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Safety Data Sheet Laundry Sour

1. IDENTIFICATION

Synonyms none
 CAS# see Part 3, below
 Material Use laundry additive

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

2. HAZARD IDENTIFICATION

GHS Class (Category)	acute oral (4)	skin corrosive (1C)	acute aquatic (3)
Signal Words	WARNING	DANGER	no Signal Word no Pictogram
Hazard Statements	harmful if swallowed (H302)	causes severe skin burns & eye damage (H314)	harmful to aquatic life (H402)



GHS Precautionary Statements for Labeling

P262, P264 Do not get in eyes, on skin or on clothing. Wash thoroughly after handling.
 P270, P280 Do not eat, drink or smoke when using this product. Wear protective gloves and clothing of rubber.
 P273, P391 Avoid release to the environment. Collect spillage.
 P301, P312, P330 Rinse mouth. If swallowed, call a poison control centre or a doctor if you feel unwell.
 P313 & P333 If skin irritation or rash occurs, get medical advice/attention.

3. COMPOSITION

	CAS NUMBER	%	TLV mg/m ³	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ ppm INHALATION
Ammonium Bifluoride	1341-49-7	16%	2.5	130	not known	not known
Anionic Surfactant	119345-04-9	0.5%	not listed	1976	>2000	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 promptly if irritation persists.
 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 milk (calcium binds fluoride). 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. 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. After intubation, rinse stomach with calcium carbonate to bind fluoride.

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5. FLAMMABILITY & FIRE-FIGHTING

Flash Point	cannot burn
Autoignition Temperature	cannot burn
Flammable Limits	cannot burn
Combustion Products	hydrogen fluoride, ammonia – <i>both highly toxic & corrosive gases</i>
Firefighting Precautions	as for materials sustaining fire; firefighters must wear SCBA
Static Charge Accumulation	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; <i>wear appropriate (to the work) rubber protective clothing to prevent skin contact</i>

7. HANDLING & STORAGE

Although the concentration of ammonium bifluoride in the product as supplied is not high, it may be corrosive to common metals like steel, nickel & aluminum; & may even damage glass.

Avoid prolonged 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

ACGIH TLV	2.5mg/m ³ (as fluoride)	ACGIH STEL	not listed
OSHA PEL	2.5mg/m ³ (as fluoride)	OSHA STEL	not listed
Ventilation	no special mechanical ventilation required		
Hands	rubber gloves – <i>always confirm suitability with supplier</i>		
Eyes	safety glasses with side shields or chemical goggles – <i>always protect eyes!</i>		
Clothing	if splashing is anticipated, rubber apron, boots, long sleeves, as appropriate to avoid contact		

9. PHYSICAL AND CHEMICAL PROPERTIES

Odor & Appearance	clear, violet, liquid; odorless, but may have a slight penetrating acid 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>)
Boiling Point	approx. 105°C / 221°F
Freezing Point	slightly below 0°C / 32°F
Specific Gravity	1.048-1.062 (20/20°C)
Water Solubility	complete
Log P _{o/w} (<i>Octanol/H₂O Partition Coefficient</i>)	-4.37
Viscosity	not known – <i>thin mobile liquid</i>
pH	3.5
Molecular Weight	57 grams/mole (<i>ammonium bifluoride</i>), 18 grams/mole (<i>water</i>), surfactant – <i>not known</i>

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10. REACTIVITY

Dangerously Reactive With	alkalis
Also Reactive With	acids to form hydrogen fluoride gas; with alkalis to form ammonia gas; may corrode metals like steel, aluminum, nickel
Chemical Stability	stable; will not polymerize
Decomposes in Presence of	not known
Decomposition Products	none apart from Hazardous Combustion Products
Mechanical Impact	not sensitive

11. TOXICITY INFORMATION**i. ACUTE EXPOSURE**

Skin Contact	irritating; corrosive if contact is prolonged
Skin Absorption	not known; <i>fluoride ions are absorbed into teeth, so skin absorption of fluoride is possible</i>
Eye Contact	severely irritating; corrosive if contact is prolonged
Inhalation	not known – <i>product mist is likely to irritate respiratory system</i>
Ingestion	irritating & corrosive to mouth, throat & stomach; <i>may cause various other symptoms associated with high plasma potassium, low calcium & low magnesium including muscle spasms, convulsions, irregular heart rate, leading to heart failure, respiratory difficulty & others</i>
Calculated LD ₅₀ (oral)	810mg/kg (rat)
Calculated LD ₅₀ (skin)	<i>insufficient information to calculate</i>
LC ₅₀ (inhalation)	not known

ii. CHRONIC EXPOSURE

General	prolonged or repeated exposure may cause dermatitis; <i>spills of fluoride salts enter the ground water allowing fluoride to be absorbed in drinking water; absorption of fluoride causes many health issues</i>
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

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12. ECOLOGICAL INFORMATION**Ammonium Fluoride:**

Bioaccumulation	not a bioaccumulator
Biodegradation	inorganic product; cannot biodegrade
Abiotic Degradation	reacts with calcium & magnesium ions in soil which precipitate it as insoluble CaF ₂ or MgF ₂
Mobility in soil, water	water soluble; may not move readily in soil & water due to above effect

Aquatic Toxicity

LC ₅₀ (Fish, 96hr)	422mg/litre (Brachydanio rerio) ¹
EC ₅₀ (Crustacea / Algae)	no data available
EC ₅₀ (Bacteria)	3162 & 4233mg/litre (activated sludge – oxygen consumption) ¹

Anionic Surfactant:

Bioaccumulation	will not bioaccumulate
Biodegradation	“inherently biodegradable” (<i>manufacturer’s statement</i>); no biodegradation rate given
Abiotic Degradation	not known
Mobility in soil, water	water soluble; moves readily through soil & the water column

Aquatic Toxicity

Manufacturer states that this surfactant is toxic to aquatic life and a marine pollutant. However, its concentration in this product is too low to rate an environmental hazard classification.

13. DISPOSAL CONSIDERATIONS

Waste Disposal	do not flush undiluted to sewer; neutralize with crushed limestone or with calcium carbonate to sequester the fluoride ion and dispose of as a hazardous salt
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

Shipping Name

Classification

Marine Pollution**ERAP Required**

UN – 1760

Corrosive liquids, N.O.S.**(ammonium bifluoride)****Class 8; Packing Group III****not a marine pollutant****No****cont'd next page****PLEASE ENSURE THAT THIS SDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.****EMERGENCY INFORMATION: INFOTRAC 1-800-535-5053**

15. REGULATIONS

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

U.S.A. Regulations:

OSHA Standards: Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 2.5 mg/cu m. /Fluorides as F/ Permissible Exposure Limit: Table Z-2 8-hr Time Weighted Avg: 2.5 mg/cu m. /Fluoride as dust/

Clean Water Act Requirements: Ammonium bifluoride is designated as a hazardous substance under section 311(b)(2)(A) of the Federal Water Pollution Control Act and further regulated by the Clean Water Act Amendments of 1977 and 1978. These regulations apply to discharges of this substance. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing this substance.

Transport Methods and Regulations: No person may /transport./ offer or accept a hazardous material for transportation in commerce unless that person is registered in conformance ... and the hazardous material is properly classed, described, packaged, marked, labeled, and in condition for shipment as required or authorized by ... /the hazardous materials regulations (49 CFR 171-177)./ The International Air Transport Association (IATA) Dangerous Goods Regulations are published by the IATA Dangerous Goods Board pursuant to IATA Resolutions 618 and 619 and constitute a manual of industry carrier regulations to be followed by all IATA Member airlines when transporting hazardous materials. The International Maritime Dangerous Goods Code lays down basic principles for transporting hazardous chemicals. Detailed recommendations for individual substances and a number of recommendations for good practice are included in the classes dealing with such substances. A general index of technical names has also been compiled. This index should always be consulted when attempting to locate the appropriate procedures to be used when shipping any substance or article.

CERCLA Reportable Quantities: Persons in charge of vessels or facilities are required to notify the National Response Center (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 100 lb or 45.4 kg. The toll free number of the NRC is (800) 424-8802. The rule for determining when notification is required is stated in 40 CFR 302.4 (section IV. D.3.b).

FDA Requirements: Ammonium bifluoride is an indirect food additive for use only as a component of adhesives.

16. OTHER INFORMATION

Date of Preparation **February 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) European Chemicals Agency (EChA), Dossier, ammonium hydrogen difluoride:

http://apps.echa.europa.eu/registered/data/dossiers/DISS-9eac10c1-2936-035e-e044-00144f67d031/DISS-9eac10c1-2936-035e-e044-00144f67d031_DISS-9eac10c1-2936-035e-e044-00144f67d031.html

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