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Safety Data Sheet Viru Bowl

1. IDENTIFICATION

Synonyms none
 CAS# see Part 3, below
 Material Use ready-to-use disinfecting cleaner

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

2. HAZARD IDENTIFICATION

GHS Class (Category)	skin irritant (2)	eye irritant (2A)	aquatic acute (3)
Signal Words	WARNING	WARNING	WARNING
Hazard Statements	causes skin irritation (H315)	causes severe eye irritation (H319)	harmful to aquatic life (H402)



GHS Precautionary Statements for Labeling

P262, P264 Do not get in eyes or on skin. Wash thoroughly after handling.
 P280 Wear eye protection and protective gloves of nitrile.
 P273, P391 Avoid release to the environment. Collect spillage.
 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
Glycol Ether DB	112-34-5	5-10%	not listed	2000	>2765	not known
Tetrasodium Ethylenediaminetetraacetic Acid	64-02-8	1-5%	not listed	>1780	>5000	not known
Nonylphenol Ethoxylate NP-9	127087-87-0	<1%	not listed	>2000	not known	not known
Sodium Metasilicate (pentahydrate)	6834-92-0	<1%	not listed	850	not known	not known
Alkyl dimethyl ethylbenzyl ammonium chloride	68956-79-6	<1%	not listed	*	*	not known
Alkyl dimethyl benzyl ammonium chloride	68391-01-5	<1%	not listed	850	2300	not known
Water	7732-18-5	balance	not toxic	90,000	not toxic	not toxic

* NOTE: The two quaternary amines are similar; their toxicity must also be similar. The calculated LD₅₀ values in Part 11 is made on that premise.

4. FIRST AID

SKIN: Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly 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 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	will not flash
Autoignition Temperature	204°C / 400°F – <i>Glycol Ether DB may burn in a fire once much of the water content has evaporated</i>
Flammable Limits	not known – <i>may burn in a fire; will not ignite on its own</i>
Combustion Products	oxides of carbon, nitrogen & sodium; part oxidized hydrocarbon fragments
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; absorb residue on an inert sorbent, sweep, shovel & store in closed containers for disposal

7. HANDLING & STORAGE

Keep from freezing, but store and use in a cool environment. 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 form in use, install adequate ventilation to clear workplace air. Avoid skin contact & wash work clothes frequently. An eye bath should be available near the workplace.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

ACGIH TLV	not listed	ACGIH STEL	not listed
OSHA PEL	not listed	OSHA STEL	not listed
Ventilation	no special mechanical ventilation required		
Hands	nitrile gloves – <i>other types also protect; always confirm suitability with supplier</i>		
Eyes	safety glasses with side shields – <i>always protect eyes!</i>		
Clothing	no special protective clothing required		

9. PHYSICAL AND CHEMICAL PROPERTIES

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

Odor & Appearance	clear, blue liquid with a pleasant scent
Odor Threshold	not known
Vapor Pressure	as for water
Evaporation Rate (<i>Butyl Acetate = 1</i>)	as for water
Vapor Density (air = 1)	0.6 (<i>water</i>). 5.6 (<i>glycol ether DB</i>)
Boiling Point	slightly above 100°C / 212°F
Freezing Point	slightly below 0°C / 32°F
Decomposition Temperature	the quaternary amines decompose around 150°C / 300°F
Specific Gravity	approx. 1.0 (20/20°C)
Water Solubility	complete
Viscosity	not measured – <i>thin mobile liquid</i>
pH	11-12 – <i>alkaline</i>

10. REACTIVITY

Dangerously Reactive With	none known
Also Reactive With	none known
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

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11. TOXICITY INFORMATION

i. ACUTE EXPOSURE

Skin Contact	irritating if contact is prolonged
Skin Absorption	yes, slowly; toxic effects unlikely by this route
Eye Contact	severely irritating; may cause damage if not removed promptly
Inhalation	product mist may irritate respiratory passages
Ingestion	no symptoms known – <i>not a route of industrial exposure</i>
Calculated LD ₅₀ (oral)	13,470mg/kg (rat)
Calculated LD ₅₀ (skin)	25,000mg/kg (rabbit)
LC ₅₀ (inhalation)	<i>no information</i>

ii. CHRONIC EXPOSURE

General	not known
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

Glycol Ether DB:

Bioaccumulation	rapidly eliminated from the body, not a bioaccumulator
Biodegradation	biodegrades readily in presence of oxygen, 47% to 88% (<i>several 28-day tests, different procedures</i>), 66% & 85% in 28 days ¹ , other tests show 100% biodegradability in 6-9 days
Abiotic Degradation	reacts with atmospheric hydroxyl radicals, estimated ½-life in air is 7hrs & 11hrs
Mobility in soil, water	water soluble; moves readily & rapidly in soil and water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	1300mg/liter (Lepomis macrochirus), 2000mg/liter (Menidia beryllina), 1805-2300 & 2700mg/liter (Leuciscus idus, 48hr), 1150mg/liter (Poecilia reticulata, 168hr)
EC ₅₀ (Crustacea, 24hr)	2850-3300mg/liter (Daphnia magna, <i>various tests</i>)
EC ₁ (Algae)	53mg/liter (Microcystis aeruginosa), 1000mg/liter (Scenedesmus quadricauda)
EC ₁₀ (Bacteria)	1170mg/liter (Pseudomonas putida)

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) & others
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 (<i>other bacteria</i>)
EC ₅ (Microorganisms)	663mg/liter (Chilomonas paramecium)

Nonylphenol Ethoxylate:

Bioaccumulation	cannot bioaccumulate; <i>however, breakdown product, unethoxylated nonylphenol, is water insoluble & may accumulate</i>
Biodegradation	34% in 20 days to di- & mono-ethoxylate; <i>these latter compounds resist further biodegradation (below)</i>
Abiotic Degradation	may react with atmospheric hydroxyl (OH) radicals; low volatility – a minor degradation route
Mobility in soil, water	sufficiently water soluble to move readily through soil and the water column
Aquatic Toxicity	
LC ₅₀ (Fish, 96 hr)	2.1-2.6mg/liter (Pimephelas promelas), 13.9-19.5mg/liter (Poecilia reticulata – 48hr)
LC ₅₀ (Crustacea, 48hr)	3.8-6.2 & 18.2mg/liter (Daphnia magna), 20.9mg/liter (Gammarus pulex)
EC ₅₀ (Algae, 96hr)	15mg/liter (Lemna minor), 7mg/liter (Scenedesmus quadricauda)

NOTE: The Nonylphenol Ethoxylate class of compounds biodegrade to estrogenic hormone mimics in the environment & may lead to instances of reproductive failure in shore birds, amphibia & fish.

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12. ECOLOGICAL INFORMATION, cont'd***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

Alkyldimethylbenzylammonium Chlorides:

Bioaccumulation	water soluble; will not bioaccumulate
Biodegradation	biodegrades readily in the presence of oxygen diluted to 5mg/liter; 72% & 96% in 28 days
Abiotic Degradation	reacts with atmospheric hydroxyl (OH) radicals, estimated ½-life in air 6 hours
Mobility in soil, water	water soluble; moves readily through soil & the water column
Aquatic Toxicity	
LC ₅₀ (Fish 96 hr)	0.52mg/liter (Lepomis macrochirus), 0.28mg/liter (Pimephelas promelas), 0.93mg/liter (Oncorhynchus mykiss)
LC ₅₀ (Crustacea, 48hr)	0.47mg/liter (Daphnia magna)
EC ₅₀ (Algae, 96hr)	below 0.87mg/liter (Selenastrum capricornutum & Skeletonema costatum)
LC ₅₀ (Microorganisms)	not known; 10mg/liter greatly reduces biodegradation rate – an indication of toxicity

13. DISPOSAL CONSIDERATIONS

Waste Disposal	do not flush undiluted to sewer; may be incinerated in approved facility with flue gas monitoring & scrubbing, mix with a suitable flammable waste before incineration; alternatively, dilute by at least 1:10* & treat in a dedicated sewage treatment facility <i>*the biocide must be at or below 5mg/liter to be biodegradable</i>
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. <i>Warning: never cut, drill, weld or grind on or near this container, even if empty.</i>

14. TRANSPORT INFORMATION***USA 49 CFR & Canada/International TDG***

Product Identification Number	UN – not regulated for transport
Shipping Name	not regulated for transport
Classification	not regulated for transport
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 July 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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