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Safety Data Sheet Zip Strip

1. IDENTIFICATION

Synonyms none
 CAS# see Part 3 below
 Material Use floor stripper

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

2. HAZARD IDENTIFICATION

GHS Class (Category)	acute oral (4)	skin, eye corrosive (1)
Signal Words	WARNING	DANGER
Hazard Statements	harmful if swallowed (H302)	causes severe skin burns & eye damage (H314)



GHS Precautionary Statements for Labeling

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 protective gloves (gauntlet-style) and clothing of neoprene.
 P313 & P333 If skin irritation or rash occurs, get medical advice/attention.
 P301 & P312 If swallowed, call a poison centre or a doctor if you feel unwell.

3. COMPOSITION

	CAS NUMBER	%	TLV ppm / mg/m ³	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ ppm INHALATION
Monoethanolamine (MEA)	141-43-5	5-10%	3 / 7.5	620	1025	>1212
2-Butoxyethanol	111-76-2	5-10%	20/100 (skin)	>300	>450	>450
Sodium Hydroxide	1310-73-2	1-5%	2	over 500	not known	not known
Sodium Metasilicate (anhydrous)	13517-24-3	1-5%	not listed	850	not known	not known
Tetrasodium Ethylenediaminetetraacetic Acid	64-02-8	1-5%	not listed	>1780	>5000	not known
Alkali/Surfactant blend	64972-19-6	1-5%	not listed	not known	not known	not known
Water	7732-18-5	balance	not toxic	90,000	not toxic	not toxic

NOTE: Several other components are either present at 0.1% or less, or are non-toxic and present at below 1%.

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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 promptly if irritation occurs.
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.

5. FLAMMABILITY & FIRE-FIGHTING

Flash Point	cannot burn
Autoignition Temperature	cannot burn
Flammable Limits	cannot burn
Combustion Products	carbon monoxide, nitrogen oxides, sulphur oxides, ammonia, sodium & potassium oxides
Firefighting Precautions	as for materials sustaining fire; 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 corrosion-resistant pumps; absorb residue on an inert sorbent, sweep, shovel & store in closed containers for disposal

7. HANDLING & STORAGE

Store and use 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 control airborne product concentration to regulated limits (see Part 8, below). Wear suitable protective clothing & equipment. 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

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

Sodium Hydroxide:

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

Ventilation	mechanical ventilation may be required to maintain airborne vapor or mist concentrations below TLV
Hands	wear gauntlet-style neoprene gloves – <i>other types also protect; always confirm suitability with supplier</i>
Eyes	safety glasses with side shields and face shield – <i>always protect eyes!</i>
Clothing	impermeable (hands, above) apron, boots, hat and long sleeves, if splashing is anticipated

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9. PHYSICAL AND CHEMICAL PROPERTIES

Odor & Appearance	clear, reddish liquid with a marked glycol ether odor
Odor Threshold	0.5ppm – <i>glycol ether EB</i>
Vapor Pressure	as for water
Evaporation Rate (<i>Butyl Acetate = 1</i>)	as for water
Vapor Density (air = 1)	0.6 (<i>water</i>), 4.1 (<i>2-Butoxyethanol</i>), 2.1 (<i>MEA</i>),
Boiling Point	not known – above 100°C / 212°F
Freezing Point	not known – below 0°C / 32°F
Specific Gravity	approx. 1.071 (20/20°C)
Water Solubility	complete
Viscosity	not known – <i>slightly viscous</i>
pH	above 13 – <i>highly alkaline</i>

10. REACTIVITY

Dangerously Reactive With	strong acids
Also Reactive With	may dissolve wool, leather & silk; corrodes aluminum, zinc and tin (<i>galvanized surfaces</i>)
Chemical Stability	stable; will not polymerize
Decomposes in Presence of	fire heat
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; <i>may cause permanent damage if not removed promptly</i>
Inhalation	product mist irritates respiratory system
Ingestion	corrosive to mouth, throat and stomach; ingestion may be fatal
Calculated LD ₅₀ (oral)	>1920mg/kg (rat) – <i>this calculation used the most severe LD₅₀ values available</i>
Calculated LD ₅₀ (skin)	>3745mg/kg (rabbit) – <i>this calculation used the most severe LD₅₀ values available</i>
LC ₅₀ (inhalation)	<i>insufficient data to calculate</i>

ii. CHRONIC EXPOSURE

General	prolonged or repeated exposure may cause dermatitis
Sensitizing	no component is known to be a sensitizer
Carcinogen/Tumorigen	no component is known to be a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no component is known to affect human or animal reproduction
Mutagen	no component is known to be a mutagen or teratogen in humans or animals
Synergistic With	not known

12. ECOLOGICAL INFORMATION

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 (<i>Lepomis macrochirus</i>), 1250mg/liter (<i>Menidia beryllina</i>),
EC ₅₀ (Crustacea, 24hr)	1700-1940 & 5000mg/liter (<i>Daphnia magna</i>), 600-1000mg/liter (<i>Crangon crangon</i> , 48hr)
EC ₅₀ (Algae)	35mg/liter (<i>Microcystis aeruginosa</i>), 900mg/liter (<i>Scenedesmus quadricauda</i>)
EC ₅₀ (Bacteria)	911mg/liter (<i>Chilomonas paramecium</i>), 700mg/liter (<i>Pseudomonas putida</i>)

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12. ECOLOGICAL INFORMATION, cont'd

Monoethanolamine:

Bioaccumulation	highly water soluble & readily metabolized; cannot bioaccumulate
Biodegradation	biodegrades readily in the presence of 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
EC ₅₀ (Crustacea, 48hr)	337mg/liter (Gambusia affinis), 330mg/liter (Lepomis macrochirus), 150mg/liter (Oncorhynchus mykiss)
EC ₅₀ (Algae)	65mg/liter (Daphnia magna), 120 & 140mg/liter (Daphnia magna, 24hr)
EC ₅₀ (Bacteria)	15mg/liter (Scenedesmus subspicatus), 70mg/liter ("other algae")
	110mg/liter (Pseudomonas putida), 13.7mg/liter (Photobacterium phosphoreum)

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 . . .

Tetrasodium Ethylenediaminetetraacetic Acid:

Bioaccumulation	not a bioaccumulator
Biodegradation	various values reported from 1% in 72dy to 63% in 5dy (major component CAS# 64-02-8, only)
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 (for major component, CAS# 64-02-8, only)
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.

Sodium Hydroxide:

Bioaccumulation	not a bioaccumulator
Biodegradation	inorganic product – cannot biodegrade
Abiotic Degradation	dilutes readily in surface water, neutralizing with dissolved CO ₂ to sodium carbonate; if calcium or magnesium ions are present, insoluble & immobile carbonates precipitate.
Mobility in soil, water	water soluble; moves readily in soil and water, but see above
Aquatic Toxicity	
LC ₅₀ (Fish 96 hr)	125mg/liter (Gambusia affinis), 45mg/liter (Oncorhynchus mykiss) – lethal due to alkalinity
LC ₁₀₀ (Crustacea, 48hr)	100-150mg/liter (Daphnia magna); 125-1000mg/liter (freshwater insect larvae)
EC ₅₀ (Algae)	no information
EC ₅₀ (Bacteria)	no information

NOTE: Lethal pH for freshwater fish is pH= 9. At this pH damage occurs to their mucus coating & their gills.

Sodium Metasilicate pentahydrate:

Bioaccumulation	not a bioaccumulator
Biodegradation	inorganic product – does not biodegrade
Abiotic Degradation	water-soluble substance, dilutes readily in the environment; combines with metal ions to form 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

Alkali/Surfactant blend:

Bioaccumulation	cannot bioaccumulate*
Biodegradation	"not persistent" in the environment – <i>predicted degradation 1/2-life</i> is 15 days*
Abiotic Degradation	not known – <i>predicted atmospheric 1/2-life</i> 1.9 hours*
Mobility in soil, water	water soluble; moves readily through soil & the water column
Aquatic Toxicity	no data available <i>Predicted (calculated from various models) toxicity values indicate low toxicity for aquatic life.*</i>

* OECD – Canadian Categorization Results:

<http://webnet.oecd.org/CCRWEB/ChemicalDetails.aspx?ChemicalID=92628b4a-4d93-4021-ab31-3d9fbc0df60b>

13. DISPOSAL CONSIDERATIONS

Waste Disposal	do not flush to sewer ; neutralise (carefully) with suitable acidic waste; ready biodegradability of components suggests that biological destruction in a suitable reactor is the best option
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. (sodium hydroxide)
Classification	Class 8; Packing Group III
Marine Pollution	<i>not a marine pollutant</i>
ERAP Required	<i>No</i>



15. REGULATIONS

Canada DSL	all components on inventory
U.S.A. TSCA	all components on inventory
Europe EINECS	all components on inventory or exempt as polymers

U.S.A. Regulations:

SARA 313 Reportable	2-Butoxyethanol
SARA 311/312	Immediate Health Hazard
California Proposition 65	no components are reportable
Reportable Quantity	35,000lbs (<i>sodium hydroxide</i>)

16. OTHER INFORMATION

Date of Preparation March 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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