




HORTI-KLOR

SECTION 1: IDENTIFICATION	
Product Trade Name:	HORTI-KLOR
Product Code:	HORTI-KLOR
Recommended Use:	Heavy-duty, chlorinated greenhouse cleaner
Restrictions on Use:	For Food Plant and Other Industrial Use Only For Use in Non-potable Water Only
Supplier Name:	Pace Solutions Corporation
Supplier Address:	1597 Derwent Way, Delta, B.C. Canada V3M 6K8
Supplier Phone Number:	604-520-6211 800-799-6211 (toll free)
Email Address of Competent Person Responsible for the SDS:	info@pacesolutions.com
Emergency Phone Number/ 24-Hour Number:	For Transportation Emergencies: Canutec 613-996-6666 Emergency Response Services: Chemtrec 800-424-9300

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SECTION 2: HAZARD IDENTIFICATION	
Physical Hazards:	CORROSIVE TO METAL – Category 1
Health Hazards:	SKIN CORROSION/IRRITATION – Category 1
	EYE DAMAGE/IRRITATION – Category 1
	ACUTE TOXICITY – ORAL – Category 5
	HAZARDOUS TO THE AQUATIC ENVIRONMENT – SHORT-TERM (ACUTE) HAZARD – Category 3
	HAZARDOUS TO THE AQUATIC ENVIRONMENT – LONG-TERM (CHRONIC) HAZARD – Category 3
Symbol:	
Signal word:	DANGER
Hazard Statement:	H290 May be corrosive to metals.
	H314 Causes severe skin burns and eye damage.
	H303 May be harmful if swallowed.

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 Prepared By: Regulatory Department

SECTION 2: HAZARD IDENTIFICATION	
	H412 Harmful to aquatic life with long lasting effects.
PRECAUTIONARY STATEMENTS	
Prevention:	P234 Keep only in original packaging.
	P260 Do not breathe fume/ gas/ mist/ vapours/ spray.
	P264 Wash hands and any affected area thoroughly after handling.
	P280 Wear protective gloves/ eye protection/ face protection.
	P273 Avoid release to the environment.
Responses:	P390 Absorb spillage to prevent material-damage.
	P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P302 + P361 + P354 IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.
	P363 Wash contaminated clothing before reuse.
	P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P301 + P302 + P304 + P316 IF SWALLOWED, ON SKIN OR INHALED: Get emergency medical help immediately.
	P321 Specific treatment (see supplemental first aid information on this label).
	P305 + P354 + P338 + P317 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
Storage:	P405 Store locked up.
	P406 Store in a corrosion resistant container with a resistant inner liner.
Disposal:	P501 Dispose of contents/ container to an approved waste disposal plant.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS		
Ingredient	Approx. Wt.%	CAS Number
Sodium Hydroxide	7-13	1310-73-2
Benzenesulfonic acid, mono-C10-16-alkyl derivatives., Sodium Salts	7-13	68081-81-2
Sodium Chlorite	1-5	7758-19-2
Tetrasodium Ethylene Diamine Tetraacetate	1-5	64-02-8

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SECTION 4: FIRST-AID MEASURES	
General Information:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
Inhalation:	Immediately remove the affected victim to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Rinse skin. If irritation persists, obtain medical attention.
Eye Contact:	Immediately flush with warm running water for at least 15 minutes, holding eyelids open during flushing. Remove contact lenses, if present and easy to do. If irritation persists, repeat flushing and obtain medical attention immediately.
Ingestion:	Do not induce vomiting. If the victim is fully conscious, give plenty of clean water to drink to dilute product. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness, or is convulsing. Call a Physician.
Self-Protection of the First Aider:	Remove all sources of ignition. Ensure that first aid personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
Most Important Symptoms/ Effects, Acute and Delayed:	<p>Ingestion: Burning pain and severe digestive track damage.</p> <p>Inhalation: Low toxicity. Excessive exposure may cause severe irritation to the upper respiratory tract.</p> <p>Eyes and skin: Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Temporary loss of hair.</p>
If irritation occurs or persists, get medical attention.	

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SECTION 5: FIRE-FIGHTING MEASURES	
Suitable Extinguishing Media:	Water fog, alcohol foam, or dry chemical.
Unsuitable Extinguishing Media:	None known.
Flammability:	Not flammable. Not combustible. When in contact with water, may generate sufficient heat to ignite combustible materials.
Flash Point:	Not flammable. Not combustible.
Special Firefighting Procedures:	Directing a solid stream of water into a hot burning liquid can cause frothing and spread the fire. Wear NIOSH/MSHA approved, self-contained breathing apparatus for firefighting situation. Use water spray to cool all nearby fire exposed surfaces.
Unusual Fire/ Explosion Hazards:	Hydrogen gas may be produced on prolonged contact with metals such as aluminum, tin, lead and zinc.

SECTION 5: FIRE-FIGHTING MEASURES

Hazardous Decomposition Products:	Chlorine, chlorine dioxide, oxides of carbon, sodium, nitrogen, sulphur.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

Environmental Protection Precautions:	Do not release to the environment or water source.
Steps to be Taken in Case Material is Released or Spilled:	Wear protective equipment. Absorb into inert mineral absorbent ("floor dry"). Wash Down floor. Flush area with water if appropriate and neutralize with diluted weak acid solution such as citric acid solution. Keep material away from sewers. Reuse if possible, otherwise dispose recovered material in accordance with all local, Provincial or Federal regulations.

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SECTION 7: HANDLING AND STORAGE

Precautions to be Taken in Handling and Storage:	Use good industrial hygiene. Do not get in eyes, on skin or on clothing. Avoid breathing vapour/ mist. Store in a cool, dry place away from incompatibles. Keep container closed when not in use. Keep out of reach of children. Store at temperatures below 30°C and above 5°C. Do not store in metal containers. Adding this product to water will result in exothermic reaction, where heat will be released. Add this product to water slowly with mixing, do not add water to this product.
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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS:

OSHA (PEL): Not available	ACGIH TLV: Not available	Other exposure limit: Not available
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Sodium Hydroxide

CAS No.:	1310-73-2				
Regulation:	NIOSH		OSHA	ACGIH	OHSR
Type of Listing:	REL-C	IDLH	PEL-TWA	TLV-STEL C	TLV-STEL C
Value:	2 mg/m ³	10 mg/m ³	2 mg/m ³	2 mg/m ³	2 mg/m ³

INDIVIDUAL PROTECTION MEASURES / PERSONAL PROTECTIVE EQUIPMENT

Appropriate Engineering Controls:	Good general ventilation.
Skin Protection:	Hand Protection: Non-permeable gloves (rubber, nitrile) recommended.

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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION	
	Other Skin Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved.
Eye and Face Protection:	Safety glasses or chemical goggles. Face shield if splashing hazard exists.
Respiratory Protection:	Respirator should be selected based on the task being performed and the risks involved. In case of insufficient ventilation, wear suitable respiratory equipment (filter type P2).
Other Protective Equipment:	Eye wash, safety shower and full protective clothing recommended in the immediate work area.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance:	Clear, pale yellow liquid.
Odour:	Mild, indistinct.
Odour threshold:	Not available.
pH:	> 13.0
Melting point/Freezing point:	Not available.
Initial boiling point and boiling range:	100 °C approximate.
Flash Point:	>100°C
Evaporation Rate (Water=1):	<1
Flammability:	Not flammable.
Upper/Lower flammability or explosive limits:	Not available.
Vapour pressure:	Not available.
Vapour density:	Not available.
Relative density/Specific gravity (Water = 1):	1.12 @ 20°C
Solubility(ies):	Soluble in water
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition temperature:	Not flammable
Decomposition temperature:	Not available.
Viscosity:	Thin like water.
VOCs%:	Not available.

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SECTION 10: STABILITY AND REACTIVITY	
Reactivity:	Not available.
Chemical stability:	Stable under normal storage conditions.
Possibility of hazardous reactions:	Explosive and toxic chlorine dioxide gas will be generated on contact with acids or chlorine.
Conditions to avoid:	Temperatures above 30°C and below 5°C. Avoid contact with incompatible materials.
Incompatibility:	Acid, ammonium salts. Flammable hydrogen gas may be produced on prolonged contact with aluminum, tin, lead, and zinc.
Hazardous Decomposition Products:	Chlorine, chlorine dioxide, oxides of carbon, sodium, nitrogen, sulphur.

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SECTION 11: TOXICOLOGICAL INFORMATION	
Likely routes of exposure:	Skin contact, skin absorption, eye contact, inhalation, ingestion.
Symptoms:	SKIN CONTACT: Redness, blisters.
	EYE CONTACT: Serious irritation, tearing, vision impairment.
	INHALATION: Mist may be irritant to respiratory track.
	INGESTION: May cause irritation and nausea.
Acute Toxicity Estimates:	LD₅₀ Oral ATE > 3000 mg/kg 0% of the mixture consists of ingredient(s) of unknown acute oral toxicity.
	LD₅₀ Dermal ATE > 2000 mg/kg 0% of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
	LD₅₀ Inhalation ATE: Not available >50% of the mixture consists of ingredient(s) of unknown acute oral toxicity.
Skin Sensitization:	Data available on components indicates no potential skin sensitization.
Germinal Cell Mutagenicity:	Data available on components indicates no potential germinal cell mutagenicity.
Reproductive Toxicity:	Data available on components indicates no potential reproductive toxicity.
Carcinogenicity:	Data available on components indicates no potential carcinogenicity.
Aspiration Hazard:	Data available on components indicates no potential aspiration hazard.
STOT-SE:	Data available on components indicates no potential STOT-SE hazard.

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SECTION 11: TOXICOLOGICAL INFORMATION

STOT-RE:	Data available on components indicates no potential STOT-RE hazard.
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SECTION 12: ECOLOGICAL INFORMATION

Toxicity to Fresh Water Algae:	Not available.
Toxicity to Fish Species:	Sodium Hydroxide (CAS# 1310-73-2): LC ₅₀ (Oncorhynchus mykiss) 45.4 mg/L, Exposure Time, 96 h, Test Type: Static
Toxicity to Aquatic Invertebrates:	Not available.
Persistence and degradability:	Sodium Hydroxide (CAS# 1310-73-2): Persistent.
Bioaccumulation:	Sodium Hydroxide (CAS# 1310-73-2): Not bioaccumulative.
Inherently Toxic to the Environment:	Sodium Hydroxide (CAS# 1310-73-2): No.

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SECTION 13: DISPOSAL CONSIDERATIONS

Recommended Waste Disposal Methods:	Reuse if possible. Otherwise dispose recovered material in accordance with all local, Provincial or Federal regulations.
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SECTION 14: TRANSPORT INFORMATION

Canadian TDG UN Number:	1824
UN Proper Shipping Name:	SODIUM HYDROXIDE SOLUTION
Transport Hazard Class(es):	8
Packing Group:	II
Environmental Hazards:	Not considered as marine pollutant.
Special Precautions for User:	Not available.
Additional Information:	Limited Quantity Index: 1 Litre

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SECTION 15: REGULATORY INFORMATION

	Inventory	DSL/ NDSL	NPRI	TSCA
Ingredients				
Sodium Hydroxide (CAS# 1310-73-2)		Listed on the DSL	Not listed	Listed, Active

SECTION 15: REGULATORY INFORMATION			
Benzenesulfonic acid, mono-C10-16-alkyl derivatives., Sodium Salts (CAS# 68584-22-5)	Listed on the DSL	Not listed	Listed, Active
Sodium Chlorite (CAS# 7758-19-2)	Listed on the DSL	Not listed	Listed, Active
Tetrasodium Ethylene Diamine Tetraacetate (CAS# 64-02-8)	Listed on the DSL	Not listed	Listed, Active

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SECTION 16: OTHER INFORMATION	
ACRONYM LIST	
ACGIH	American Conference of Governmental Industrial Hygienists
ATE	Acute Toxicity Estimate
C	Ceiling Limit – The maximum exposure limit
CAS	Chemical Abstracts Service
CFR	Code of Federal Regulations
DSL/NDSL	Domestic Substances List/ Non-domestic Substance List
EC₅₀	Half maximal effective concentration
IARC	International Agency for Research on Cancer
IDLH	Immediately Dangerous to Life or Health
iT_E	Inherently Toxic to the Environment
LC₅₀	Lethal concentration, 50%
LD₅₀	Lethal dose, 50%
MSHA	Mine Safety and Health Administration
N/A	Not Applicable
NIOSH	The National Institute for Occupational Safety and Health
N.O.S.	Not Otherwise Specified
NPRI	National Pollutant Release Inventory
NTP	National Toxicology Program
OHSR	Occupational Health & Safety Regulation
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limit
PNOC	Particulates not otherwise classified
PMCC	Pensky-Martens Closed Cup

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SECTION 16: OTHER INFORMATION	
P_{ow}	Partition Coefficient Octanol: Water
REL	Recommended Exposure Limit
SDS	Safety Data Sheets
STEL	Short-Term Exposure Limit
STOT – SE	Specific Target Organ Toxicity – Single Exposure
STOT – RE	Specific Target Organ Toxicity – Repeated Exposure
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act Chemical Substance
TWA	Time-Weighted Average
UN	United Nations
VOCs	Volatile Organic Compounds
WEL	Workplace Exposure Limit
WEEL	Workplace Environmental Exposure Limit
WHMIS	Workplace Hazardous Materials Information System

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It is the responsibility of the user to provide a safe workplace, using the health and safety information contained herein as a guide. PACE Solutions Corporation will accept no liability for damages or loss incurred from the improper handling and use of this product.

The information provided in the Safety Data Sheet has been obtained from current sources and is believed to be reliable.