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PROFESSIONAL SUMMIT

Safety Data Sheet
Scrubber

1. IDENTIFICATION

Synonyms	**none**
CAS#	***see Part 3, below***
Material Use	**Floor cleaner designed for Auto-Scrubbers**

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

2. HAZARD IDENTIFICATION

GHS Class	***skin, eye corrosive***	***STOT***
(Category)	***(1)***	***(3)***
Signal Words	***DANGER***	***WARNING***
Hazard Statements	*causes severe skin burns & eye damage (H314)*	*may cause respiratory tract irritation (H335)*

GHS Precautionary Statements for Labeling

P260	**Do not breathe mist or spray.**
P262	**Do not get in eyes, on skin or on clothing.**
P264	**Wash thoroughly after handling.**
P270	**Do not eat, drink or smoke when using this product.**
P280	**Wear eye protection, protective gloves and clothing of nitrile.**
P313 & P333	**If skin irritation or rash occurs, get medical advice/attention.**
P304 & P340	**If inhaled, remove person to fresh air and keep comfortable for breathing.**

3. COMPOSITION

	CAS NUMBER	%	TLV ppm / mg/m^3	LD_{50} (*mg/kg*) ORAL	LD_{50} (mg/kg) SKIN	LC_{50} ppm INHALATION
Sodium Metasilicate	13517-24-3	5-10%	not listed	850	not known	not known
Tetrasodium Ethylenediaminetetraacetic Acid	64-02-8	1-5%	not listed	>1780	>5000	not known
Alkyl Naphthalene Sulfonate, sodium salt	on request	1-5%	not listed	not known	not known	not known
Potassium Hydroxide	1310-58-3	1-5%	2mg/m^3	>205	>1260	not known
Monoethanolamine (MEA)	141-43-5	1-5%	3 / 7.5	620	1025	>1212
Dipropylene Glycol Monoethyl Ether (DPM)	34590-94-8	1-5%	100/600 (skin)	>5120	>9500	not known
2-Butoxyethanol	111-76-2	1-5%	20/100 (skin)	>300	>450	>450
Sodium Tripolyphosphate	7758-29-4	1-5%	not listed	>3120	>4640	>>390
Nonionic Copolymer Surfactant	on request	1-5%	not listed	>5000	not known	not known
Water	7732-18-5	balance	not toxic	90,000	not toxic	not toxic

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4. FIRST AID

SKIN: Wash with soap and 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: Corrosive substance: apply first aid immediately & call a doctor! *Inadvertent inhalation of vomited material may seriously damage the lungs. The stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.*

5. FLAMMABILITY & FIRE-FIGHTING

Flash Point	will not flash
Autoignition Temperature	will not flash
Flammable Limits	will not flash
Combustion Products	oxides of carbon, nitrogen, sulphur, phosphorous, sodium & potassium, part oxidized hydrocarbons
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	ventilate contaminated area; recover free liquid with explosion-proof pumps; absorb residue on an inert sorbent, pick up using non-sparking plastic or aluminium shovel, & store in closed containers for disposal

NOTE: *If spill is extensive, and ventilation is inadequate, consider wearing an air-supplied respirator.*

7. HANDLING & STORAGE

Store above freezing and away from oxidizing agents. 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 control airborne titre to regulated limits (*see Part 8, below*). Avoid all contact with skin and wash work clothes frequently. An eye bath and safety shower should be available near 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
2-Butoxyethanol:			
ACGIH TLV	20ppm / 96mg/m^3 (skin)	ACGIH STEL	not listed
OSHA PEL	50ppm / 240mg/m^3 (skin)	OSHA STEL	not listed
Monoethanolamine:			
ACGIH TLV	3ppm / 7.5mg/m^3	ACGIH STEL	6ppm / 15mg/m^3
OSHA PEL	3ppm / 8mg/m^3	OSHA STEL	not listed
Dipropylene Glycol Methyl Ether:			
ACGIH TLV	100ppm / 606mg/m^3	ACGIH STEL	150ppm / 909mg/m^3
OSHA PEL	100ppm / 600mg/m^3	OSHA STEL	150ppm / 900mg/m^3
Ventilation	no special mechanical ventilation required		
Hands	nitrile gloves – *other types also protect; 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 possible		

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9. PHYSICAL AND CHEMICAL PROPERTIES

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

Odor & Appearance	clear, red, liquid with a pine odor
Odor Threshold	not known
Vapor Pressure	as for water
Evaporation Rate (*Butyl Acetate = 1*)	as for water
Vapor Density (air = 1)	0.6 (*water*) – *all other volatiles are considerably heavier than air*
Boiling Point	approximately 105°C / 221°F
Freezing Point	approximately -5°C / 23°F
Decomposition Temperature	not known – *no thermal decomposition will occur until all water has evaporated*
Specific Gravity	1.088-1.110 (20/20°C)
Water Solubility	complete
Viscosity	not known – *thin mobile liquid*
pH	>13 – *strongly alkaline*

10. REACTIVITY

Dangerously Reactive With	vigorous reaction with strong acids
Also Reactive With	oxidizing agents
Chemical Stability	stable; will not polymerize
Decomposes in Presence of	no decomposition triggers known
Decomposition Products	none apart from Hazardous Combustion Products
Mechanical Impact	not sensitive

11. TOXICITY INFORMATION

i. *ACUTE EXPOSURE*

Skin Contact	corrosive to skin if not removed promptly
Skin Absorption	yes, slowly; toxic effects unlikely by this route
Eye Contact	corrosive to eyes; *likely to cause permanent damage if not removed promptly*
Inhalation	product mist irritates respiratory system
Ingestion	corrosive to mouth, throat & stomach; nausea, diarrhoea, stomach pain & cramps
Calculated LD_{50} (oral)	2565mg/kg (rat)
Calculated LD_{50} (skin)	8355mg/kg (rabbit)
LC_{50} (inhalation)	*insufficient information to calculate*

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

12. ECOLOGICAL INFORMATION

Sodium Metasilicate pentahydrate:

Bioaccumulation	not a bioaccumulator
Biodegradation	inorganic product – does not biodegrade
Abiotic Degradation	water-soluble substance, dilutes in the environment; forming insoluble calcium aluminum, magnesium & iron silicates similar to naturally occurring silicates
Mobility in soil, water	water soluble; moves readily in soil and water
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	365mg/liter (Brachydanio rerio), 4037mg/liter (Gambusia affinis)
EC_{50} (Crustacea, 96hr)	376mg/liter (Daphnia magna), 1100mg/liter (Lymnia sp.), 278mg/liter (Hyallela sp.)
EC_{50} (Algae)	no data
EC_0 (Bacteria)	>1740mg/liter (Pseudomonas putida) – *this is an LC_0 – no inhibition at this dose*

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12. ECOLOGICAL INFORMATION, cont'd

Tetrasodium Ethylenediaminetetraacetic Acid:

Bioaccumulation	not a bioaccumulator
Biodegradation	various values reported from 1% in 72 days to 63% in 5 days
Abiotic Degradation	not known
Mobility in soil, water	highly water soluble; expected to bind to soil particles; may move slowly or not at all in soil & water
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	41, 159, 486, 532, 1030 & 2070mg/liter (Lepomis macrochirus), 60mg/liter (Pimephelas promelas)
EC_{50} (Crustacea, 24hr)	610, 625 & 1030mg/liter (Daphnia magna), 4834mg/liter (Crangon crangon, 96hr) *& others*
EC_{50} (Algae)	>100mg/liter (Scenedesmus subspicatus)
EC_{10} (Bacteria)	55mg/liter (Pseudomonas putida), >1000mg/liter (*other bacteria*)
EC_5 (Microbes)	663mg/liter (Chilomonas paramecium)

Variable data suggest test conditions are important in determining aquatic toxicity. Biodegradation data are also highly variable, probably for similar reasons.

Alkyl Naphthalene Sulfonate, sodium salt: *(information below for similar substance)*

Bioaccumulation	water soluble, cannot bioaccumulate
Biodegradation	biodegrades in the presence of oxygen; 29%, 49% & 51% in 28 days
Abiotic Degradation	no data available
Mobility in soil, water	water soluble; moves readily through soil & the water column
Aquatic Toxicity	
LC_{50} (Fish 96 hr)	35-35mg/liter (Danio rerio)
LC_{50} (Crustacea, 48hr)	>100mg/liter (Daphnia magna)
EC_{50} (Algae, 96hr)	810mg/liter (Pseudokirchnerella subcapitata)
LC_{50} (Microorganisms)	650mg/liter (*domestic sewage sludge*)

Potassium Hydroxide:

Bioaccumulation	not a bioaccumulator
Biodegradation	cannot biodegrade
Abiotic Degradation	dilutes readily in water & neutralises 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 . . .*

Monoethanolamine:

Bioaccumulation	highly water soluble & readily metabolised; cannot bioaccumulate
Biodegradation	biodegrades readily with oxygen: 97% in 4 days, 62% in 28 days, 92% in 28 days, 80% in 19 days, 80-90% in 26 days & others
Abiotic Degradation	reacts with atmospheric hydroxyl radicals; estimated ½-life in air is 11 hours & 27hours (*2 tests*)
Mobility in soil, water	water soluble; mobile in soil & water; but expected to become a cation & may adsorb strongly to soil
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	227 & 2070mg/liter (Pimephales promelas); 3680 & 5000mg/liter (Brachydanio rerio), 170 & 190mg/liter (Carassius auratus), 337mg/liter (Gambusia affinis), 330mg/liter (Lepomis macrochirus), 150mg/liter (Oncorhynchus mykiss)
EC_{50} (Crustacea, 48hr)	65mg/liter (Daphnia magna), 120 & 140mg/liter (Daphnia magna, 24hr)
EC_{50} (Algae)	15mg/liter (Scenedesmus subspicatus), 70mg/liter (*"other algae"*)
EC_{50} (Bacteria)	110mg/liter (Pseudomonas putida), 13.7mg/liter (Photobacterium phosphoreum)

Dipropylene Glycol Monoethyl Ether:

Bioaccumulation	water soluble – cannot bioaccumulate; *also rapid rate of elimination/metabolism*
Biodegradation	biodegrades readily in the presence of oxygen; 34% in 28 days, 73% in 28 days, 93% in 13 days
Abiotic Degradation	direct photolysis is reported to cause destruction with a ½-life of 3.4 hours
Mobility in soil, water	water soluble; moves readily in soil and water
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	>10,000mg/liter (Pimephales promelas), 150mg/liter (Nothropis atherinoides – 72hr)
LC_{50} (Crustacea, 48hr)	1920mg/liter (Daphnia magna), >1000mg/liter (Crangon crangon – 96hr)
EC_{50} (Algae)	not known
EC_{10} (Bacteria)	4168mg/liter (Pseudomonas putida) – *this is an EC_{10} not an EC_{50}*

2-Butoxyethanol:

Bioaccumulation	rapidly eliminated from the body, cannot bioaccumulate; biological ½-life <48hr
Biodegradation	biodegrades readily & rapidly in the presence of oxygen; 75%-100% in 20-28 days
Abiotic Degradation	reacts with atmospheric hydroxyl radicals; estimated ½-life in air 16 hours
Mobility in soil, water	water soluble; moves readily & rapidly in soil and water
Aquatic Toxicity	
LC_{50} (Fish, 96hr)	1490 & 2950mg/liter (Lepomis macrochirus), 1250mg/liter (Menidia beryllina),
EC_{50} (Crustacea, 24hr)	1700-1940 & 5000mg/liter (Daphnia magna), 600-1000mg/liter (Crangon crangon, 48hr)
EC_{50} (Algae)	35mg/liter (Microcistis aeruginosa), 900mg/liter (Scenedesmus quadricauda)
EC_{50} (Bacteria)	911mg/liter (Chilomonas paramecium), 700mg/liter (Pseudomonas putida)

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12. ECOLOGICAL INFORMATION, cont'd

Sodium Tripolyphosphate:

Bioaccumulation	water soluble – cannot bioaccumulate
Biodegradation	cannot biodegrade; plant fertilizer (*phosphate ion*)
Abiotic Degradation	gradual (faster in acidic medium) hydrolysis to orthophosphate (*precipitates with various metal ions*)
Mobility in soil, water	water soluble, may move readily in soil & the water column; *phosphate precipitates with* Ca^{++} *&* Mg^{++}
Environmental	not toxic to marine life but promotes algal blooms on surface water & eventual eutrophication
Aquatic Toxicity	
LC_{50} (Fish, 48hr)	1600mg/liter (Leuciscus idus), >1850mg/liter (Pimepherlas promelas – *24 hr*)
EC_{50} (Crustacea, 50hr)	1089mg/liter (Daphnia magna), 277mg/liter (Cladoceran dubia), >1000mg/liter (Daphnia magna)
EC_{50} (Algae, 72hr)	160 & 69mg/liter (Desmodesmus subspicatus), >900mg/liter (Skeletonema costatum)
EC_{50} (Bacteria)	1000mg/liter (*domestic activated sludge*)

Nonionic Copolymer Surfactant:

Bioaccumulation	this surfactant does not appear to bioaccumulate – *manufacture's statement*
Biodegradation	this surfactant biodegrades readily in the presence of oxygen; >60% in 28 days (OECD 301B)
Abiotic Degradation	not known
Mobility in soil, water	water insoluble, but presence of other ingredients may allow ready movement in soil & the water column
Aquatic Toxicity	
LC_{50} (Fish, 96 hr)	>100mg/liter (Leuciscus idus) – *manufacturer's information*
LC_{50} (Crustacea, 48hr)	>100mg/liter (Daphnia magna) – *manufacturer's information*
EC_{50} (Algae, 96hr)	>100mg/liter (*species not given*) – *manufacturer's information*
EC_{50} (Microorganisms	not known – *not expected to inhibit sewage treatment bacteria – manufacturer's statement*

13. DISPOSAL CONSIDERATIONS

Waste Disposal **do not flush to sewer**; may be incinerated in approved facility with flue gas monitoring & scrubbing, mix with a suitable flammable waste before incineration

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 – 1760**
Shipping Name	**Corrosive liquids, N.O.S. (potassium hydroxide)**
Classification	**Class 8; Packing Group III**
Marine Pollution	***not a marine pollutant***
ERAP Required	***No***
Reportable Quantity (RQ)	***none***

15. REGULATIONS

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

16. OTHER INFORMATION

Date of Preparation **April 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

PLEASE ENSURE THAT THIS SDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.

ISSA MEMBER

EMERGENCY INFORMATION: INFOTRAC 1-800-535-5053