

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TRI-STAR DUO

Other means of identification : Not applicable

Recommended use : Laundry detergent

Product dilution information : 0.03 % - 0.19 %

Company : Ecolab Inc.
1 Ecolab Place
St. Paul, Minnesota USA 55102
1-800-352-5326

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

Issuing date : 05/31/2019

SECTION 2. HAZARDS IDENTIFICATION
GHS Classification
Product AS SOLD

Skin irritation : Category 2

Serious eye damage : Category 1

Reproductive toxicity : Category 1B

Product AT USE DILUTION

Not a hazardous substance or mixture.

GHS label elements
Product AS SOLD

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Causes skin irritation.
Causes serious eye damage.
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 soap and water. 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/doctor. IF exposed or concerned: Get medical advice/ attention. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.

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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
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	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 immediately.
- 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 : 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.

SAFETY DATA SHEET

TRI-STAR DUO

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. FIRE-FIGHTING 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 fire fighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides
Nitrogen oxides (NOx)

Special protective equipment for fire-fighters : 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.

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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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 get in eyes, on skin, or on clothing. 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

Ingredients with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Propylene glycol	57-55-6	TWA	10 mg/m ³	AIHA WEEL
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
- Respiratory protection : No personal respiratory protective equipment normally required.

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Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. 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
Color	: clear, light yellow	colorless
Odor	: Perfumes, fragrances	slight
pH	: 9.0 - 11.0, (100 %)	9.0 - 9.7
Flash point	: Not applicable, Does not sustain combustion.	
Odor 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	
Vapor pressure	: No data available	
Relative vapor 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	
Autoignition temperature	: No data available	
Thermal decomposition	: No data available	
Viscosity, kinematic	: No data available	
Explosive properties	: No data available	
Oxidizing properties	: No data available	

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Molecular weight : No data available
VOC : 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 case of fire hazardous decomposition products may be produced such as:
Carbon oxides
Nitrogen oxides (NOx)

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 damage.
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, Corrosion
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 : 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 inhalation toxicity : Propylene glycol
4 h LC50 Rat: > 158.5 mg/l
Test atmosphere: dust/mist

Components

Acute dermal toxicity : alcohols, c12-16, ethoxylated
LD50 Rabbit: > 2,000 mg/kg

alcohols, c12-14-secondary, ethoxylated
LD50 Rat: > 2,000 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Product AS SOLD

Ecotoxicity

Environmental Effects : Harmful to aquatic life.

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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: > 10,000 mg/l

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

alcohols, c12-14-secondary, ethoxylated
96 h LC50 Pimephales promelas: 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: 18,340 mg/l

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

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

Persistence and degradability

Product AS SOLD

Poorly biodegradable

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

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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

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 (DOT)

- 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

Product AS SOLD

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
potassium hydroxide	1310-58-3	1000	62104

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

- SARA 311/312 Hazards** : Skin corrosion or irritation
Serious eye damage or eye irritation
Reproductive toxicity

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SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

California Cleaning Product Right to Know Act of 2017 (SB 258)

This regulation applies to this product.

Chemical Name	CAS-No.	Function	List(s)
water	7732-18-5	Diluent	Not Applicable
boric acid (h3bo3), compd. with 2-aminoethanol (1:1)	68586-07-2	Stabilizer	Not Applicable
Propylene glycol	57-55-6	Stabilizer	12
1-(2-(2-Carboxyethoxy)Ethyl)-1(or 3)-(2-Carboxyethyl)-2-Coconut Oil-2-Imidazolinium Hydroxide, Disodium Salt	68604-71-7	Cleaning Agent	Not Applicable
alcohols, c12-16, ethoxylated	68551-12-2	Cleaning Agent	Not Applicable
alcohols, c12-14-secondary, ethoxylated	84133-50-6	Cleaning Agent	Not Applicable
potassium hydroxide	1310-58-3	Cleaning Agent	Not Applicable
Fragrance Ingredient(s)	Not Available	Fragrance	Not Applicable
Polyol	Withheld	Cleaning Agent	Not Applicable
Sulfonic Acid	Withheld	Brightener	Not Applicable
Citronellol	106-22-9	Fragrance	FRA
subtilisin	9014-01-1	Cleaning Agent	8
Alpha-Isomethyl Ionone	127-51-5	Fragrance	FRA
Benzyl salicylate	118-58-1	Fragrance	FRA
Carboxylic acid salt	Withheld	Cleaning Agent	Not Applicable
2-(4-tert-Butylbenzyl) propionald-hyd	80-54-6	Fragrance	FRA
Substituted alkylamine	Withheld	Cleaning Agent	Not Applicable
Inorganic salt	Withheld	Brightener	Not Applicable

*refer to ecolab.com/sds for electronic links to designated lists

The ingredients 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 Inventory of Chemical Substances (AICS) :

not determined

New Zealand. Inventory of Chemical Substances :

not determined

Japan. ENCS - Existing and New Chemical Substances Inventory :

not determined

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Korea. Korean Existing Chemicals Inventory (KECI) :
not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
not determined

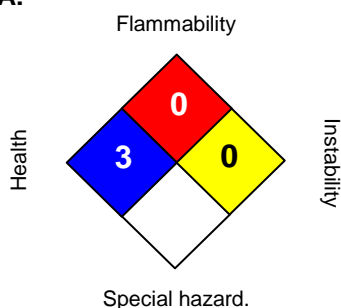
China. Inventory of Existing Chemical Substances in China (IECSC) :
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI) :
not determined

SECTION 16. OTHER INFORMATION

Product AS SOLD

NFPA:



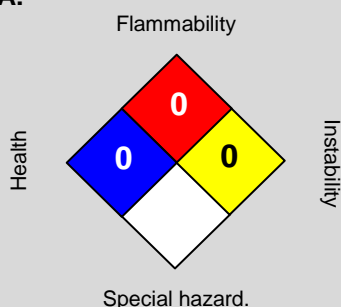
HMIS III:

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

Issuing date : 05/31/2019
Version : 1.3
Prepared by : Regulatory Affairs

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

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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.