SECTION 1: Identification

Product identifier: Vibrance
Other means of identification: Sour
SDS number: 1366
Recommended use: Laundry Sour
Recommended restrictions: Not for personal care

Manufacturer/Importer/Supplier/Distributor information

Company name: U.N.X. Incorporated
Address: 707 Arlington Blvd
Greenville, NC 27858
Telephone: Office hour (Mon-Fri)
8:00a.m. – 4:30p.m. (Eastern Time)
OFFICE NUMBER: 252-756-8616
Contact Person: Ryan Cotroneo
E-mail: unx@unxinc.com
Emergency phone number: CHEMTEL (800) 255-3924 (24 HOURS)

SECTION 2: Hazard(s) identification

Classification of the Substance or Mixture:

Physical hazards

Health hazards

Acute toxicity, Oral/Inhalation/Dermal:	Category 3
Skin corrosion/irritation:	Category 1B
Serious eye damage/eye irritation:	Category 1
Specific target organ toxicity, Single exposure; Respiratory tract irritation:	Category 3
Specific target organ toxicity, Single exposure; Narcotic effects:	Category 3

Label elements:

Signal word: Danger

Hazard statements

H301	Toxic if swallowed.
H311	Toxic in contact with skin.

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P202	Do not handle until all safety precautions have been read and understood.
P220	Keep / store away from clothing and combustible materials.
P233	Keep container tightly closed.
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	Do not get in eyes, skin, or on clothing.
P264	Wash hands, arms, face and exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this products.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
Response:	
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
Storage:	
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
Disposal:	
P501	Dispose of contents / container in accordance with local / regional / national / international regulations.

Hazard(s) not otherwise Classified (HNOC): Not classified.

SECTION 3: Composition/information on ingredients

Substance/Mixtures:

Chemical name	CAS No.	Concentration (%)
Water	7732-18-5	50-65
Citric acid	77-92-9	15-30
Fluorosilicic acid	16961-83-4	5-15
Ammonium bifluoride	1341-49-7	5-15
Propylene glycol	25322-68-3	0-5
Dipropylene glycol monomethyl ether	34590-94-8	0-5

Section 4: First-aid measures

Description of first aid measures
General advice: Remove victims from the danger zone without endangering your own safety. Remove contaminated clothing (including underwear and shoes) immediately.

Inhalation: Bring accident victims out into the fresh air. If not breathing, give artificial respiration. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. If patient has difficulty breathing, administer oxygen, keep the patient calm and warm. In case of unconsciousness place patient stably in side position for transportation. Call a physician immediately.

Skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use. After contact with small amounts get medical attention if any discomfort or irritation continues. For large amounts, obtain medical attention.

Eye contact: Immediately flush eyes with gentle but large stream of water or eye wash solution for at least 15 minutes, lifting lower and upper eyelids occasionally. If possible remove any contact lenses and continue to wash. Call a physician, immediately.

Ingestion: If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. DO NOT induce vomiting unless directed to do so by medical personnel. Call a physician, immediately.

Most important symptoms/effects, acute and delayed:
Notes to physician: The severity of the symptoms described will vary dependent on the concentration and the length of exposure. The substance is toxic to the nervous system, lungs, and mucous membranes.

Inhalation: Excessive inhalation of vapors can cause nasal and respiratory damage, dizziness, weakness, fatigue, nausea, vomiting, diarrhea, and possible unconsciousness.

Ingestion: May cause sore throat, abdominal pain, nausea, and severe burns of the mouth, throat, and stomach. May affect the urinary system, liver, and blood. Severe exposures can lead to shock, circulatory collapse, and death.

Section 4: First-aid measures (continued)

Skin contact/Skin irritation: Contact with vapors and liquid are corrosive to the skin, and may cause permanent skin damage, redness, pain and severe skin burns.

Eye contact: Liquid and vapors are corrosive to the eyes. May cause redness, pain, blurred vision, eye burns, and permanent eye damage. Brief contact of the liquid can cause severe eye burns and possible blindness. May cause corneal damage, conjunctivitis, and/or lachrymation.

Indication of immediate medical attention and special treatment needed, if necessary:
Cases of eye contact and ingestion should be treated immediately. Have facilities in place to wash skin and eyes in case of exposure. Ingestion damages mucous membranes and tissues of gastro-intestinal tract.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: In case of fire use water, carbon dioxide, or foam extinguishing media. Applying water to this product may cause splattering of this corrosive powder. Water spray on large fires may be ineffective but may be used to keep fire-exposed containers cool. If water is used, use in abundance to control heat.

Unsuitable extinguishing media: Do not use water jet as this can spread the fire. Do not use carbon dioxide in enclosed spaces with insufficient ventilation.

Specific hazards arising from the chemical: Burning releases; carbon/nitrogen oxides, and hydrogen fluoride. In the event of fire and/or explosion do not breathe fumes. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Move containers from fire area if you can do so without risk. Product containers can melt in the heat of a fire. Packaging materials will be combustible and provide fuel for the fire.

Special protective equipment and precautions for fire-fighters: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. During fire-fighting respirator with independent air-supply and airtight garment is required. Fight fire in early stages if safe to do so. Provide ventilation and be wary of hydrogen generation upon reactions with some metals.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate area of leak or spill. Ensure adequate ventilation/exhaust extraction. Put on protective equipment (see Section 8). Have emergency procedures in place for treating spillages, evacuating the area and informing the emergency services if necessary. Restrict access to the area until the spillage is treated, if large amounts of vapors are produced that will be hazardous to others, evacuate the area. Non-emergency personnel should be kept away from the area of spillage. Avoid ingestion, inhalation of vapors and contact with skin and eyes.

SECTION 6: Accidental release measures (continued)

Environment precautions: Avoid unauthorized discharge of product into sanitary sewers system or to the environment. Clean up any spillages immediately; prevent material from spreading and entering drains or sewage systems. Large spillages or uncontrolled discharge to water systems must be alerted to the Environmental Agency or other regulatory body. If the product has entered a foul drain or sewage system in significant amounts to cause a hazard then the local water treatment company must be informed.

Methods and materials for containment and cleaning up: Contain and recover liquid when possible. Small spillages should be absorbed with an inert, non-combustible absorbent. Large Spillages: Dam and absorb spillages with sand, earth or other inert material. Fit drain covers where they are available if the spillage is likely to enter the drainage system. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Containers with collected spillage must be properly labeled with correct contents and hazard symbol. Flush area clean with lots of water. Be aware of potential for surfaces to become slippery. Ventilate area and allow drying before allowing access. Wash thoroughly after dealing with a spillage.

Reference to other sections: Refer to sections 8 and 13 for additional information.

SECTION 7: Handling and storage

Precautions for safe handling: Keep in a closed container and protect from physical damage. Store in a cool, dry, and ventilated area. Keep away from sources of heat, moisture, incompatibilities, and away from direct sunlight. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do not wash out container and use it for other purposes. Avoid ingestion and/or inhalation of any vapors/mists if produced, and any contact with skin or eyes. Wash at the end of each work shift, before eating, drinking, smoking and using the toilet. Do not eat, drink or smoke when handling. Remove contaminated clothing/footwear/equipment before entering eating areas or places that would expose others to the product. Avoid spilling the product. Do not use in areas close to drainage systems unless measures are in place to prevent access of product. Ensure emergency procedures are in place to treat spillages and cope with other situations such as evacuation. Provide eye washing and skin washing facilities, when handling large amounts a safety shower is recommended.

Conditions for safe storage, including any incompatibilities: Store in closed original container at temperatures between 40°F and 80°F. If the product is transferred to another container, this should be made of a compatible material to the original container. Store away from heat, direct sunlight and moisture. Store in a stable situation to avoid spillages. It is advisable to store in a bunded area or use other protective measures such as a sump pallet or storage tray.

Keep away from: strong acids, oxidizing agents and reactive metals (i.e., aluminum, tin, zinc, and their alloys).
Suitable packaging material: stainless steel, nickel, polyethylene, polypropylene, glass and stoneware/porcelain.
Non suitable packaging material: lead, galvanized iron, aluminum, copper, zinc, bronze, and tin.

SECTION 8: Exposure control/personal protection

Control Parameters

Occupational exposure limits

US.OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

U.S. ACGIH Threshold Limit Values

Chemical Name	CAS-No.	Value	Control parameters
Ammonium bifluoride	1341-49-7	TWA	2.5 mg/m^3
Dipropylene glycol monomethyl ether	34590-94-8	PEL	600 mg/m^3
Fluorosilicic acid	16961-83-4	TWA	2.5 mg/m^3
Polyethylene glycol	25322-68-3	TWA	10 mg/m^3

Appropriate engineering controls:

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the defined exposure limit requirements or guidelines. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition for details.

Individual protection measures, such as personal protective equipment (PPE)

Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hand protection: Wear protective gloves. Butyl rubber, rubber (natural, latex), nitrile, polyvinyl chloride (PVC). Be aware that latex gloves can produce an allergic reaction in sensitive individuals. Gloves should have a breakthrough time sufficient for the amount of handling but allow dexterity for safe movement and handling. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Gloves showing signs of degradation should be changed to avoid skin contamination. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. When removing used gloves apply proper technique by avoiding skin contact with the outer surface. When packages of the product are being handled during storage or transport it is advisable to wear protective gloves to prevent damage to the skin.

Personal Respirators (NIOSH Approved): Wear suitable respiratory protection when vapors or mists are produced if the Workplace Exposure Limit is exceeded and there is insufficient ventilation or extraction. For emergencies or instances where the exposure levels are not known, use a full face piece positive-pressure, air-supplied respirator. Respirator must be fitted with a cartridge suitable for the chemical of concern. Consult with the supplier as to the compatibility of the equipment with the chemical of concern. CAUTION: Air purifying respirators do not protect the user in oxygen deficient atmospheres, use air supplied system.

Thermal Hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Wash hands, change out of clothes as soon as possible. Wash clothes. Shower or bathe as soon as possible.

Other protective measures: Have an eye bath and safety shower close by.

SECTION 9: Physical and chemical properties

Appearance: Liquid
Colour: White water
Odour: No odour
Odour Threshold: No data available
pH: 0-2
Melting point/range: No data available
Boiling point/range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability of explosive limits: No data available
Vapour pressure (mm Hg): No data available
Vapour density (Air=1): No data available
Relative density: No data available
Solubility(ies): Excellent
Partition coefficient (n-octanol/water): No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, dynamic: No data available
Other Information: Contains fluorides

SECTION 10: Stability and reactivity

Reactivity and/or chemical stability: If stored and handled in accordance with standard industrial practices no hazardous reactions are known. Refer to section 7 for proper conditions.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Conditions to avoid: Avoid heat, freezing, direct sunlight, and moisture. Avoid storage with incompatible materials. Avoid storage in freezing conditions. Avoid storage near unprotected drainage systems. Avoid storage in an unstable manner or in a situation that would result in exposure to the product. It is advisable to store the product within some form of containment to prevent spillages reaching drainage systems. Do not allow the storage container to be left exposed to the atmosphere.

Incompatible materials: Strong acids, oxidizing agents and reactive metals (i.e., aluminum, tin, zinc, and their alloys).

Hazardous decomposition products: Refer to section 5 in case of a fire. No hazardous decomposition if stored and handled correctly.

SECTION 11: Toxicological information

Acute toxicity: Toxicological testing has not been conducted with this material. The toxicology information listed below is based on the components of this material.

Category 3- Oral/Dermal: Harmful if; swallowed/in contact with skin.

Citric acid - Acute Toxicity Estimate (ATE)	
Oral LD_{50} 5,400 mg/kg (Rat)	Dermal LD_{50} > 2,000 mg/kg (Mouse)

Dipropylene glycol monomethyl ether - Acute Toxicity Estimate (ATE)	
Oral LD_{50} > 5,000 mg/kg (Rat)	Dermal LD_{50} 9,510 mg/kg (Rabbit)

Fluorosilicic acid – Acute Toxicity Estimate (ATE)		
Oral LD_{50} 125 mg/kg (Rat)	LC_{50} (Lethal Concentrations) 1.11 mg/L (Rat) 1 h	Oral LD_{50} 200 mg/kg (Guinea pig)

Polyethylene glycol – Acute Toxicity Estimate (ATE)
Oral LD_{50} 50,000 mg/kg (rat)

Skin Corrosion/irritation: Category 1B: Causes severe skin burns and eye damage.

Serious eye damage/irritation: Category 1: Causes serious eye damage.

Respiratory or skin sensitization: Classification not possible.

Germ cell mutagenicity: Classification not possible**.**

Carcinogenicity: Classification not possible. **Reproductive toxicity:** Classification not possible.

Specific Target Organ Toxicity - Single Exposure: Category 3: Respiratory tract irritation.

Specific Target Organ Toxicity - Single Exposure: Category 3: Narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure: Classification not possible.

Aspiration hazard: Classification not possible.

SECTION 12: Ecological information

Toxicity: Do not allow to escape into waterways, wastewater or soil. Eco toxicological studies of the product are not available. Please find below the data available to us from raw materials:

Aquatic ecotoxicity: Chronic: Category 4: May cause long lasting harmful effects to aquatic life.

Dipropylene glycol monomethyl ether				
LC_{50}/96 h, static test	LC_{50}/48 h, static test	LC_{50}/96 h, semi-static test	ErC_{50}/96 h, static test	Flow-through test, 22 d
> 1,000 mg/L (guppy)	1,919 mg/L (waterflea)	> 1,000 mg/L (shrimp)	> 969 mg/L (green algae)	NOEC: > 0.5 mg/L LOEC: > 0.5 mg/L (waterflea)

Citric acid	
LC_{50} (Leuciscus idus melanotus): 48 h 440 mg/L	Static test (Daphnia magna): 24 h 1,535 mg/L

Fluorosilicic acid			
LC_{50} (Fish) 96 h Salmo Gairdneri 51.0 mg/L (as fluorides)	EC_{50} (Crustaceans) 48 h Daphnia Magna 97 mg/L (as fluorides)	EC_{50} (Algae) 96 h Scenedesmus Specie 43 mg/L	EC_{50} (Crustaceans) 96 h Mysidopsis Bahia 10.5 mg/L (as fluorides)

Persistence and degradability:
OECD Biodegradation Tests:

Biodegradation	Exposure time	Method	10 day window
75 %	28 d	OECD 301F Test	pass

Indirect Photodegradation with OH Radicals:

Rate constant	Atmospheric half-life	Method
$5.0*10^{-5}$ cm^3/s	3.4 – 10.4 h	Estimated

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
0 %	0 %	31.6 %	N/A

Chemical Oxygen Demand: 2.02 mg/mg **Theoretical Oxygen Demand:** 2.06 mg/mg

Bioaccumulative potential: Fluorosilicic acid has potential for bioaccumulation as fluorides into vegetables.
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3)
Partition coefficient, n-octanol/water (log Pow): 1.01 measured

Mobility in soil:
Dipropylene glycol monomethyl ether has a low Henry's constant, there volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

SECTION 12: Ecological information (continued)

Partition coefficient, soil organic carbon/water (Koc): 0.28 Estimated.
Henry's Law Constant (H): $1.6*10^{-7}$ atm*m^3/mole; 25 °C Estimated.

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

General information:
Do not allow unauthorized disposal to the environment. If operators are exposed to vapors during the disposal process then suitable respiratory protection should be worn. All other personal protective equipment as described in section 8 should be worn.

Disposal methods:
Avoid unauthorized disposal. Do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be in compliance with federal, state/provincial and local laws and regulations. For a small spill, immediately hose down with cool water and dispose to drain. For a large spill, dike, collect and contact local authorities about disposal.

SECTION 14: Transport information

UN Number:	NA-1760
UN Proper Shipping Name:	COMPOUND, CLEANING LIQUID (FLUOROSILICIC ACID)
Transport hazard class(es):	
DOT Hazard Class:	8
DOT Subsidiary Hazard Class:	Not Available
Label:	CORROSIVE
Packing group, if available:	II
Environmental Hazards:	Not Available
Special precautions for user:	Not available

Transport in bulk according to Annex II of MARPOL 73/78[3] and the IBC Code [3]: Not applicable

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
The ingredients of this product are listed on the TSCA inventory.

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

SARA 302 Components/ SARA 313 Components:
SARA 302: This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

SECTION 15: Regulatory information (continued)

SARA 311/312 Tier II Hazard Ratings:

Component	CAS #	Fire Hazard	Reactivity Hazard	Pressure Hazard	Immediate Health Hazard	Chronic Health Hazard
Ammonium bifluoride	1341-49-7	No	No	No	Yes	No
Citric acid	77-92-9	No	No	No	Yes	No
Hydrofluorosilicic acid	16961-83-4	No	No	No	Yes	No
Dipropylene glycol monomethyl ether	34590-94-8	Yes	No	No	No	Yes

The following components appear on one or more of the following state hazardous substance lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Ammonium bifluoride	1341-49-7	No	No	Yes	No	Yes	Yes
Citric acid	77-92-9	No	No	No	No	Yes	Yes
Dipropylene glycol monomethyl ether	34590-94-8	No	No	Yes	No	Yes	Yes
Hydrofluorosilicic acid	16961-83-4	No	No	Yes	No	Yes	Yes
Poly(ethylene glycol)	25322-68-3	No	No	No	No	Yes	Yes

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information including date of preparation or last revision

Chemical State: Liquid
Chemical Type: Mixture

Issue Date: 10-24-2016
Revision Date: -
Version #: 01

2	Health
0	Flammability
1	Physical Hazard
D	Personal Protection

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