

TRI-STAR DUO

Section: 1. 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 : 10/17/2024

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/ hearing 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.

SAFETY DATA SHEET

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

Actual concentration or concentration range is withheld as a trade secret

Chemical Name	CAS-No.	Concentration: (%)
boric acid (h3bo3), compd. with 2-aminoethanol (1:1)	68586-07-2	11 - 30
Propylene glycol	57-55-6	10 - 30
1-(2-(2-Carboxyethoxy)Ethyl)-1(or 3)-(2-Carboxyethyl)-2-Coconut Oil-2-Imidazolinium Hydroxide, Disodium Salt	68604-71-7	1 - 5
tetrapotassium ethylenediamine tetraacetate	5964-35-2	1 - 5
alcohols, c12-16, ethoxylated > 5EO	68551-12-2	1 - 5
alcohols, c12-14-secondary, ethoxylated	84133-50-6	1 - 5
potassium hydroxide	1310-58-3	1 - 2

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.

SAFETY DATA SHEET

TRI-STAR DUO

- 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.

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)
- Special protective equipment and precautions 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

SAFETY DATA SHEET

TRI-STAR DUO

Personal precautions, protective equipment and emergency procedures	: Refer to protective measures listed in sections 7 and 8.
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. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE).
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. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE). 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 (Vapour and aerosols)	50 ppm 155 mg/m ³	CA ON OEL
		TWA (Aerosol.)	10 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:

SAFETY DATA SHEET

TRI-STAR DUO

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 : 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
Physical State	: 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.	
Melting point/freezing point	: no data available	
Boiling point, initial boiling point and boiling range	: > 100 °C	
Flammability	: Not applicable.	
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	
Density	: no data available	
Water solubility	: soluble	
Solubility in other solvents	: no data available	
Partition coefficient: n-octanol/water (logarithmic value)	: no data available	

SAFETY DATA SHEET

TRI-STAR DUO

Auto-ignition temperature	: no data available
Decomposition temperature	: 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
Particle characteristics	: no data available

Section: 10. STABILITY AND REACTIVITY

Product AS SOLD

Reactivity	: No dangerous reaction known under conditions of normal use.
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	: In the event of fire, see Section 5

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.

SAFETY DATA SHEET

TRI-STAR DUO

Experience with human exposure

Product AS SOLD

Eye contact	: Redness, Pain, Irritation
Skin contact	: Redness, Irritation
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 : > 2,000 mg/kg
Acute inhalation toxicity	: 4 h Acute toxicity estimate : > 5 mg/l Test atmosphere: dust/mist
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
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 dermal toxicity	: alcohols, c12-16, ethoxylated > 5EO LD50 rabbit: > 2,000 mg/kg
	alcohols, c12-14-secondary, ethoxylated LD50 rat: > 2,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Toxicity

SAFETY DATA SHEET

TRI-STAR DUO

Product AS SOLD

Environmental Effects : Harmful to aquatic life.

Product AT USE DILUTION

Environmental Effects : This product has no known ecotoxicological effects.

Product AS SOLD

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

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

tetrapotassium ethylenediamine tetraacetate
96 h LC50 Lepomis macrochirus (Bluegill sunfish): 159 mg/l
Test substance: Information given is based on data obtained from similar substances.

alcohols, c12-16, ethoxylated > 5EO
LC50: 1.5 mg/l

alcohols, c12-14-secondary, ethoxylated
96 h LC50 Pimephales promelas (fathead minnow): 3.5 mg/l
Test substance: Information given is based on data obtained from similar substances.

Components

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

1-(2-(2-Carboxyethoxy)Ethyl)-1(or 3)-(2-Carboxyethyl)-2-Coconut Oil-2-Imidazolium Hydroxide, Disodium Salt
48 h EC50 Daphnia: > 100 mg/l

tetrapotassium ethylenediamine tetraacetate
48 h EC50 Daphnia magna (Water flea): 140 mg/l
Test substance: Information given is based on data obtained from similar substances.

alcohols, c12-14-secondary, ethoxylated
48 h EC50 Daphnia magna (Water flea): 3.1 mg/l
Test substance: Information given is based on data obtained from similar substances.

Components

Toxicity to algae : tetrapotassium ethylenediamine tetraacetate
72 h EC50 Desmodesmus subspicatus (green algae): > 100 mg/l
Test substance: Information given is based on data obtained from similar substances.

SAFETY DATA SHEET

TRI-STAR DUO

Persistence and degradability

Product AT USE DILUTION

Readily biodegradable.

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 contents/container in accordance 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

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
- Proper shipping name : POTASSIUM HYDROXIDE SOLUTION
- Class : 8
- Packing group : III
- Marine pollutant : No

Section: 15. REGULATORY INFORMATION

SAFETY DATA SHEET

TRI-STAR DUO

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.

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

United States TSCA Inventory :

All substances listed as active on the TSCA inventory

Canadian Domestic Substances List (DSL) :

All components of this product are on the Canadian DSL.

Australia. Australian Industrial Chemicals Introduction Scheme (AICIS) :

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

Korea. Korean Existing Chemicals Inventory (KECI) :

not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

not determined

China Inventory of Existing Chemical Substances :

On the inventory, or in compliance with the inventory

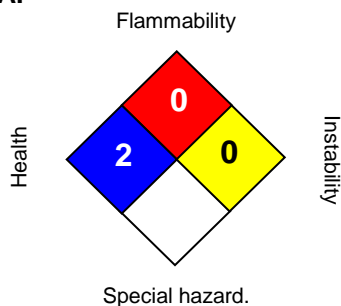
Taiwan Chemical Substance Inventory :

not determined

Section: 16. OTHER INFORMATION

Product AS SOLD

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	0
PHYSICAL HAZARD	0

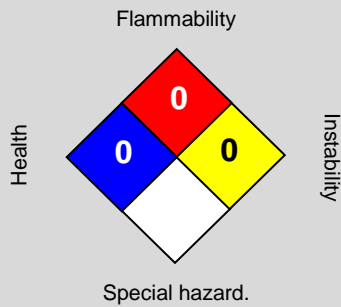
0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Product AT USE DILUTION

SAFETY DATA SHEET

TRI-STAR DUO

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Issuing date : 10/17/2024
Version : 1.1
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.