

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name TISAB III Concentrate with CDTA

Product Number(s) 940911

Pure substance/mixture Mixture

Contains Hydrochloric Acid, Ammonium Hydroxide

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Use as laboratory reagent

Uses advised against No Information available

Manufacturer/Supplier

Thermo Fisher Scientific©
Water and Lab Products
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Chelmsford, MA 01824, USA
1-978-232-6000

E-mail address info.water@thermo.com

Made in USA

Emergency Telephone 24 Hour Emergency Phone Number
CHEMTREC®
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: 1-703-527-3887
(collect calls accepted)

2. HAZARDS IDENTIFICATION

Classification


OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1

Label Elements

Emergency Overview

Danger		
Hazard Statements		
Harmful if swallowed		
Toxic if inhaled		
Causes severe skin burns and eye damage		
		
Appearance Orange	Physical State Liquid	Odor Slight

Safety data sheet available on request

Precautionary Statements

Do not handle until all safety information has been read and understood.

Prevention

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wear protective gloves/protective clothing/eye protection/face protection

Response

- Specific treatment (see supplemental first aid instructions on this label)
- Immediately call a POISON CENTER or doctor/physician
- Specific treatment (see supplemental instructions on the administration of antidotes on this label)
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell
- Immediately call a POISON CENTER or doctor/physician
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- Do NOT induce vomiting

Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No information available

Other Information

Harmful to aquatic life with long lasting effects
Harmful to aquatic organisms

Unknown Acute Toxicity 37.406 % of the mixture consists of ingredients of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %	Trade Secret
Hydrochloric Acid	7647-01-0	10 - 20%	*
trans-1,2-Diaminocyclohexane-Tetraacetic Acid Monohydrate (CDTA)	125572-95-4	0 - 10%	*
Ammonium Hydroxide	1336-21-6	0 - 10%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures****General Advice**

Use first aid treatment according to the nature of the injury. Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance.

Eye Contact

Rinse thoroughly with plenty of water, also under the eyelids. Obtain medical attention.

Skin Contact

Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. If skin reactions occur, contact a physician.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, obtain medical attention.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Call a physician or Poison Control Center immediately.

Protection of First-aiders

Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or 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.

Most important symptoms and effects, both acute and delayed

Most important symptoms/effects No information available

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available

Specific Hazards Arising from the Chemical

No information available

Explosion Data

Sensitivity to Mechanical Impact None

Sensitivity to Static Discharge None

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions

Use personal protective equipment. Refer to Section 8. Evacuate personnel to safe areas.

Environmental Precautions

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and Material for Containment and Cleaning Up

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling

To avoid risks to human health and the environment, comply with the instructions for use
 Wear personal protective equipment
 Avoid breathing dust/fume/gas/mist/vapours/spray
 Ensure adequate ventilation, especially in confined areas

Conditions for Safe Storage, Including any Incompatibilities

Storage

Keep container tightly closed in a dry and well-ventilated place
 Store at room temperature in the original container
 Keep away from direct sunlight

Incompatible Products

No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric Acid 7647-01-0	Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m ³ (Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 7 mg/m ³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³

Appropriate engineering controls

Engineering Measures

Showers

Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face Protection	Wear chemical splash goggles. If splashes are likely to occur, wear: Face-shield.
Skin and Body Protection	Wear protective gloves/clothing.
Respiratory Protection	None required under normal usage. In case of inadequate ventilation wear respiratory protection.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Orange
Odor	Slight
Odor Threshold	No information available
pH Range	4.3 - 5.5

Property	Values	Remarks • Method
Melting point/freezing point	No information available	
Boiling Point/Range	~ 100 °C	
Flash Point (High in °C)	N/A	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor Density	No information available	
Specific Gravity	No information available	
Water Solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition Temperature		
Decomposition Temperature	No information available	
Kinematic Viscosity	No information available	
Dynamic viscosity	No information available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content(%)	No information available
Density	No Information available
Bulk Density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No Information available

Chemical Stability

Stable under normal conditions

Possibility of Hazardous Reactions

None under normal processing

Conditions to Avoid

Extremes of temperature and direct sunlight

Incompatible Materials

No information available

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation	No information available
Eye Contact	No information available
Skin Contact	No information available
Ingestion	No information available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric Acid 7647-01-0	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h
Ammonium Hydroxide 1336-21-6	= 350 mg/kg (Rat)	-	-

Information on Toxicological Effects**Symptoms** No information available**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Sensitization	No information available
Mutagenic Effects	No information available
Carcinogenicity	No information available.
Reproductive Effects	No information available
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Aspiration hazard	No information available

Numerical measures of toxicity - Product Information**Unknown Acute Toxicity** 37.406 % of the mixture consists of ingredients of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	867 mg/kg
ATEmix (dermal)	19025 mg/kg
ATEmix (inhalation-dust/mist)	1.9 mg/L
ATEmix (inhalation-vapor)	3.2 mg/L

12. ECOLOGICAL INFORMATION**Ecotoxicity**

37.406% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Freshwater Algae	Freshwater Fish	Water Flea
Hydrochloric Acid 7647-01-0	-	282: 96 h Gambusia affinis mg/L LC50 static	-
Ammonium Hydroxide 1336-21-6	-	8.2: 96 h Pimephales promelas mg/L LC50	0.66: 48 h Daphnia pulex mg/L EC50 0.66: 48 h water flea mg/L EC50

Persistence and Degradability

No information available

Bioaccumulation/ Accumulation

No information available

Mobility

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Improper disposal or reuse of this container may be dangerous and illegal.

Component	CAWAST
Hydrochloric Acid 7647-01-0	Toxic Corrosive Reactive
Ammonium Hydroxide 1336-21-6	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT

UN-No UN2922
 Proper Shipping Name Corrosive liquid, toxic, n.o.s
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group III
 Special Provisions IB3, T7, TP1, TP28
 Shipping Description UN2922, CORROSIVE LIQUID, TOXIC, N.O.S (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III
 Emergency Response Guide Number 154

TDG

UN-No UN2922
 Proper Shipping Name CORROSIVE LIQUID, TOXIC, N.O.S.
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group III
 Description UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III

MEX

UN-No	UN2922
Proper Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class	8
Subsidiary Hazard Class	6.1
Special Provisions	223, 274
Packing Group	III
Description	UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III

ICAO

UN-No	UN2922
Proper Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	III
Special Provisions	A3
Description	UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III

IATA

UN-No	UN2922
Proper Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	III
ERG Code	8P
Special Provisions	A3, A803
Description	UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III

IMDG/IMO

UN-No	UN2922
Proper Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	III
EmS No.	F-A, S-B
Special Provisions	223, 274
Description	UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III

RID

UN-No	UN2922
Proper Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class	8
Packing Group	III
Classification Code	CT1
Description	UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III
ADR/RID-Labels	8 + 6.1

ADR

UN-No	UN2922
Proper Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S.
Hazard Class	8
Packing Group	III
Classification Code	CT1
Tunnel restriction code	(E)
Special Provisions	274
Description	UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III

ADR/RID-Labels 8 + 6.1

ADN

Proper Shipping Name CORROSIVE LIQUID, TOXIC, N.O.S.
 Hazard Class 8
 Packing Group III
 Classification Code CT1
 Special Provisions 274, 802
 Description UN2922, Corrosive liquid, toxic, n.o.s. (Hydrochloric Acid, Ammonium Hydroxide), 8 (6.1), III
 Hazard Labels 8 + 6.1
 Limited Quantity 5 L
 Ventilation VE02

15. REGULATORY INFORMATION

International Inventories

USINV Complies
 CANINV Complies
 EINECS/ELINCS Complies
 ENCS Does not Comply
 IECSC Does not Comply
 KECL Does not Comply
 PICCS Does not Comply
 AICS Does not Comply

USINV/ TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 CANINV/ DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
 ENCS - Japanese Existing and New Chemical Substances
 IECSC - Chinese Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Component	SARA 313 - Threshold Values %
Hydrochloric Acid - 7647-01-0	1.0
Ammonium Hydroxide - 1336-21-6	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard No
 Chronic Health Hazard No
 Fire Hazard No
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

Clean Water Act

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Hydrochloric Acid 7647-01-0	5000 lb	-	-	X
Ammonium Hydroxide 1336-21-6	1000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive

Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs	RQ
Hydrochloric Acid 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ
Ammonium Hydroxide 1336-21-6	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

State Right-to-Know

Component	New Jersey	Massachusetts	Pennsylvania
Hydrochloric Acid 7647-01-0	X	X	X
Ammonium Hydroxide 1336-21-6	X	X	X

U.S. EPA Label Information

No information available

16. OTHER INFORMATION

Prepared By Environmental, Health and Safety

Prepared For Thermo Fisher Scientific Inc.©

Issue Date No information available

Revision Date 18-May-2015

Expiration Date SDS is valid 3 years from revision date. Contact wai.techservbev@thermofisher.com for the latest revision.

Reason for revision Update to CLP Format

Disclaimer

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End of Safety Data Sheet