

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : DISHMACHINE DETERGENT METAL SAFE

Other means of identification : Not applicable

Recommended use : Machine Warewashing Detergent

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.0 % - 0.78 %

Company : Ecolab Inc.  
1 Ecolab Place  
St. Paul, Minnesota USA 55102  
1-866-444-7450

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

Issuing date : 12/05/2019

**SECTION 2. HAZARDS IDENTIFICATION**
**GHS Classification**
**Product AS SOLD**

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

**Product AT USE DILUTION**

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

**GHS label elements**
**Product AS SOLD**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.

Precautionary Statements : **Prevention:**  
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Wash skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. 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/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

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/doctor. If skin irritation or rash occurs: Get medical advice/ attention. Wash contaminated clothing before reuse.

**Storage:**

Store locked up.

**Disposal:**

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

#### Product AT USE DILUTION

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/shower. 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/doctor. Wash contaminated clothing before reuse.

**Storage:**

Store locked up.

**Disposal:**

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

#### Product AS SOLD

Other hazards

: None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Product AS SOLD

Pure substance/mixture

: Mixture

**Chemical name**

Sodium silicate  
dihydro-3-(octenyl)furan-2,5-dione  
potassium hydroxide

**CAS-No.**

1344-09-8  
26680-54-6  
1310-58-3

**Concentration (%)**

5 - 10  
1 - 5  
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

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

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.

#### Product AT USE DILUTION

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.

### 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) Sulfur oxides Oxides of phosphorus
Special protective equipment	: Use personal protective equipment.

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

for fire-fighters

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 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.

#### 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/ vapors/ spray. Use only with adequate ventilation. 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 : Do not store near acids. 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 : Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Use only with adequate

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

ventilation. 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.

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

##### Product AS SOLD

##### Ingredients with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
potassium hydroxide	1310-58-3	Ceiling	2 mg/m <sup>3</sup>	ACGIH
		Ceiling	2 mg/m <sup>3</sup>	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 : 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 : 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.

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

	Product AS SOLD	Product AT USE DILUTION
Appearance	: liquid	liquid
Color	: clear, amber	colorless
Odor	: ammoniacal	odorless
pH	: 13.84, (100 %)	11.89 - 12.21
Flash point	: Not applicable	
Odor Threshold	: No data available	
Melting point/freezing point	: No data available	
Initial boiling point and boiling range	: No data available	
Evaporation rate	: No data available	
Flammability (solid, gas)	: Not applicable	
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	: 1.185 - 1.27	
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	
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	: Acids Metals

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:  
Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Sulfur 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 damage.  
Skin : Causes severe skin burns. May cause allergic skin reaction.  
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 : 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.

##### Experience with human exposure

###### Product AS SOLD

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

###### Product AT USE DILUTION

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

##### Toxicity

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

#### 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	: Contains an ingredient that can cause asthmatic-like reactions in sulfite-sensitive individuals.
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

### 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	: Sodium silicate 96 h LC50 Oncorhynchus mykiss (rainbow trout): 260 mg/l
------------------	--

##### Components

Toxicity to daphnia and other aquatic invertebrates	: Sodium silicate 48 h EC50 Daphnia magna (Water flea): 1,700 mg/l
---	---

##### Components

Toxicity to algae	: Sodium silicate 72 h EC50 Desmodesmus subspicatus (green algae): 207 mg/l
-------------------	--

#### Persistence and degradability

##### Product AS SOLD

Biodegradable

##### Product AT USE DILUTION

Readily biodegradable.



## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

#### 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.

RCRA - Resource Conservation and Recovery Authorization Act Hazardous waste : D002 (Corrosive)

#### Product AT USE DILUTION

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.

### 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 : 3266  
Description of the goods : Corrosive liquid, basic, inorganic, n.o.s. (sodium metasilicate)  
Class : 8  
Packing group : III  
Environmentally hazardous : no

#### Sea transport (IMDG/IMO)

UN number : 3266  
Description of the goods : CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (sodium metasilicate)

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

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	40444

##### 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  
Respiratory or skin sensitization

**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
Sodium silicate	1344-09-8	Cleaning Agent	Not Applicable
2-Propenoic acid, telomer with sodium hydrogen sulfite	66019-18-9	Cleaning Agent	Not Applicable
dihydro-3-(octenyl)furan-2,5-dione	26680-54-6	Cleaning Agent	Not Applicable
potassium hydroxide	1310-58-3	Cleaning Agent	Not Applicable
Acrylate polymer	Withheld	Cleaning Agent	Not Applicable
Substituted carboxylic acid salt	Withheld	Cleaning Agent	Not Applicable
Nonionic surfactant	Withheld	Cleaning Agent	Not Applicable
Carboxylate	Withheld	Cleaning Agent	Not Applicable
Polymer	Withheld	Cleaning Agent	Not Applicable

\*refer to [ecolab.com/sds](http://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 components are listed or exempted.

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

This product contains one or several components that are not on the Canadian DSL nor NDSL.

## SAFETY DATA SHEET

### DISHMACHINE DETERGENT METAL SAFE

**Australia Inventory of Chemical Substances (AICS) :**  
not determined

**New Zealand. Inventory of Chemical Substances :**  
On the inventory, or in compliance with the inventory

**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

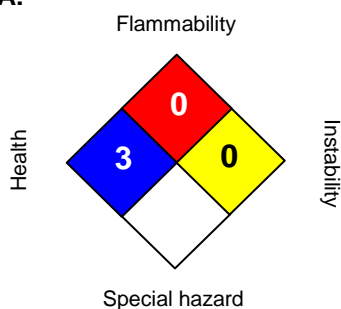
**China. Inventory of Existing Chemical Substances in China (IECSC) :**  
On the inventory, or in compliance with the inventory

**Taiwan Chemical Substance Inventory (TCSI) :**  
not determined

### SECTION 16. OTHER INFORMATION

#### Product AS SOLD

##### NFPA:



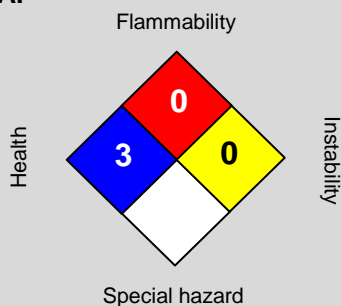
##### HMIS III:

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	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

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

Issuing date : 12/05/2019  
Version : 2.1  
Prepared by : Regulatory Affairs

## **SAFETY DATA SHEET**

### **DISHMACHINE DETERGENT METAL SAFE**

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.