine inhalation in an individual with compromised pulmonary function (COPD) should be regarded as a severe inhalation and a respiratory emergency. [CCINFO, Dow 1988] Effects from exposure to chlorine gas include pulmonary oedema which may be delayed. Observation in hospital for 48 hours is recommended

Diagnosed asthmatics and those people suffering from certain types of chronic bronchitis should receive medical approval before being employed in occupations involving chlorine exposure.

If burn is present, treat as any thermal burn, after decontamination.

Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate spray, by a doctor or a person authorised by him/her should be considered.

(ICSC24419/24421

### **SECTION 5 Firefighting measures**

### Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.

In such an event consider:

- foam.
- dry chemical powder.
- carbon dioxide.

### Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Fire Fighting

### Advice for firefighters

- 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.
- 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.

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▶ The material is not readily combustible under normal conditions. ▶ However, it will break down under fire conditions and the organic component may burn. ▶ Not considered to be a significant fire risk. ▶ Heat may cause expansion or decomposition with violent rupture of containers. Decomposes on heating and may produce toxic fumes of carbon monoxide (CO). May emit acrid smoke. Fire/Explosion Hazard Decomposes on heating and produces toxic fumes of: carbon dioxide (CO2) hydrogen chloride phosgene phosphorus oxides (POx) other pyrolysis products typical of burning organic material. May emit corrosive fumes. **HAZCHEM** 

### **SECTION 6 Accidental release measures**

### Personal precautions, protective equipment and emergency procedures

See section 8

### **Environmental precautions**

See section 12

### Mothods and material for containment and cleaning un

Methods and material for containment and cleaning up		
Minor Spills	<ul> <li>Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>Check regularly for spills and leaks.</li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> <li>Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>Wipe up.</li> <li>Place in a suitable, labelled container for waste disposal.</li> </ul>	
Major Spills	<ul> <li>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear full body protective clothing with breathing apparatus.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>Stop leak if safe to do so.</li> <li>Contain spill with sand, earth or vermiculite.</li> <li>Collect recoverable product into labelled containers for recycling.</li> </ul>	

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

### **SECTION 7 Handling and storage**

Precautions for safe handling	
Safe handling	<ul> <li>DO NOT allow clothing wet with material to stay in contact with skin</li> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.</li> <li>Avoid smoking, naked lights or ignition sources.</li> <li>Avoid contact with incompatible materials.</li> <li>When handling, DO NOT eat, drink or smoke.</li> </ul>
Other information	<ul> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>Store in a cool, dry, well-ventilated area.</li> <li>Store away from incompatible materials and foodstuff containers.</li> <li>Protect containers against physical damage and check regularly for leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>DO NOT store near acids, or oxidising agents</li> <li>No smoking, naked lights, heat or ignition sources.</li> </ul>

### Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- ▶ Check all containers are clearly labelled and free from leaks.

For low viscosity materials

- ▶ 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.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

- ► Removable head packaging;
- Cans with friction closures and
- ► low pressure tubes and cartridges

may be used.

Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning

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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

- Contact with acids produces toxic fumes
- ► Reacts vigorously with acids
- Avoid contact with copper, aluminium and their alloys.

### SECTION 8 Exposure controls / personal protection

### Control parameters

### Occupational Exposure Limits (OEL)

### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	potassium hydroxide	Potassium hydroxide	Not Available	Not Available	2 mg/m3	Not Available
Australia Exposure Standards	tetrasodium pyrophosphate	Tetrasodium pyrophosphate	5 mg/m3	Not Available	Not Available	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
sodium hypochlorite	Sodium hypochlorite pentahydrate	13 mg/m3	140 mg/m3	290 mg/m3
sodium hypochlorite	Sodium hypochlorite	2 mg/m3	290 mg/m3	1,800 mg/m3
sodium metasilicate	Silicic acid, sodium salt; (Sodium silicate)	5.9 mg/m3	65 mg/m3	390 mg/m3
tetrasodium pyrophosphate	Sodium pyrophosphate decahydrate	8.6 mg/m3	96 mg/m3	580 mg/m3
tetrasodium pyrophosphate	Tetrasodium pyrophosphate	15 mg/m3	130 mg/m3	790 mg/m3

Ingredient	Original IDLH	Revised IDLH
potassium hydroxide	Not Available	Not Available
sodium hypochlorite	Not Available	Not Available
sodium metasilicate	Not Available	Not Available
tetrasodium pyrophosphate	Not Available	Not Available
water	Not Available	Not Available

### Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
sodium metasilicate	E	≤ 0.01 mg/m³
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a	

### Exposure controls

### Appropriate engineering controls

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. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

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. Employers may need to use multiple types of controls to prevent employee overexposure.

### Personal protection







range of exposure concentrations that are expected to protect worker health.





Eye and face protection

- 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

### Skin protection

### See Hand protection below

► Elbow length PVC gloves

▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

### NOTE:

### Hands/feet protection

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact
- ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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	The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.  Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.  Wear safety footwear.
Body protection	See Other protection below
Other protection	<ul> <li>Overalls.</li> <li>PVC Apron.</li> <li>PVC protective suit may be required if exposure severe.</li> <li>Eyewash unit.</li> <li>Ensure there is ready access to a safety shower.</li> </ul>

### Recommended material(s)

### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

### "Forsberg Clothing Performance Index".

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

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Material	СРІ
NEOPRENE	A
BUTYL	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NITRILE	С
NITRILE+PVC	С
PVA	С
PVC	С
VITON	С

<sup>\*</sup> CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	ABK-AUS P2	-	ABK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	ABK-AUS / Class 1 P2	-
up to 100 x ES	-	ABK-2 P2	ABK-PAPR-2 P2 ^

### ^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

### **SECTION 9 Physical and chemical properties**

### Information on basic physical and chemical properties

Appearance	Pale yellow clear liquid with a faint odour of chlorine; soluble in water to produce non-foaming solutions.		
Physical state	Liquid	Relative density (Water = 1)	~1.2
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	~13.3	Decomposition temperature	Not Available
Melting point / freezing point (°C)	<0	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	~110	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	2 @ 20 degC	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	~12.5
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

### **SECTION 10 Stability and reactivity**

Reactivity

See section 7

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Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
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**

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Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.  Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane.  Not normally a hazard due to non-volatile nature of product		
Ingestion	follow.  Accidental ingestion of the material may be damaging to the health of the	and stomach may experience burning pain; vomiting and diarrhoea may he individual. arrhoea, nausea, vomiting, cramps and abdominal pain. It is broken down	
	Swallowing hypochlorites may cause burning in the mouth and throat, a mouth and stomach, low blood pressure, shock, confusion and delirium Hypochlorites irritate the mouth, throat and stomach; the hypochlorous bleeding, and can be fatal.		
Skin Contact	The material can produce severe chemical burns following direct contact with the skin.  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.  Open cuts, abraded or irritated skin should not be exposed to this material  Contact may cause severe itchiness, skin lesions and mild eczema. Exudation and sloughing may occur. Two patients were reported with chronic allergic dermatitis of the hand, related to sensitization to sodium hypochlorite as the active component of laundry bleach.  Entry into the blood-stream, through, for example, cuts, abrasions 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.		
Еуе	If applied to the eyes, this material causes severe eye damage. Direct eye contact with corrosive bases can cause pain and burns. The inflammation of the iris. Mild cases often resolve; severe cases can be permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the Animal testing shows that direct contact of tetrasodium pyrophosphate	prolonged with complications such as persistent swelling, scarring, se eyeball and blindness.	
	Hypochlorite in pool water at concentrations of 1 ppm chlorine or less is lower pH sensation of stinging, smarting of eyes with transient reddenir Eye contact with a 5% hypochlorite solution may produce a temporary without injury.		
Chronic	Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necre (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue.  There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.  Reduced breathing capacity may result from chronic low level exposure to chlorine gas. Chronic poisoning may result in cough, severe chest pains, sore throat and blood in the phlegm. Moderate to severe exposures over 3 years produced decreased lung capacity in a number of workers.  Delayed effects can include shortness of breath, violent headaches, lung swelling and pneumonia.  Chloralkali workers exposed over many years showed fatigue, and a modest increase in anxiety and dizziness. There may be an increase in white blood cell and decrease in red blood cell count.		
Multi Mix 10 - Automatic	TOXICITY	IRRITATION	
Dishwashing Liquid Chlorinated	Not Available	Not Available	

Multi Mix 10 - Automatic	TOXICITY	IRRITATION	
Dishwashing Liquid Chlorinated	Not Available	Not Available	
	TOXICITY	IRRITATION	
	Oral(Rat) LD50; =214-324 mg/kg <sup>[2]</sup>	Eye (rabbit):1mg/24h rinse-moderate	
potassium hydroxide		Skin (human): 50 mg/24h SEVERE	
		Skin (rabbit): 50 mg/24h SEVERE	
	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: >10000 mg/kg <sup>[1]</sup>	Eye (rabbit): 10 mg - moderate	
sodium hypochlorite	Oral(Rat) LD50; 0.005 mg/kg <sup>[1]</sup>	Eye (rabbit): 100 mg - moderate	
		Skin (rabbit): 500 mg/24h-moderate	
sodium metasilicate	TOXICITY	IRRITATION	
	dermal (rat) LD50: >5000 mg/kg <sup>[1]</sup>	Skin (human): 250 mg/24h SEVERE	

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### Multi Mix 10 - Automatic Dishwashing Liquid Chlorinated

Issue Date: 01/11/2019 Print Date: 01/02/2021

TOXICITY		Oral(Rat) LD50; 500 mg/kg <sup>[1]</sup>	Skin (rabbit): 25	50 mg/24h SEVERE
POTACHY   Continue   Lose; >300 mg/kg <sup>(1)</sup>   Selin: no adverse effect observed (not irritating) <sup>(1)</sup>		TOXICITY	IRRITATION	
TOXICITY  Cons[Tar] LDSD; >60 mg/kg <sup>27</sup> All value obtained from Europe CFVA Registered Substances - Acute trackly 2* "Value obtained from manufacture's SDS. Unless otherwise appealed date extracted from RTECS - Register of Toxic Effect of channels Substances  POTASSIUM HYDROXIDE  The material may cause severe skin mitation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicities, sociling and flickming of the skin. Repeated exposures may produce severe ulceration.  Hypochiotics sails are established by NACC as Group 3: NOT cassifiable as to its carcinogencity to humans.  Eventual Proportion of the selection of the sel	tetrasodium pyrophosphate	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: adverse e	ffect observed (irritating) <sup>[1]</sup>
Legend:  1. Value observed from Europe ECHA Registered Substances - Acute toxicity 2: Value observed from manufacturer's SDS. Unless otherwise generally acuted severe solar installation of the special date severed solar installation after profunged or repeated exposure and may produce on contract skin reduces, swelling, the production of vesicles, aciding and flickening of the skin. Repeated exposure and may produce on contract skin reduces, swelling, the production of vesicles, aciding and flickening of the skin. Professiolate as to its carcinogenicity to humans.  1. Procedionia satis are classified by JARC as Group 3: NOT classifieds as to its carcinogenicity to humans.  1. Procedionia satis are classified by JARC as Group 3: NOT classifieds as to the carcinogenicity to humans.  1. Procedionia satis are classified by JARC as Group 3: NOT classified as to the carcinogenicity to humans.  1. Procedionia satis are classified by JARC as Group 3: NOT classified as to the carcinogenicity to humans.  1. Procedionia satis are classified by JARC as Group 3: NOT classified as to the eyes and skin. An uniform of skin cancers have been observed in minute and processing		Oral(Rat) LD50; >300-<2000 mg/kg <sup>[1]</sup>	Skin: no advers	e effect observed (not irritating)[1]
Legend:  1. Value attained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise peoples date entreated from PLECS - Register of Trace Effect of chemical Substances  POTASSIUM HYPROXIDE  1. The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.  5. SODIUM METASILCATE  SODIUM METASILCATE  The material may be initiating to the eye, with prolonged contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to contact causing inflammation. Repeated or protonged exposure to initiating nature and produced to the protonged to		TOXICITY	IRRITATION	
POTASSIUM HYDROXIDE  Note	water	Oral(Rat) LD50; >90 mg/kg <sup>[2]</sup>	Not Available	
SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  The material may be inadequate or inlined in animal teating. Hypochlorite satistic are extremely consorted and can cause severe damage to the eyes and skin. A number of skin cancers have been observed in mice, when applied to their skin. as sodium hypochloride pentalnydate  The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce or contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.  For pryophosphater satis:  For pryophosphater satis undefines the low ponelinated the three substances, all animals survived disease, up 17.95 age byte to of the respective diphosphater. The undefines the low ponelinated of the satistication of the sat	Legend:	, ,	-	tained from manufacturer's SDS. Unless otherwise
SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  SODIUM HYPOCHLORITE  The material may be inadequate or inlined in animal teating. Hypochlorite satistic are extremely consorted and can cause severe damage to the eyes and skin. A number of skin cancers have been observed in mice, when applied to their skin. as sodium hypochloride pentalnydate  The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce or contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.  For pryophosphater satis:  For pryophosphater satis undefines the low ponelinated the three substances, all animals survived disease, up 17.95 age byte to of the respective diphosphater. The undefines the low ponelinated of the satistication of the sat		I		
Evidence of carcinogenicity may be inadequate or limited in animal testing, the physiochrites sais are enterreby corrosive and can cause severe damage to the eyes and skin. A number of skin cancers have been observed in mice, when applied to their skin.  SODIUM METASILICATE  The material may be intributing to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to intributing may cause skin intribution after prolonged contact causing inflammation. Repeated or prolonged exposure to intributing may cause skin intribution after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vessiles, scaling and hickening of the skin.  For proproposphate saits:  Or for loxicity was of three proproposphate (diphosphate) saits were generally around 2000 mg/kg bw, but mortality occurred at sufficiently high doses. Acute dermal toxicity was not found for any of the three substances, all animals survived doses up to 7.98 g/kg bw of the respective doses, acute dermal toxicity was not found for any of the three substances, all animals survived doses up to 7.98 g/kg bw of the respective doses, acute dermal toxicity was not found for any of the three substances, all animals survived doses up to 7.98 g/kg bw of the respective doses, acute dermal toxicity was not found for any of the three substances, all animals survived doses up to 7.98 g/kg bw of the respective doses, acute dermal toxicity was not found for any of the three substances, all animals survived doses up to 7.98 g/kg bw of the respective doses. Acute dermal toxicity was not found for any of the three substances, all animals survived doses up to 7.98 g/kg bw of the respective doses. Acute of the survived doses up to 7.98 g/kg bw of the respective doses. Acute of the survived doses up to 7.98 g/kg bw of the respective of the three substances and promote the saint intaking the survived doses. The survived doses up to 7.98 g/kg bw of the respective of the three substances and the survived doses up	POTASSIUM HYDROXIDE			
SODIUM METASILICATE  The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vasicles, scaling and thickening of the skin.  For pyrophosphate salts:  Creal toxicity was for three pyrophosphate (diphosphate) salts were generally around 2000 mg/kg bw, but mortality occurred at sufficiently high control to the pyrophosphate salts.  For pyrophosphate salts:  Creal toxicity was for three pyrophosphate (diphosphate) salts were generally around 2000 mg/kg bw, but mortality occurred at sufficiently high control toxicity of the pyrophosphate salts are control toxicity of the pyrophosphate of the three dephosphates, and an interest of the pyrophosphate in period toxicity is difficult to assess as the normal concentrations (which were the highest attainable) differ significantly from the gravimetrically derived values. At these highest attainable concentrations (which were the highest attainable) differ significantly from the gravimetrically derived values. At these highest attainable concentrations of the production of the salt interest of the pyrophosphates as the normal degrees in rats if administered subchronically at high concentrations of 1 – 10% in the feed. (Diphosphates might have a Janua-faced role in this process leading on the one hand to an increased phosphate burden if cleaved and taken up as orthoposphate burden to the other hand might help to inhibit calcification of the kidneys is known to be an effect of long term exposure to relatively high doses of pyrophosphates will be inhibit calcification by complexation of calcium ions.)  For NASEL was determined to be 500 mg/kg bw/day on the basis of changes observed in the kidneys of the rats in the high dose group. Rats in general and particularly female rats are known to be susceptible to nephrocalcionosis when administered high doses of phosphates (typically starting at about 0.5 = 1.0 % in the delight for effects are only seen in high dose and in high variating order tox	SODIUM HYPOCHLORITE	Evidence of carcinogenicity may be inadequate or limi Hypochlorite salts are extremely corrosive and can ca mice, when applied to their skin.	ted in animal testing.	
Oral foxicity was for three pyrophosphate (diphosphate) salts were generally around 2000 mg/b w, but mortality occurred at sufficiently high doses. Acute demail boxicity was not found for any of the three substances all animals survived doses up 0.7 96 g/kg by w to the respective diphosphate. This underfines the low potential of the three diphosphates to penetrate the skin. The skin irritation found for the three substances is probably caused by their basic nature and their high buffer capacity. The acute inhabit to assess as the nominal concentrations (which were the highest attainable) differ significantly from the gravimetrically derived values At these highest attainable concentrations saminals died.  The available repeated dose studies confirm that the kidneys are the primary target organ of subchronic oral toxicity of diphosphates. Two salts induced tuburdness (localized necross of the petihetial lining in resalt bulkes) and medullary and cortical (resal) californic (resal) californic in resalt bulkes) and medullary and cortical (resal) californic (resal) californic in resalt bulkes) and medullary and cortical (resal) californic in the process leading on the one hand to an increased phosphate burden if cleaved and taken up as orthophosphates might have a Janus-faced role in this process leading on the one hand to an increased phosphate burden if cleaved and taken up as orthophosphates and other polyphosphates suggests that these effects occur at dose levels well above the cut off for classification via the oral route.  The NOAEL was determined to be 500 mg/kg bw/day on the basis of changes observed in the kidneys of the rats in the high dose of phosphates (typical) stating at about 0.5 – 1.0 % in the diel). The effects are only seen in high dose animals.  WATER  WATER  No significant acute toxicological data identified in literature search.  Asthma-like symptoms may continue for months or even years after exposure to high levels of highly irritating compound. Main critical for diagnosing RADS include the	SODIUM METASILICATE	conjunctivitis. The material may cause skin irritation after prolonged		
Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.  POTASSIUM HYDROXIDE & SODIUM HYPOCHLORITE  The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  **Carcinogenicity**  **Skin Irritation/Corrosion**  **Reproductivity*  Serious Eye Damage/Irritation*  **Respiratory or Skin sensitisation*  **STOT - Repeated Exposure**  **STOT - Repeated Exposure**		For pyrophosphate salts:  Oral toxicity was for three pyrophosphate (diphosphate) salts were generally around 2000 mg/kg bw, but mortality occurred at sufficiently high doses. Acute dermal toxicity was not found for any of the three substances, all animals survived doses up to 7.96 g/kg bw of the respective diphosphate. This underlines the low potential of the three diphosphates to penetrate the skin. The skin irritation found for the three substances is probably caused by their basic nature and their high buffer capacity. The acute inhalation toxicity is difficult to assess as the nominal concentrations (which were the highest attainable) differ significantly from the gravimetrically derived values. At these highest attainable concentrations animals died.  The available repeated dose studies confirm that the kidneys are the primary target organ of subchronic oral toxicity of diphosphates. Two salts induced tubulorrhexis (localized necrosis of the epithelial lining in renal tubules) and medullary and cortical (renal) calcification to different degrees in rats if administered subchronically at high concentrations of 1 – 10% in the feed. (Diphosphates might have a Janus-faced role in this process leading on the one hand to an increased phosphate burden if cleaved and taken up as orthophosphate but on the other hand might help to inhibit calcification by complexation of calcium ions.)  Repeat dose toxicity:  Calcification of the kidneys is known to be an effect of long term exposure to relatively high doses of pyrophosphates. The evidence on pyrophosphates and other polyphosphates suggests that these effects occur at dose levels well above the cut off for classification via the oral route.  The NOAEL was determined to be 500 mg/kg bw/day on the basis of changes observed in the kidneys of the rats in the high dose group. Rats in general and particularly female rats are known to be susceptible to nephrocalcinosis when administered high doses of phosphates (typically starting at about 0.5 – 1.0 % in the diet). The ef		
Room as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible astiflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.  POTASSIUM HYDROXIDE & SODIUM HYPOCHLORITE  Acute Toxicity  Acute Toxicity  X  Carcinogenicity  X  Serious Eye Damage/Irritation  Respiratory or Skin sensitisation  Respiratory or Skin sensitisation	WATER	No significant acute toxicological data identified in liter	ature search.	
SODIUM HYPOCHLORITE conjunctivitis.  Acute Toxicity X Carcinogenicity X  Skin Irritation/Corrosion Y Reproductivity X  Serious Eye Damage/Irritation  Respiratory or Skin sensitisation X STOT - Repeated Exposure X	SODIUM HYPOCHLORITE & SODIUM METASILICATE & TETRASODIUM	known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilla. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The		
Skin Irritation/Corrosion  Serious Eye Damage/Irritation  Respiratory or Skin sensitisation  X  STOT - Repeated Exposure  X  X				
Serious Eye Damage/Irritation  Respiratory or Skin sensitisation  X STOT - Single Exposure  X STOT - Repeated Exposure	Acute Toxicity	×	Carcinogenicity	×
Respiratory or Skin sensitisation X STOT - Repeated Exposure X	Skin Irritation/Corrosion	<b>✓</b>	Reproductivity	×
sensitisation STOT - Repeated Exposure	Serious Eye Damage/Irritation	✓	STOT - Single Exposure	<b>✓</b>
Mutagenicity X Aspiration Hazard X	• •	X STOT - Repeated Exposure X		
	Mutagenicity	×	Aspiration Hazard	×

X − Data either not available or does not fill the criteria for classification
 ✓ − Data available to make classification

### **SECTION 12 Ecological information**

### Toxicity

Multi Mix 10 - Automatic	Endpoint	Test Duration (hr)	Species	Value	Source
Dishwashing Liquid Chlorinated	Not Available	Not Available	Not Available	Not Available	Not Available

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	Endpoint	Test Duration (hr)	Species	Value	Source
potassium hydroxide	LC50	96	Fish	80mg/L	2
	NOEC	24	Fish	28mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	>0.023- <0.052mg/L	4
sodium hypochlorite	EC50	48	Crustacea	0.01mg/L	4
	EC50	72	Algae or other aquatic plants	0.018mg/L	2
	NOEC	72	Algae or other aquatic plants	0.005mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	1108mg/L	2
P	EC50	48	Crustacea -0.28-0.57mg/		4
sodium metasilicate	EC50	72	Algae or other aquatic plants	207mg/L	2
	EC0	72	Algae or other aquatic plants	35mg/L	2
	NOEL	1656	Not Available	134.4-mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	>100mg/L	2
tetrasodium pyrophosphate	EC50	48	Crustacea	>100mg/L	2
	EC50	72	Algae or other aquatic plants	>100mg/L	2
	NOEC	72	Algae or other aquatic plants	>100mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
water	Not Available	Not Available	Not Available	Not Available	Not Available
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				

### For Chlorine:

Atmospheric Fate: Atmospheric chlorine forms hydrochloric or hypochlorous acid in the atmosphere, either through reactions with hydroxyl radicals or, other trace species, such as hydrocarbons. These acids are believed to be removed from the atmosphere primarily through precipitation washout/dry deposition. When chlorine, hypochlorous acid or hydrogen chloride mixes in the atmosphere with water vapor, dilute solutions of strong mineral acids form which fall to earth as "acid rain", snow, fog, or acidified dry particles. Terrestrial Fate: Soil - Chlorine may react with soil components to form chlorides; depending on their water solubility, these chlorides are easily washed out from the soil. Plants -Vegetation acts as an important artificial reservoir, (sink), for chlorine air pollution. Elevated levels of chlorine can cause plant injury; however chlorine tends to be rapidly converted to other less toxic forms. Chlorine is toxic to plant growth, however; it is also essential to plant growth - crops need around 2 kg or more of chlorine per acre. In freshwater, the hypchlorites break down rapidly into non-toxic compounds when exposed to sunlight. While chlorine levels decline rapidly In seawater, hypobromite (which is acutely toxic to aquatic organisms) is formed. Sodium and calcium hypochlorite exhibit low levels of toxicity to birds, but they are highly toxic to freshwater fish and invertebrates. As hypochlorite is a highly reactive chemical, it undergoes a series of reactions, including oxidation of inorganic and organic species, and chlorination, forming organohalogen by-products. With a half-life of around 0.6 minutes, hypochlorite is rapidly broken down during use, in the sewer, and during sewage treatment. Due to its reaction with ammonia, concentration levels are predicted to drop substantially by the time it reaches the end of the sewer, and while cholormine will subsequently be increased, both these levels are significantly below the lowest acute EC50s determined for sodium hypochlorite and monochloramine. The organohalogens produced are low and are not expected to have an adverse effect on the environment. The levels of organohalogens in sewage effluent arising from bleach use is comparable with, and sometimes less, than drinking water that is disinfected by chlorination. After secondary sewage treatment, the levels entering receiving waters will be similar to background levels present in rivers. Prevent, by any means available, spillage from entering drains or water courses.

### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air	
tetrasodium pyrophosphate	HIGH	HIGH	
water	LOW	LOW	

### Bioaccumulative potential

Ingredient	Bioaccumulation
tetrasodium pyrophosphate	LOW (LogKOW = -1.7388)
water	LOW (LogKOW = -1.38)

### Mobility in soil

Ingredient	Mobility
tetrasodium pyrophosphate	LOW (KOC = 7.883)
water	LOW (KOC = 14.3)

### **SECTION 13 Disposal considerations**

### Waste treatment methods

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- ▶ Return to supplier for reuse/ recycling if possible.
- Otherwise:
- Fill frontainer can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and SDS and observe all notices pertaining to the product.
- 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.
- For 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.

### **SECTION 14 Transport information**

### **Labels Required**



2R

**Marine Pollutant** HAZCHEM

### Land transport (ADG)

UN number	1814		
UN proper shipping name	POTASSIUM HYDROXIDE SOLUTION		
Transport hazard class(es)	Class 8 Subrisk Not Applicable		
Packing group			
Environmental hazard	Not Applicable		
Special precautions for user	Special provisions Not Applicable  Limited quantity 1 L		

### Air transport (ICAO-IATA / DGR)

UN number	1814			
		1814		
UN proper shipping name	Potassium hydroxide sol	ution		
	ICAO/IATA Class	8		
Transport hazard class(es)	ICAO / IATA Subrisk	Not Applicable		
	ERG Code	8L		
Packing group	II .			
Environmental hazard	Not Applicable			
	Special provisions A3		A3 A803	
	Cargo Only Packing Instructions		855	
	Cargo Only Maximum Qty / Pack		30 L	
Special precautions for user	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	1814	1814		
UN proper shipping name	POTASSIUM HYDRO	OXIDE SOLUTION		
Transport hazard class(es)	IMDG Class 8	Not Applicable		
Packing group	II	Стрина		
Environmental hazard	Not Applicable	Not Applicable		
Special precautions for user	EMS Number Special provisions Limited Quantities	F-A , S-B  Not Applicable  1 L		

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

Not Applicable

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

Product name	Group
potassium hydroxide	Not Available
sodium hypochlorite	Not Available
sodium metasilicate	Not Available
tetrasodium pyrophosphate	Not Available
water	Not Available

### Transport in bulk in accordance with the ICG Code

Product name	Ship Type
potassium hydroxide	Not Available
sodium hypochlorite	Not Available
sodium metasilicate	Not Available
tetrasodium pyrophosphate	Not Available
water	Not Available

### **SECTION 15 Regulatory information**

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

### potassium hydroxide is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

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

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

Australian Inventory of Industrial Chemicals (AIIC)

### sodium hypochlorite is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

 $\label{eq:australia} \textbf{Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5}$ 

 $\label{thm:constraints} \textbf{Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule \ 6}$ 

Australian Inventory of Industrial Chemicals (AIIC)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

### sodium metasilicate is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

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

 $\label{eq:australia} \textbf{Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule \ 6}$ 

Australian Inventory of Industrial Chemicals (AIIC)

### tetrasodium pyrophosphate is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

### water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

### **National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (potassium hydroxide; sodium hypochlorite; sodium metasilicate; tetrasodium pyrophosphate; water)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (tetrasodium pyrophosphate)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

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### Multi Mix 10 - Automatic Dishwashing Liquid Chlorinated

**SECTION 16 Other information** 

Revision Date	01/11/2019
Initial Date	17/02/2016

### **SDS Version Summary**

Version	Issue Date	Sections Updated
2.1.1.1	17/02/2016	Classification, Physical Properties
5.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification

### Other information

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

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