

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TRI-STAR DUO

Other means of identification : Not applicable.

Recommended use : Laundry detergent

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.03 % - 0.19 %

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 : 04/07/2016

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Skin irritation : Category 2
Eye irritation : Category 2A
Reproductive toxicity : Category 1B

Product AT USE DILUTION

Not a hazardous substance or mixture.

GHS Label element

Product AS SOLD

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : Causes skin irritation.
Causes serious eye irritation.
May damage fertility or the unborn child.

Precautionary Statements : **Prevention:**
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention.

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TRI-STAR DUO

If eye irritation persists: Get medical advice/ attention.

Storage:

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

: None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
boric acid (h3bo3), compd. with 2-aminoethanol (1:1)	68586-07-2	10 - 30
Propylene glycol	57-55-6	10 - 30
Amphoteric surfactants	68604-71-7	1 - 5
tetrapotassium ethylenediamine tetraacetate	5964-35-2	1 - 5
alcohols, c12-16, ethoxylated	68551-12-2	1 - 5
alcohols, c12-14-secondary, ethoxylated	84133-50-6	1 - 5
potassium hydroxide	1310-58-3	1 - 5

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.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Get medical attention if irritation develops and persists.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : 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 : See Section 11 for more detailed information on health effects and symptoms.

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delayed

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 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 emergency procedures	: Refer to protective measures listed in sections 7 and 8.
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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 : Avoid contact with skin and eyes. Wash hands thoroughly after handling.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

Storage temperature : 10 °C to 40 °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
Propylene glycol	57-55-6	TWA (Aerosol.)	10 mg/m ³	CA ON OEL
		TWA (Vapour and aerosols)	50 ppm 155 mg/m ³	CA ON OEL
Propylene glycol	57-55-6	TWA	10 mg/m ³	AIHA WEEL
potassium hydroxide	1310-58-3	(c)	2 mg/m ³	CAD AB OEL
		C	2 mg/m ³	CAD BC OEL
		C	2 mg/m ³	OEL (QUE)
potassium hydroxide	1310-58-3	Ceiling	2 mg/m ³	ACGIH
		Ceiling	2 mg/m ³	NIOSH REL

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

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- Respiratory protection : No personal respiratory protective equipment normally required.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling.

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	: Perfumes, fragrances	slight
pH	: 9.0 - 11.0, 100 %	9.0 - 9.7
Flash point	: Not applicable., Does not sustain combustion.	
Odour Threshold	: no data available	
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	: 1.009 - 1.209	
Water solubility	: 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	

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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 : No dangerous reaction known under conditions of normal use.
Conditions to avoid : None known.
Incompatible materials : None known.
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

Eyes : Causes serious eye irritation.
Skin : Causes skin irritation.
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.

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, Irritation
Skin contact : Redness, Irritation

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Ingestion : No symptoms known or expected.

Inhalation : No symptoms known or expected.

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 : > 5,000 mg/kg

Acute inhalation toxicity : no data available

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg

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

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

Components

Acute inhalation toxicity : Propylene glycol
4 h LC50 rat: > 158.5 mg/l

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD Ecotoxicity

Environmental Effects : Harmful to aquatic life.

Product

Toxicity to fish : no data available

Toxicity to daphnia and other aquatic invertebrates : no data available

Toxicity to algae : no data available

Components

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Toxicity to fish : boric acid (h3bo3), compd. with 2-aminoethanol (1:1)
96 h LC50: 74 mg/l

Propylene glycol
96 h LC50: > 10,000 mg/l

alcohols, c12-16, ethoxylated
96 h LC50 Fish: 1.5 mg/l

alcohols, c12-14-secondary, ethoxylated
96 h LC50 Fish: 3.4 mg/l

Components

Toxicity to daphnia and other : Propylene glycol
aquatic invertebrates 48 h EC50: 18,340 mg/l

Amphoteric surfactants
48 h EC50 Daphnia: > 100 mg/l

Components

Toxicity to algae : Propylene glycol
96 h EC50: 19,000 mg/l

Persistence and degradability

no data available

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 : Do not contaminate ponds, waterways or ditches with chemical or used container. 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.

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

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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 : 1814
Description of the goods : POTASSIUM HYDROXIDE, SOLUTION
Class : 8
Packing group : III
Environmentally hazardous : No

Sea transport (IMDG/IMO)

UN number : 1814
Description of the goods : POTASSIUM HYDROXIDE SOLUTION
Class : 8
Packing group : III
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 : 2,2'-iminodiethanol

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

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 :

not determined

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

not determined

Japan. ENCS - Existing and New Chemical Substances Inventory :

not determined

Japan. ISHL - Inventory of Chemical Substances (METI) :

not determined

Korea. Korean Existing Chemicals Inventory (KECI) :

not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

not determined

China Inventory of Existing Chemical Substances :

not determined

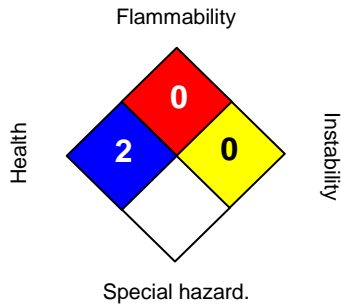
Section: 16. OTHER INFORMATION

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Product AS SOLD

NFPA:



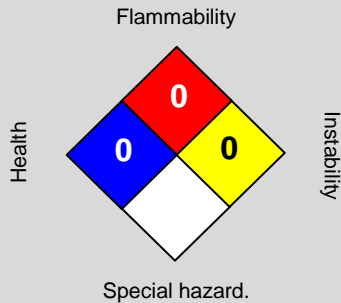
HMIS III:

HEALTH	2*
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.

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.