

SAFETY DATA SHEET

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				
	ОН				
	43065				

Telephone	US Phone Toll Free Fax	740-881-5501 800-858-9682 740-881-5989
Website E-mail Emergency phone number	www.gfschemicals.com service@gfschemicals.com 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 (CO2).
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 anyStore 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.incompatibilitiesStore 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		Туре	Value	
ACETIC ACID (CAS	64-19-7)	PEL	25 mg/m3	
laterial name: TISAB II, S	OLUTION, FOR FLUORIDE			SDS US
2163	Version #: 01	Revision date:	Issue date: March-17-2014	2 / 7

Components	for Air Contaminants (29 CFR 19: Type	Value
		10 ppm
US. ACGIH Threshold Limit	t Values	
Components	Туре	Value
ACETIC ACID (CAS 64-19-7)	STEL	15 ppm
	TWA	10 ppm
US. NIOSH: Pocket Guide t		Meller
Components	Туре	Value
ACETIC ACID (CAS 64-19-7)	STEL	37 mg/m3 15 ppm
	TWA	25 mg/m3
		10 ppm
logical limit values	No biological exposure limits noted f	
propriate engineering trols	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.	
ividual protection measure	s, such as personal protective equ	ipment
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 vent	ilation conditions exist.
Thermal hazards	Not available.	
neral hygiene siderations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.	
Physical and chemical	properties	
bearance	Clear.	
Physical state	Liquid.	
Form	Liquid.	
Color	Colorless.	
or	Odorless.	
	Net evelleble	
or threshold	Not available.	

US_OSHA Table 7-1 Limits for Air Contaminants (29 CER 1910 1000)

••••	•
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.

Upper/lower flammability or explosive limits

< 32 °F (< 0 °C)

Not available.

Not available.

Not applicable.

> 212 °F (> 100 °C)

Melting point/freezing point

Initial boiling point and

Flammability (solid, gas)

boiling range **Flash point**

Evaporation rate

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	Not available.

toxicological characteristics

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
TISAB II (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	99999 mg/kg
Inhalation		
LC50	Guinea pig	99999 mg/l
	Mouse	99999 mg/l
	Rat	2280 mg/l, 4 Hours, estimated
Oral		
LD50	Mouse	34695 mg/kg
	Rat	24368 mg/kg
		662 g/kg, estimated
Other		
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
Oral		
LD50	Mouse	4960 mg/kg
	Rabbit	1200 mg/kg
	Rat	3.53 g/kg
		3.31 g/kg
Other		
LD50	Mouse	525 mg/kg
	Rabbit	1200 mg/kg
SODIUM ACETATE (CAS 127-09-3)		
Acute		
Oral		
LD50	Mouse	4960 mg/kg
	Rat	3530 mg/kg
		3500 mg/kg
SODIUM CHLORIDE (CAS 7647-14	-5)	
Acute		
Oral		
LD50	Mouse	4000 mg/kg
	Rat	3000 mg/kg
Other		2522 //
LD50	Mouse	2602 mg/kg
* Estimates for product may b	e 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	g 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	y 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.	

12. Ecological information

Chronic effects

Ecotoxicity

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

Prolonged inhalation may be harmful.

Product		Species	Test Results
TISAB II (CAS Mixture	e)		
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

Fish LC30 Rainbow troub.donaldson trout. 4747 - 7824 mg/l, 96 hours. * Estimates for product may be based on additional component data not shown. Persistence and degradability Note known. Bilanccumulative potential Not available. -0.17 Mobility in soil Not available. -0.17 Status and degradability Not available. -0.17 Other adverse effects Not available. -0.17 Status and the compliance with applicable laws and regulations. Excordance with local/regional/international regulations. Local disposal instructions Dilute wasts in large quantities of water and flush into sever connected to wastewater treatme system in compliance with applicable laws and regulations. Excordance 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: Dispoal instructions). Contaminated packaging Empty containers should be taken to an approved waste handing site for recycling or disposal. The regulated as a dangerous good. Kraf Transport information Dot Not regulated as a dangerous good. Kraf Adagerous good. Transport in bulk according to the U.S. EPA TSCA Inventory List. TS Aspecifically Regulatory information Al components are on the U.S. EPA TSCA Inventory List	Components	Species	Test Results
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Not regulated. Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Other federal regulations		
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	Clean Air Act (CAA) Section	112(r) Accidental Release Prevention (40 CFR	68.130)

Safe Drinking Water Act (SDWA)	Not regulated.	
	stration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) ar	nd 1310.04(f)(2) and
Not listed.		
Drug Enforcement Adminis	stration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 131	0.12(c))
Not regulated.		
DEA Exempt Chemical Mix	tures Code Number	
Not regulated.		
Food and Drug Administration (FDA)	Not regulated.	
US state regulations	California Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop is not known to contain any chemicals currently listed as carcinogens or	
US. Massachusetts RT	K - Substance List	
ACETIC ACID (CAS 6		
-	r and Community Right-to-Know Act	
Not regulated.	Userandona Crikatonaca	
ACETIC ACID (CAS 6	- Hazardous Substances	
US. Rhode Island RTK	4-13-7)	
ACETIC ACID (CAS 6	4-19-7)	
US. California Proposition	-	
=	tion 65 - Carcinogens & Reproductive Toxicity (CRT): Listed sub	stance
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 co	mplies with the inventory requirements administered by the governing country(s)	
16. Other information, in	cluding date of preparation or last revision	
Issue date	March-17-2014	

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