

1. Identification

Product identifier	TISAB II, SOLUTION, FOR FLUORIDE	
Other means of identification		
Product code	2163	
Recommended use	professional, scientific and technical activities: other professional, scientific and technical activities	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell OH 43065 US	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Sensitization, respiratory	Category 1
OSHA hazard(s)	Not classified.	
Label elements		



Signal word	Danger	
Hazard statement	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Precautionary statement		
Prevention	In case of inadequate ventilation wear respiratory protection.	
Response	If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.	
Storage	Not available.	
Disposal	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.	
Hazard(s) not otherwise classified (HNOC)	Not classified.	

3. Composition/information on ingredients

Mixtures

Hazardous components		
Chemical name	CAS number	%
SODIUM ACETATE	127-09-3	7.6
SODIUM CHLORIDE	7647-14-5	5.4
ACETIC ACID	64-19-7	0.5
Non-hazardous components		
Chemical name	CAS number	%
WATER	7732-18-5	86.13

Non-hazardous components

Chemical name	CAS number	%
1,2-CYCLOHEXANEDIAMI NETETRAACETIC ACID	123333-90-4	0.37

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Skin contact	Flush skin thoroughly with water.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.
Ingestion	Get medical attention if symptoms occur. Give victim water or milk. Seek medical attention.
Most important symptoms/effects, acute and delayed	May cause allergic respiratory reaction.
Indication of immediate medical attention and special treatment needed	Symptoms may be delayed. Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use extinguishing agent suitable for type of surrounding fire. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Not applicable.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Wear appropriate protective equipment and clothing during clean-up. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Avoid inhalation of vapors or mists. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up	This product is miscible in water. Dilute with water. Flush into sewer with plenty of water. Should not be released into the environment. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations. Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling	In case of insufficient ventilation, wear suitable respiratory equipment. Avoid breathing mist or vapor. Avoid prolonged exposure. Avoid release to the environment.
Conditions for safe storage, including any incompatibilities	Store in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
ACETIC ACID (CAS 64-19-7)	PEL	25 mg/m ³

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

Components	Type	Value
		10 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
ACETIC ACID (CAS 64-19-7)	STEL	15 ppm
	TWA	10 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
ACETIC ACID (CAS 64-19-7)	STEL	37 mg/m3
		15 ppm
	TWA	25 mg/m3
		10 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear chemical goggles.

Skin protection**Hand protection**

Not normally needed.

Other

Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection

None required where adequate ventilation conditions exist.

Thermal hazards

Not available.

General hygiene considerations

Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties**Appearance**

Clear.

Physical state

Liquid.

Form

Liquid.

Color

Colorless.

Odor

Odorless.

Odor threshold

Not available.

pH

5.4

Melting point/freezing point

< 32 °F (< 0 °C)

Initial boiling point and boiling range

> 212 °F (> 100 °C)

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

0.036323017 hPa estimated

Vapor density

Not available.

Relative density

Not available.

Solubility(ies)	Miscible.
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	> 80 %
Specific gravity	1.08

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None under normal conditions.
Incompatible materials	None known.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Based on available data, the classification criteria are not met.
Inhalation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Due to lack of data the classification is not possible.
Eye contact	Due to lack of data the classification is not possible.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
TISAB II (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	99999 mg/kg
<i>Inhalation</i>		
LC50	Guinea pig	99999 mg/l
	Mouse	99999 mg/l
	Rat	2280 mg/l, 4 Hours, estimated
<i>Oral</i>		
LD50	Mouse	34695 mg/kg
	Rat	24368 mg/kg
		662 g/kg, estimated
<i>Other</i>		
LD50	Mouse	99999 mg/kg
Components	Species	Test Results

ACETIC ACID (CAS 64-19-7)

Acute

Dermal

LD50 Rabbit 1060 mg/kg

Inhalation

LC50 Guinea pig 5000 mg/l, 1 Hours
 Mouse 5620 mg/l, 1 Hours
 Rat 11.4 mg/l, 4 Hours

Components	Species	Test Results
<i>Oral</i>		
LD50	Mouse	4960 mg/kg
	Rabbit	1200 mg/kg
	Rat	3.53 g/kg
		3.31 g/kg
<i>Other</i>		
LD50	Mouse	525 mg/kg
	Rabbit	1200 mg/kg
SODIUM ACETATE (CAS 127-09-3)		
Acute		
<i>Oral</i>		
LD50	Mouse	4960 mg/kg
	Rat	3530 mg/kg
		3500 mg/kg
SODIUM CHLORIDE (CAS 7647-14-5)		
Acute		
<i>Oral</i>		
LD50	Mouse	4000 mg/kg
	Rat	3000 mg/kg
<i>Other</i>		
LD50	Mouse	2602 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Due to lack of data the classification is not possible. May be irritating to the skin.
Serious eye damage/eye irritation	Due to lack of data the classification is not possible. May be irritating to eyes.
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	Due to lack of data the classification is not possible.
Germ cell mutagenicity	Due to lack of data the classification is not possible.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Due to lack of data the classification is not possible.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.

Product	Species	Test Results
TISAB II (CAS Mixture)		
Crustacea	EC50	Daphnia
		13057.998 mg/l, 48 hours, estimated
Fish	LC50	Fish
		21347.9219 mg/l, 96 hours, estimated
Components	Species	Test Results
ACETIC ACID (CAS 64-19-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
		65 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)
		75 mg/l, 96 hours
SODIUM CHLORIDE (CAS 7647-14-5)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
		340.7 - 469.2 mg/l, 48 hours

Components	Species	Test Results
Fish	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4747 - 7824 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability None known.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

ACETIC ACID -0.17

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Dilute waste in large quantities of water and flush into sewer connected to wastewater treatment system in compliance with applicable laws and regulations. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Not available.

Hazardous waste code Not regulated.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as a dangerous good.

IMDG

Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

ACETIC ACID (CAS 64-19-7) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. Massachusetts RTK - Substance List

ACETIC ACID (CAS 64-19-7)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

ACETIC ACID (CAS 64-19-7)

US. Rhode Island RTK

ACETIC ACID (CAS 64-19-7)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date March-17-2014

Version # 01

Further information Not available.

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information Product and Company Identification: Product Codes
Hazards Identification: US Hazard Categories
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Regulatory Information: Safety Phrases