

**Section: 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : TRI-STAR SOUR VII

Other means of identification : Not applicable.

Recommended use : Laundry product

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.03 % - 0.06 %

Company : Ecolab Co.  
5105 Tomken Road  
Mississauga, Ontario Canada L4W 2X5  
1-800-352-5326

Emergency health information : 1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)

Issuing date : 09/13/2017

**Section: 2. HAZARDS IDENTIFICATION**
**GHS Classification**
**Product AS SOLD**

Skin corrosion : Category 1A  
Serious eye damage : Category 1

**Product AT USE DILUTION**

Not a hazardous substance or mixture.

**GHS Label element**
**Product AS SOLD**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.

Precautionary Statements : **Prevention:**  
Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. 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. Wash contaminated clothing before reuse.  
**Storage:**

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## TRI-STAR SOUR VII

Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

### Product AT USE DILUTION

Precautionary Statements

**Prevention:**

Wash hands thoroughly after handling.

**Response:**

Get medical advice/ attention if you feel unwell.

**Storage:**

Store in accordance with local regulations.

### Product AS SOLD

Other hazards

: Do not mix with bleach or other chlorinated products – will cause chlorine gas.

## Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Product AS SOLD

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
fluorosilicic acid	16961-83-4	10 - 30
citric acid	77-92-9	5 - 10
hydrochloric acid	7647-01-0	1 - 5
hydrogen fluoride	7664-39-3	0.1 - 1

### Product AT USE DILUTION

No hazardous ingredients

## Section: 4. FIRST AID MEASURES

### Product AS SOLD

- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
- If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
- Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : Treat symptomatically.
- Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

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## TRI-STAR SOUR VII

### Product AT USE DILUTION

- In case of eye contact : Rinse with plenty of water.
- In case of skin contact : Rinse with plenty of water.
- If swallowed : Rinse mouth. Get medical attention if symptoms occur.
- If inhaled : Get medical attention if symptoms occur.

## Section: 5. FIREFIGHTING MEASURES

### Product AS SOLD

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : None known.
- Specific hazards during firefighting : Not flammable or combustible.
- Hazardous combustion products : Decomposition products may include the following materials:  
Carbon oxides  
nitrogen oxides (NOx)  
Sulphur oxides  
Oxides of phosphorus
- Special protective equipment for firefighters : Use personal protective equipment.
- Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.
- Risk of explosion. : Not available.

## Section: 6. ACCIDENTAL RELEASE MEASURES

### Product AS SOLD

- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Do not allow contact with soil, surface or ground water.
- Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

### Product AT USE DILUTION

- Personal precautions, protective equipment and : Refer to protective measures listed in sections 7 and 8.

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## TRI-STAR SOUR VII

### emergency procedures

- Environmental precautions : No special environmental precautions required.
- Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

## Section: 7. HANDLING AND STORAGE

### Product AS SOLD

- Advice on safe handling : Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
- Conditions for safe storage : Keep away from strong bases. Keep out of reach of children. Store in suitable labeled containers.
- Storage temperature : 0 °C to 50 °C

### Product AT USE DILUTION

- Advice on safe handling : Wash hands after handling. For personal protection see section 8.
- Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

## Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Product AS SOLD

#### Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
hydrochloric acid	7647-01-0	(c)	2 ppm 3 mg/m <sup>3</sup>	CAD AB OEL
		C	2 ppm	CAD BC OEL
		C	5 ppm 7.5 mg/m <sup>3</sup>	OEL (QUE)
hydrochloric acid	7647-01-0	Ceiling	2 ppm	ACGIH
		Ceiling	5 ppm 7 mg/m <sup>3</sup>	NIOSH REL
		C	5 ppm 7 mg/m <sup>3</sup>	OSHA Z1
hydrogen fluoride	7664-39-3	TWA	0.5 ppm 0.4 mg/m <sup>3</sup> (Fluorine)	CAD AB OEL
		(c)	2 ppm 1.6 mg/m <sup>3</sup> (Fluorine)	CAD AB OEL
		C	2 ppm (Fluorine)	CAD BC OEL
		C	3 ppm 2.6 mg/m <sup>3</sup> (Fluorine)	OEL (QUE)
hydrogen fluoride	7664-39-3	TWA	3 ppm 2.5 mg/m <sup>3</sup>	NIOSH REL

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		Ceiling	6 ppm 5 mg/m <sup>3</sup>	NIOSH REL
		TWA	3 ppm	OSHA/Z2
		TWA	2.5 mg/m <sup>3</sup> (Fluorine)	OSHA Z1
		TWA	0.5 ppm (Fluorine)	ACGIH
		Ceiling	2 ppm (Fluorine)	ACGIH

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

### Personal protective equipment

Eye protection : Wear eye protection/face protection.

Hand protection : Wear the following personal protective equipment:  
Standard glove type.  
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

### Product AT USE DILUTION

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

## Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

	Product AS SOLD	Product AT USE DILUTION
Appearance	: liquid	liquid
Colour	: clear, light yellow	colourless
Odour	: pungent	odourless
pH	: 1.0 - 2.0, (100 %)	5.5 - 7.5
Flash point	: Not applicable., Does not sustain combustion.	
Odour Threshold	: no data available	

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### TRI-STAR SOUR VII

Melting point/freezing point	: no data available
Initial boiling point and boiling range	: > 100 °C
Evaporation rate	: no data available
Flammability (solid, gas)	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: 1.12 - 1.32
Water solubility	: partly soluble
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, kinematic	: no data available
Explosive properties	: no data available
Oxidizing properties	: no data available
Molecular weight	: no data available
VOC	: no data available

### Section: 10. STABILITY AND REACTIVITY

#### Product AS SOLD

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	: None known.
Incompatible materials	: Bases Metals Organic materials
Hazardous decomposition products	: Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

### Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

#### Potential Health Effects

#### Product AS SOLD

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Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns.
Ingestion	: Causes digestive tract burns.
Inhalation	: May cause nose, throat, and lung irritation.
Chronic Exposure	: Health injuries are not known or expected under normal use.

### Product AT USE DILUTION

Eyes	: Health injuries are not known or expected under normal use.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

### Experience with human exposure

#### Product AS SOLD

Eye contact	: Redness, Pain, Corrosion
Skin contact	: Redness, Pain, Corrosion
Ingestion	: Corrosion, Abdominal pain
Inhalation	: Respiratory irritation, Cough

### Product AT USE DILUTION

Eye contact	: No symptoms known or expected.
Skin contact	: No symptoms known or expected.
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

### Toxicity

#### Product AS SOLD

##### Product

Acute oral toxicity	: Acute toxicity estimate : 2,202 mg/kg
Acute inhalation toxicity	: 4 h Acute toxicity estimate : > 30000 ppm
Acute dermal toxicity	: no data available
Skin corrosion/irritation	: no data available
Serious eye damage/eye irritation	: no data available
Respiratory or skin sensitization	: no data available
Carcinogenicity	: no data available
Reproductive effects	: no data available

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Germ cell mutagenicity : no data available  
Teratogenicity : no data available  
STOT - single exposure : no data available  
STOT - repeated exposure : no data available  
Aspiration toxicity : no data available

### Section: 12. ECOLOGICAL INFORMATION

#### Product AS SOLD Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

#### Product

Toxicity to fish : no data available  
Toxicity to daphnia and other aquatic invertebrates : no data available  
Toxicity to algae : no data available

#### Components

Toxicity to fish : fluorosilicic acid  
96 h LC50 Fish: 50 mg/l  
  
citric acid  
96 h LC50 Fish: > 100 mg/l

#### Persistence and degradability

##### Product AS SOLD

Readily biodegradable.

#### Product AT USE DILUTION

Not applicable - inorganic

#### Bioaccumulative potential

no data available

#### Mobility in soil

no data available

#### Other adverse effects

no data available

### Section: 13. DISPOSAL CONSIDERATIONS

#### Product AS SOLD

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.  
  
Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.



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## TRI-STAR SOUR VII

### Product AT USE DILUTION

Disposal methods : Diluted product can be flushed to sanitary sewer.

Disposal considerations : Dispose of in accordance with local, state, and federal regulations.

## Section: 14. TRANSPORT INFORMATION

### Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

#### Land transport (TDG)

UN number : 1778  
Description of the goods : FLUOROSILICIC ACID  
Class : 8  
Packing group : II  
Environmentally hazardous : No

#### Air transport (IATA)

UN number : 1778  
Description of the goods : Fluorosilicic acid  
Class : 8  
Packing group : II  
Environmentally hazardous : No

#### Sea transport (IMDG/IMO)

UN number : 1778  
Description of the goods : FLUOROSILICIC ACID  
Class : 8  
Packing group : II  
Marine pollutant : No

## Section: 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR.

**NPRI Components** : hydrochloric acid

**The components of this product are reported in the following inventories:**

**Switzerland. New notified substances and declared preparations :**

On the inventory, or in compliance with the inventory

**United States TSCA Inventory :**

On TSCA Inventory

**Canadian Domestic Substances List (DSL) :**

All components of this product are on the Canadian DSL.

**Australia. Industrial Chemical (Notification and Assessment) Act :**

On the inventory, or in compliance with the inventory

**New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand :**

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On the inventory, or in compliance with the inventory

### Japan. ENCS - Existing and New Chemical Substances Inventory :

On the inventory, or in compliance with the inventory

### Korea. Korean Existing Chemicals Inventory (KECI) :

On the inventory, or in compliance with the inventory

### Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

On the inventory, or in compliance with the inventory

### China Inventory of Existing Chemical Substances :

On the inventory, or in compliance with the inventory

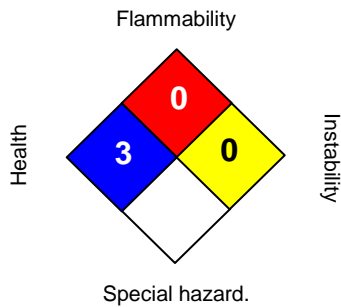
### Taiwan Chemical Substance Inventory :

On the inventory, or in compliance with the inventory

## Section: 16. OTHER INFORMATION

### Product AS SOLD

#### NFPA:



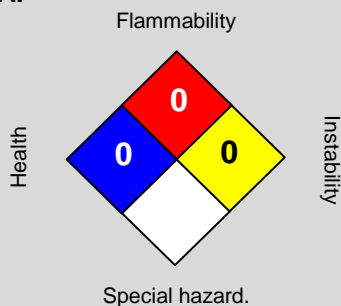
#### HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

### Product AT USE DILUTION

#### NFPA:



#### HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

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Prepared by : Regulatory Affairs 1-800-352-5326

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

## **SAFETY DATA SHEET**

### **TRI-STAR SOUR VII**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. 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.