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Safety Data Sheet AC-4

1. IDENTIFICATION

Synonyms none
 CAS# see Part 3, below
 Material Use acidic cleaner
 USDA approved for the food processing industry

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

2. HAZARD IDENTIFICATION

GHS Class skin corrosive STOT
 (Category) (1C) (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, P262 Do not breathe mist or spray. Do not get in eyes, on skin or on clothing.
 P264 Wash thoroughly after handling.
 P280 Wear eye protection, protective gloves and clothing of butyl, neoprene or "Viton".
 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.
 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 mg/m ³	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ mg/m ³ INHALATION
Phosphoric Acid	7664-38-2	10-20%	1	1250	1260	25.5
Nitric Acid	7697-37-2	5-10%	2	not known	not known	>130
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

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: Corrosive substance: first aid must be applied immediately! 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 phosphorous, carbon, nitrogen; plus 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 corrosion-resistant pumps; neutralize residue with sodium carbonate or cement dust; absorb on an inert sorbent, sweep, shovel & store in closed containers for disposal

7. HANDLING & STORAGE

Store above freezing and away from alkalis. 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 concentration to regulated limits (*Part 8, below*). Avoid all contact with skin & wash work clothes frequently. An eye bath & safety shower should be available near the workplace. *If used in pressure wash equipment – even diluted – wear a body suit, boots of appropriately resistant material and face shield, plus a respirator with particulate filter and acid gas cartridge.*

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Phosphoric Acid:

ACGIH TLV	1mg/m ³	ACGIH STEL	3mg/m ³
OSHA PEL	1mg/m ³	OSHA STEL	3mg/m ³

Nitric Acid:

ACGIH TLV	2mg/m ³	ACGIH STEL	4mg/m ³
OSHA PEL	2mg/m ³	OSHA STEL	4mg/m ³

Ventilation	no special mechanical ventilation required, if product mist does not form in use
Hands	wear gloves of butyl, neoprene or “Viton” – <i>always confirm suitability with supplier</i>
Eyes	safety glasses with side shields or chemical goggles – <i>always protect eyes!</i>
Clothing	impermeable (hands, above) apron, boots, long sleeves & a face shield if splashing OR mist formation is possible

9. PHYSICAL AND CHEMICAL PROPERTIES

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

Odor & Appearance	clear, reddish, liquid with slight acidic (sharp) odor
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>), 2.2 (<i>nitric acid</i>)
Boiling Point	not measured; approx. 110°C / 230°F
Freezing Point	not measured; approx. -10°C / 14°F
Decomposition Temperature	not known – <i>no decomposition will occur up to the boiling point</i>
Specific Gravity	1.166-1.174 (20/20°C)
Water Solubility	complete
Viscosity	not known – <i>thin mobile liquid</i>
pH	below 0.5 – <i>strongly & aggressively acidic</i>

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10. REACTIVITY

Dangerously Reactive With	strong alkalis
Also Reactive With	corrodes most common metals
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	rapidly corrosive to skin
Skin Absorption	no; no systemic toxic effects by this route
Eye Contact	rapidly corrosive to eyes
Inhalation	product mist likely to be corrosive to respiratory system
Ingestion	corrosive to mouth, throat & stomach; stomach ache, nausea, vomiting may occur
Calculated LD ₅₀ (oral)	6450mg/kg (rat)
Calculated LD ₅₀ (skin)	6600mg/kg (rabbit)
Calc. LC ₅₀ (inhalation)	121.7mg/m ³ (rat)

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

Phosphoric Acid:

Bioaccumulation	water soluble; cannot bioaccumulate
Biodegradation	phosphoric acid cannot biodegrade; neutralized phosphoric acid is taken up by plants
Abiotic Degradation	phosphoric acid neutralizes on contact with alkaline soil materials (eg: limestone)
Mobility in soil, water	water soluble; moves readily through soil & the water column
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	pH 3-3.5 (Lepomis macrochirus & Gambusia affinis)
LC ₅₀ (Crustacea, 12hr)	pH 4.6 (Daphnia magna), pH 4.1 (Daphnia pulex), pH 3.4 (Gammarus pulex & Gammarus fossarum)
EC ₅₀ (Algæ)	no information – <i>phosphate salts are essential plant nutrients</i> . . .
EC ₅₀ (Bacteria)	270mg/liter (activated sludge), 240mg/liter (“other protozoans”)

Nitric Acid:

Bioaccumulation	water soluble; cannot bioaccumulate
Biodegradation	nitric acid cannot biodegrade; neutralized nitric acid is taken up by plants
Abiotic Degradation	nitric acid neutralizes on contact with alkaline soil materials (eg: limestone)
Mobility in soil, water	water soluble; moves readily through soil & the water column
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	pH = 3-3.5 (Lepomis macrochirus), pH = 3.7 (Oncorhynchus mykiss)
LC ₅₀ (Crustacea, 12hr)	pH = 4.6 (Ceriodaphnia dubia)
EC ₅₀ (Algæ)	1700mg/liter (<i>various diatoms – tested with potassium nitrate, so neutralized</i>)
EC ₅₀ (Bacteria)	>1000mg/liter (<i>activated sludge – tested with sodium nitrate, so neutralized</i>)

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12. ECOLOGICAL INFORMATION, cont'd**Nonionic Copolymer Surfactant:**

Bioaccumulation	this surfactant does not appear to bioaccumulate – <i>manufacturer's statement</i>
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) – <i>manufacturer's information</i>
LC ₅₀ (Crustacea, 48hr)	>100mg/liter (Daphnia magna) – <i>manufacturer's information</i>
EC ₅₀ (Algae, 96hr)	>100mg/liter (<i>species not given</i>) – <i>manufacturer's information</i>
EC ₅₀ (Microorganisms)	not known – <i>not expected to inhibit sewage treatment bacteria – manufacturer's statement</i>

13. DISPOSAL CONSIDERATIONS

Waste Disposal	do not flush to sewer ; neutralize with sodium carbonate; neutralized material may be used as a fertilizer if it contains no heavy metals or other hazardous substances
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 – 3264
Shipping Name	Corrosive liquid, acidic, inorganic (nitric acid)
Classification	Class 8; Packing Group II
Marine Pollution	<i>not a marine pollutant</i>
ERAP Required	<i>No</i>
Reportable Quantity (RQ)	<i>10,000lbs (nitric acid)</i>

**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

last page of SDS**PLEASE ENSURE THAT THIS SDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.****EMERGENCY INFORMATION: INFOTRAC 1-800-535-5053**