

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	TRISTAR CHLORLITE	
Other means of identification	:	Not applicable.	
Recommended use	:	Bleach	
Restrictions on use	:	Reserved for industrial and professional use.	
Product dilution information	:	0.05 % - 0.14 %	
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	:	10/05/2016	
Section: 2. HAZARDS IDEN	TIFI	CATION	
GHS Classification			
Product AS SOLD Skin corrosion Serious eye damage	:	Category 1A Category 1	
Product AT USE DILUTION Skin corrosion Serious eye damage	:	Category 1A Category 1	
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: Store locked up. Disposal: Dispose of conte	ents/ container to an appro	oved waste disposal plant.
Product AT USE DILUTION Hazard pictograms			
Signal Word	: Danger		
Hazard Statements	: Causes severe s	kin burns and eye damag	je.
Precautionary Statements	protective clothin Response: IF SWALLOWED (or hair): Take of with water.IF INH comfortable for b CENTER/doctor, minutes. Remov rinsing. Immedia Wash contamina Storage: Store locked up. Disposal:	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: Store locked up.	
Product AS SOLD Other hazards	: Mixing this produ	uct with acid or ammonia i	releases chlorine gas.
Section: 3. COMPOSITION/INI	FORMATION ON IN	IGREDIENTS	
Product AS SOLD Pure substance/mixture	: Mixture		
Chemical Name sodium hypochlorite		CAS-No. 7681-52-9	Concentration: (%) 10 - 30
Product AT USE DILUTION			

No hazardous ingredients

Section: 4.	FIRST AID MEASU	RES

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.
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. FIREFIGHTING MEASURES

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Risk of explosion.	:	Not available.
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.
Special protective equipment for firefighters	:	Use personal protective equipment.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Specific hazards during firefighting	:	Not flammable or combustible.
Unsuitable extinguishing media	:	None known.
Product AS SOLD Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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). 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). 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. Mixing this product with acid or ammonia releases chlorine gas.
Conditions for safe storage	:	Do not store near acids. Keep out of reach of children. Store in suitable labeled containers.
Storage temperature	:	-15 °C to 40 °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/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling.
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
chlorine	7782-50-5	TWA	0.5 ppm 1.5 mg/m3	CAD AB OEL
		STEL	1 ppm 2.9 mg/m3	CAD AB OEL
		TWA	0.5 ppm	CAD BC OEL
		STEL	1 ppm	CAD BC OEL
		STEV	1 ppm 2.9 mg/m3	OEL (QUE)
		VME	0.5 ppm 1.5 mg/m3	OEL (QUE)
chlorine	7782-50-5	TWA	0.5 ppm	ACGIH
		STEL	1 ppm	ACGIH
		Ceiling	0.5 ppm 1.45 mg/m3	NIOSH REL
		С	1 ppm 3 mg/m3	OSHA Z1

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.	
Personal protective equipment	nt		
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 equipme	nt		
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.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

	Product AS SOLD	Product AT USE DILUTION
Appearance	: liquid	liquid
Colour	: light yellow	colourless
Odour	: Chlorine	Chlorine
рН	: 12.5, 100 %	9.5 - 11.5
Flash point	: Not applicable.	
Odour 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)	: 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	: 1.154	
Water solubility	: no data available	
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	:	Mixing this product with acid or ammonia releases chlorine gas.

Conditions to avoid	None known.	
Incompatible materials	Acids Metals	
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	:	Inhalation, Eye contact, Skin contact
exposure		

Potential Health Effects

Product AS SOLD 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	: 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, Corrosion		
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	
Product AS SOLD Product	
Acute oral toxicity	: LD50 rat: > 5,000 mg/kg Test substance: Product
Acute inhalation toxicity	: 4 h LC50 rat: > 5 mg/l Test substance: Product
Acute dermal toxicity	: no data available
Skin corrosion/irritation	: no data available
Serious eye damage/eye irritation	: Corrosive Test substance: Product
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	: sodium hypochlorite LD50 rabbit: > 10,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD Ecotoxicity		
Environmental Effects	:	Very toxic to aquatic life.
Product		
Toxicity to fish	:	96 h LC50 Oncorhynchus mykiss (rainbow trout): 2.1 mg/l
		96 h LC50 Inland Silverside: 7.6 mg/l
Toxicity to daphnia and other aquatic invertebrates	:	48 h LC50 Daphnia dubia (water flea): 0.57 mg/l
		48 h LC50 Americamysis bahia: 18.1 mg/l
Toxicity to algae	:	no data available
Persistence and degradability	/	
Product AS SOLD Not applicable - inorganic		
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

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	:	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.

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 Description of the goods Class Packing group Environmentally hazardous	: 1791 : HYPOCHLORITE S : 8 : III : No	OLUTION
Sea transport (IMDG/IMO) UN number Description of the goods Class Packing group Marine pollutant	1791 HYPOCHLORITE S 8 III Yes	OLUTION

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.

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 : 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

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

On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI) :

On the inventory, or in compliance with the inventory

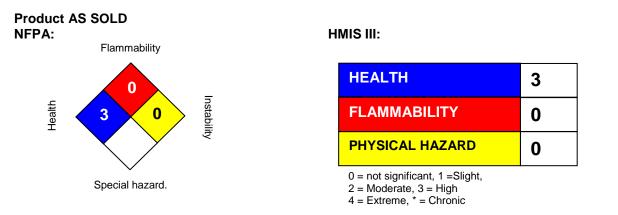
Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

On the inventory, or in compliance with the inventory

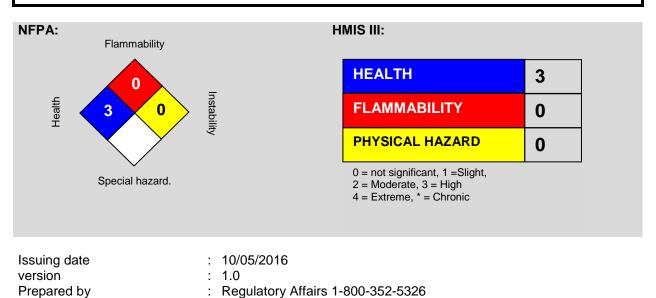
China Inventory of Existing Chemical Substances :

On the inventory, or in compliance with the inventory

Section: 16. OTHER INFORMATION



Product AT USE DILUTION



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.