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Safety Data Sheet Lemon Destroyer

1. IDENTIFICATION

Synonyms none
 CAS# see Part 3, below
 Material Use disinfecting cleaner

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

2. HAZARD IDENTIFICATION

GHS Class (Category)	skin, eye corrosive (1)	STOT (3)	aquatic acute (1)
Signal Words	DANGER	WARNING	WARNING
Hazard Statements	causes severe skin burns and eye damage (H314)	may cause respiratory tract irritation (H335)	very toxic to aquatic life (H400)



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
Nonylphenol Ethoxylate NP-9	127087-87-0	4.5%	not listed	>2000	not known	not known
Alkyl dimethyl ethylbenzyl ammonium chloride	68956-79-6	3.22%	not listed	*	*	not known
Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.22%	not listed	850 ¹	2300 ¹	not known
Sodium Carbonate	497-19-8	3%	not listed	4090	>2000	not known
Tetrasodium Ethylenediaminetetraacetic Acid	64-02-8	2.5%	not listed	>1780	>5000	not known
Water	7732-18-5	balance	not toxic	90,000	not toxic	not toxic

* NOTE: The two quaternary amines are very similar; their toxicity must likewise 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	cannot burn
Autoignition Temperature	cannot burn
Flammable Limits	cannot burn
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; neutralize cautiously with hydrochloric or acetic acids; 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, 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!

This product is corrosive to skin. Avoid generating or breathing product mist. If mist forms in use, take urgent steps to prevent this & install adequate ventilation to keep workplace air clear. Avoid all contact with skin & 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, <i>but avoid producing a product mist</i>		
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	if there is any risk of splashing, wear protective clothing (eg: nitrile) suitable to prevent skin contact		

9. PHYSICAL AND CHEMICAL PROPERTIES

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

Odor & Appearance	clear, yellow liquid with a lemon 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>) – <i>no other volatile components present</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 ¹
Specific Gravity	not measured; approx.1.05 (20/20°C)
Water Solubility	complete
Viscosity	not measured – <i>thin mobile liquid</i>
pH	above 12 – <i>strongly alkaline</i>

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10. REACTIVITY

Dangerously Reactive With	strong acids
Also Reactive With	any acid
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; may cause permanent damage
Inhalation	product mist is likely to irritate respiratory passages
Ingestion	corrosive to mouth, throat & stomach – <i>not a route of industrial exposure</i>
Calculated LD ₅₀ (oral)	8500mg/kg (rat)
Calculated LD ₅₀ (skin)	23,000mg/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***Nonylphenol Ethoxylate:***

Bioaccumulation	cannot bioaccumulate; <i>however, water insoluble breakdown product, unethoxylated nonylphenol, 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: Nonylphenol Ethoxylates biodegrade to estrogenic hormone mimics in the environment, which may lead to reproductive failure in birds, amphibia & fish.

Quaternary Amines:

Bioaccumulation	water soluble; will not bioaccumulate
Biodegradation	biodegrades readily in the presence of oxygen diluted to 5mg/liter ¹ ; 72% & 96% in 28 days ¹
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) ¹ , 0.28mg/liter (Pimephelas promelas) ¹ , 0.93mg/liter (Oncorhynchus mykiss) ¹
LC ₅₀ (Crustacea, 48hr)	0.47mg/liter (Daphnia magna) ¹
EC ₅₀ (Algae, 96hr)	below 0.87mg/liter (Selenastrum capricornutum & Skeletonema costatum) ¹
LC ₅₀ (Microorganisms)	not known; 10mg/liter greatly reduces biodegradation rate ¹ , giving an indication of toxicity

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12. ECOLOGICAL INFORMATION, cont'd**Sodium Carbonate:**

Bioaccumulation	not a bioaccumulator
Biodegradation	inorganic material, cannot biodegrade
Abiotic Degradation	reacts with atmospheric CO ₂ neutralizing gradually to sodium bicarbonate
Mobility in soil, water	water soluble; moves readily in soil and water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	740mg/liter (Gambusia affinis), 300 & 320mg/liter (Lepomis macrochirus)
EC ₅₀ (Crustacea, 24hr)	265 & 565mg/liter (Daphnia magna), 600mg/liter (Culex sp.)
EC ₅₀ (Algae)	137, 242 & 1050mg/liter (Nitzschia sp.)
EC ₅₀ (Bacteria)	not known – <i>no data</i>

Tetrasodium Ethylenediaminetetraacetic Acid:

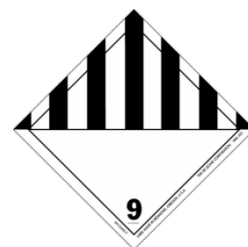
Bioaccumulation	not a bioaccumulator
Biodegradation	various values reported from 1% in 72dy to 63% in 5dy
Abiotic Degradation	not known
Mobility in soil, water	highly water soluble; but may bind to soil particles, so may move slowly or not at all in soil & water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	41, 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) & <i>others</i>
EC ₅₀ (Algae)	>100mg/liter (Scenedesmus subspicatus)
EC ₁₀ (Bacteria)	55mg/liter (Pseudomonas putida), >1000mg/liter (<i>other bacteria</i>)
EC ₅ (Microbes)	663mg/liter (Chilomonas paramecium)

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; alternatively, dilute to below 5mg/liter and treat in a dedicated sewage treatment facility
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 – 3082
Shipping Name	Environmentally hazardous substance N.O.S., (alkyldimethylbenzylammonium chlorides)
Classification	Class 9; Packing Group III
Marine Pollution	<i>not a marine pollutant</i>
ERAP Required	<i>No</i>
Reportable Quantity (RQ)	<i>none</i>

**15. REGULATIONS**

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

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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

(1) Alkyldimethylbenzylammonium Chloride (ADBAC) Category; HPV Chemicals Challenge, Final Test Status:

<http://www.epa.gov/hpv/pubs/summaries/adbac/c16856.pdf>

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