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PROFESSIONAL SUMMIT

Safety Data Sheet
JAX Liquid CL

1. IDENTIFICATION

Synonyms **none**
CAS# ***see Part 3, below***
Material Use **liquid machine dish detergent with bleach**

IN AN EMERGENCY CALL: INFOTRAC 1-800-535-5053

2. HAZARD IDENTIFICATION

GHS Class	***corrosive, skin, eyes***	***acute, oral***
(Category)	***(1)***	***(3)***
Signal Words	***DANGER***	***WARNING***
Hazard Statements	*causes severe skin burns & eye damage (H314)*	*harmful if swallowed (H302)*

GHS Precautionary Statements for Labeling

P260, P262, P264 **Do not breathe spray. Do not get in eyes, on skin or on clothing. Wash thoroughly after handling.**
P270, P280 **Do not eat, drink or smoke when using this product. Wear eye protection, protective gloves and clothing of neoprene or nitrile.**
P313 & P333 **If skin irritation or rash occurs, get medical advice/attention.**
P305, P351, P338 **If in eyes, rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.**

3. COMPOSITION

	CAS NUMBER	%	TLV ppm / mg/m^3	LD_{50} (*mg/kg*) ORAL	LD_{50} (mg/kg) SKIN	LC_{50} ppm INHALATION
Potassium Hydroxide	1310-58-3	20-30%	2mg/m^3	>205	>1260	not known
Tetrapotassium Pyrophosphate	7320-34-5	15-25%	not listed	4640	not known	not known
Sodium Silicate	1344-09-8	4-10%	not listed	1960	>4640	not known
Sodium Polyacrylate	9003-04-7	2-10%	not listed	40,000	not toxic	not toxic
Nitrilotrimethylphosphonic Acid	6419-19-8	2-10%	not listed	>2100	>6300	not known
Sodium Hypochlorite	7681-52-9	1-5%	0.5/1.5 (as Cl)	7450	>10,000	5250
Water	7732-18-5	balance	not toxic	90,000	not toxic	not toxic

4. FIRST AID

SKIN: Wash with plenty of water. Remove contaminated clothing and do not reuse until laundered. Seek medical help promptly if there is persistent itching or redness in the affected area.
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance if there is persistent irritation.
INHALATION: Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If victim's breathing stops, administer artificial respiration and seek medical aid promptly.
INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity product. The stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.

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5. FLAMMABILITY & FIRE-FIGHTING

Flash Point	cannot burn
Autoignition Temperature	cannot burn
Flammable Limits	cannot burn
Combustion Products	oxides of carbon, nitrogen, phosphorous, sodium & potassium; also chlorine gas and part oxidized hydrocarbon fragments may form in fire
Firefighting Precautions	as for materials sustaining fire; compatible with water; firefighters must wear SCBA
Static Discharge	cannot accumulate a static charge

6. ACCIDENTAL RELEASE MEASURES

Leak Precaution	dike to control spillage and prevent environmental contamination
Handling Spill	recover free liquid with suitable pumps; neutralize residue cautiously with sodium bicarbonate (*solid or solution*), sweep, shovel & store in closed containers for disposal

7. HANDLING & STORAGE

Store away from acids. Never cut, drill, weld or grind on or near this container, whether empty or full. Always replace drum, pail or IBC cap prior to moving the container!

Avoid generating or breathing product mist. If mist forms in use, install adequate ventilation to clear workplace air. Avoid all contact with skin & wash work clothes frequently. An eye bath & safety shower should be available at the workplace.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Potassium Hydroxide:

ACGIH TLV	2mg/m^3	ACGIH STEL	not listed
OSHA PEL	not listed	OSHA STEL	not listed

Chlorine:

ACGIH TLV	0.5ppm / 1.45mg/m^3	ACGIH STEL	1.0ppm / 2.9mg/m^3
OSHA PEL	0.5ppm / 1.45mg/m^3	OSHA STEL	1.0ppm / 2.9mg/m^3

Ventilation	no special mechanical ventilation required
Hands	wear neoprene or nitrile gloves – *always confirm suitability with supplier*
Eyes	safety glasses with side shields or chemical goggles – *always protect eyes!*
Clothing	impermeable (hands, above) apron, boots, long sleeves, if splashing is anticipated

9. PHYSICAL AND CHEMICAL PROPERTIES

NOTE: *for Flash Point, Autoignition Temperature & Flammable Limits see Part 5.*

Odor & Appearance	clear, colorless, odorless liquid
Odor Threshold	not known – odorless
Vapor Pressure	as for water
Evaporation Rate (*Butyl Acetate = 1*)	as for water
Vapor Density (air = 1)	0.6 (*water*), 1.2 (*chlorine*) – *no other volatile components present*
Boiling Point	not measured – approximately 110^{o}C / 230^{o}F
Freezing Point	not measured – approximately -10^{o}C / 14^{o}F
Decomposition Temperature	not known
Specific Gravity	1.127 (20/20^{o}C)
Water Solubility	complete
Viscosity	not known, thin, mobile liquid
pH	>13 – *strongly alkaline*

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10. REACTIVITY

Dangerously Reactive With	strong acids
Also Reactive With	dissolves wool, leather & silk; corrodes aluminum, zinc and tin (*galvanized surfaces*)
Chemical Stability	stable; will not polymerize
Decomposes in Presence of	heat and acids liberate chlorine gas
Decomposition Products	none apart from Hazardous Combustion Products
Mechanical Impact	not sensitive

11. TOXICITY INFORMATION

i. *ACUTE EXPOSURE*

Skin Contact	corrosive to skin
Skin Absorption	slight; toxic effects unlikely by this route
Eye Contact	corrosive to eyes
Inhalation	mist likely to be severely irritating – *even corrosive* – to respiratory system
Ingestion	corrosive to mouth, throat, stomach – *ingestion is not a route of industrial exposure*

ii. *CHRONIC EXPOSURE*

General	prolonged or repeated exposure to dilute material may cause dermatitis
Sensitizing	not a sensitizer
Carcinogen/Tumorigen	not known to be a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no known effect on humans or animals
Mutagen	not known to be a mutagen or teratogen in humans or animals
Synergistic With	not known
Calculated LD_{50} (oral)	765mg/kg (rat)
Calculated LD_{50} (skin)	4620mg/kg (rabbit) – *insufficient information for confidence*
LC_{50} (inhalation)	*insufficient information to calculate*

12. ECOLOGICAL INFORMATION

Potassium Hydroxide:

Bioaccumulation	not a bioaccumulator
Biodegradation	cannot biodegrade
Abiotic Degradation	dilutes readily in water & neutralizes with dissolved CO_2 & atmospheric CO_2 to potassium carbonate;
Mobility in soil, water	product is water soluble & moves readily in soil and water
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	178mg/liter – *for 45% product* (Gambusia affinis) – *the pH of the test medium is not reported . . .*
EC_{50} (Crustacea, 48hr)	*. . . no other ecotoxicity data available . . .*

Tetrapotassium Pyrophosphate:

Bioaccumulation	cannot bioaccumulate
Biodegradation	inorganic substance; cannot biodegrade; *phosphates are taken up avidly by plant life*
Abiotic Degradation	estimated ½-life to hydrolysis is over one year
Mobility in soil, water	water soluble; moves readily through soil & the water column
Aquatic Toxicity	
LC_{50} (Fish 96 hr)	>100mg/liter (Oncorhynchus mykiss)
LC_{50} (Crustacea, 48hr)	>100mg/liter (Daphnia magna)
NOEC (Algae)	>100mg/liter (Desmodesmus subspicatus)
NOEC (Bacteria)	>1000mg/liter (*domestic sewage sludge*)

Sodium Silicate:

Bioaccumulation	cannot bioaccumulate
Biodegradation	inorganic substance; cannot biodegrade
Abiotic Degradation	stable substance; does not decompose abiotically
Mobility in soil, water	somewhat water soluble; moves slowly through soil & the water column
Aquatic Toxicity	
LC_{50} (Fish 96 hr)	1108mg/liter (Danio rerio), 260mg/liter (Oncorhynchus mykiss)
LC_{50} (Crustacea, 48hr)	1700mg/liter (Daphnia magna)
EC_{50} (Algae, 72hr)	207 & 345mg/liter (Desmodesmus subspicatus)
NOEL (Microorganisms)	3450mg/liter (Pseudomonas putida)

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12. ECOLOGICAL INFORMATION, cont'd

Sodium Polyacrylate:

Bioaccumulation	poorly absorbed and water soluble; will not bioaccumulate
Biodegradation	biodegrades slowly & incompletely; rate not known
Abiotic Degradation	not known
Mobility in soil, water	water soluble but, readily precipitated on contact with magnesium or calcium ions in soil or water
Aquatic Toxicity	
LC_{50} (Fish 96 hr)	56,000mg/liter (*species of fish not given*)
LC_{50} (Crustacea, 48hr)	6000mg/liter (Daphnia magna)
EC_{50} (Algae, 72hr)	>100mg/liter (*species not given*)
LC_{50} (Microorganisms)	not known

Nitrilotrimethylenetris(phosphonic acid):

Bioaccumulation	not a bioaccumulator
Biodegradation	biodegrades slowly in sewage treatment facility; 22-23%, 35% & 50% in 28 days[1]
Abiotic Degradation	direct photolysis does not occur; indirect photolysis is slight[1]
Mobility in soil, water	water soluble; moves readily in soil and water
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	160mg/liter (Salmo gairdneri), >330mg/liter (Lepomis macrochirus), 1212mg/liter (Ictalurus punctatus) & others
EC_{50} (Crustacea, 48hr)	297, 375 & 883mg/liter (Daphnia magna), 94mg/liter (Acartia tonsa) & others
EC_{50} (Algae, 72hr)	80mg/liter (Skeletonema costatum); 19.6mg/liter (Pseudokirchernella subcapitata) & others
NOEC (Algae, 72hr)	100mg/liter (Pseudokirchernella subcapitata – *3 reports*) & others; 0.1 to 10mg/liter ***stimulated*** the growth of Anabena sp
EC_0 – *no effect* (Bacteria)	>250mg/liter (Pseudomonas putida), >100 & >200mg/liter (*activated sludge*)

Bioaccumulation	sodium, hypochlorite is not a bioaccumulator
Biodegradation	cannot biodegrade
Abiotic Degradation	sunlight accelerates decomposition to NaCl & chlorine gas; contact with soil causes rapid decomposition and release of chlorine
Mobility in soil, water	water soluble; moves readily in soil and water – *rapid decomposition likely to prevent groundwater contamination . . .*
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	0.033-0.097 (Culpea harengus), 0.045-0.098mg/liter (Cymatogaster aggregata), 0.23-0.052mg/liter (Oncorhynchus gorbuscha), 0.044-0.144mg/liter (Parophrys vetulus) & others
EC_{50} (Crustacea, 24hr)	2.1mg/liter (Daphnia magna), 4mg/liter (Gammarus fasciatus) & others
EC_{50} (Algae)	0.6mg/liter (Chlorella sp.), 0.4-0.6mg/liter (Dunaliella sp.), 0.095mg/liter (Skeletonema costatum)
EC_{50} (Bacteria)	3mg/liter (*sewage sludge*)[1] – *Chlorine released from sodium hypochlorite unlikely to affect performance of downstream sewage treatment facility; it will be destroyed in the sewers before the reaching the facility.*

13. DISPOSAL CONSIDERATIONS

Waste Disposal **do not flush to sewer**; neutralize with acidic waste material; dispose of neutralized material as appropriate for the substances present

Containers **Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.
Pails must be vented and thoroughly dried prior to crushing and recycling.
IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5 years). Steel containers must be inspected, pressure tested & recertified every 5 years.
Warning: never cut, drill, weld or grind on or near this container, even if empty.

14. TRANSPORT INFORMATION

USA 49 CFR & Canada/International TDG

Product Identification Number	**UN – 3266**
Shipping Name	**Corrosive liquid, basic, inorganic, N.O.S. (potassium hydroxide)**
Classification	**Class 8; Packing Group III**
Marine Pollution	***not a marine pollutant***
ERAP Required	***No***
Reportable Quantity (RQ)	***4000lbs (potassium hydroxide)***

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15. REGULATIONS

Canada DSL	**on inventory**
U.S.A. TSCA	**on inventory**
Europe EINECS	**on inventory**

16. OTHER INFORMATION

Date of Preparation	**May 2015**
Date of Revision	**-**

Prepared for Tomco-Harwel, by **Peter Bursztyn**

With data from the Registry of Toxic Effects of Chemical Substances (RTECS), Hazardous Substance Data Base (HSDB), Cheminfo (CCOHS), OSHA, IUCLID Datasheets (European Chemical Substance Information System - ESIS), & others sources (below if used), as required/available

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