Pace International LLC
5661 Branch Road
Wapato, WA 98951
800.936.6750
www.paceint.com

Pac-Chlor 12.5%

POSTHARVEST

SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: Pac-Chlor 12.5% **EPA Reg. # 64864-55**
Product Code: 10104
Product Use: For postharvest sanitization of organisms causing decay of fruits and vegetables.
Restrictions: None known.
Manufacturer: Pace International, LLC
Address: 5661 Branch Road, Wapato, WA 98951
Phone Number: 800-936-6750 (Monday-Friday, 7:00 a.m. – 4:00 p.m.)
Medical Emergency Phone Number: 888-271-4649 (PROPHARMA/PROSAR)
Transportation Emergency Phone Number: 800-424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910 (2012 OSHA Hazard Communication Standard)
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification:
Physical, corrosive to metals, Category 1
Skin corrosion / irritation, Category 1
Eye damage / irritation, Category 1
Specific Target Organ Toxicity - single exposure, Category 3 (respiratory tract irritation)

Hazard Symbols:

Signal Word:
DANGER

Hazard Statements:
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory tract irritation.

Precautionary Statements:

Prevention Statements:
P234 Keep only in original packaging.
P260 Do not breathe mist, vapors, or spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective clothing, chemical resistant gloves, and safety glasses and face protection.
P271 Use only outdoors in a well-ventilated area.

Response Statements:
P301/330/331 IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303/361/353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P304/340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor for medical advice.
P321 Specific treatments see Section 4 First Aid Measures.
P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor for medical advice.
P390 Absorb spillage to prevent material damage.

Storage Statements:
P403/233 Store in a well-ventilated place. Keep container tightly closed.
P406 Store in corrosive resistant container with a resistant inner liner.
P405 Store locked up.

Disposal Statements:
P501 Dispose of contents/container should be made in accordance with applicable regional, national and local laws and regulations.

Other Hazards: None
Hazard(s) not otherwise classified (HNOC): None known.
Supplemental information: None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS #	Concentration (w/w %)
Sodium Hypochlorite	7681-52-9	7 - 13 %*
Sodium Hydroxide	1310-73-2	0.1 - 1%*
Proprietary ingredients		Balance

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

*Composition comments The concentration ranges are provided due to batch-to-batch variability.

4. FIRST AID MEASURES

General Advice: Have the product container, label or Safety Data Sheet with you when calling a poison control center or physician or going for treatment. You may also contact PROPHARMA (PROSAR) 1-888-271-4649 for emergency medical treatment information.

If on Skin (or hair): Take off immediately all contaminated clothing. Wash skin with soap and water, shower. Wash contaminated clothing before reuse.

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Immediately call a POISON CENTER or doctor for medical advice/attention.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth, if possible. Immediately call a POISON CENTER/doctor for treatment advice.

Most important Symptoms / effects, acute and Delayed: Probable mucosal damage may contraindicate the use of gastric lavage. Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

Indication of any immediate medical attention and special treatment needed: Treat patient symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Treat for surrounding material.

Unsuitable Extinguishing Media: Do not use water jet as an extinguisher, as this will spread the fire.

Special Hazards Arising from the Chemical: Gases hazardous to health may be formed during fire.

Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire

Fire-fighting equipment/instructions: Move containers from fire area if you can do so without risk.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: May decompose, generating irritating chlorine gas.

Hazardous combustion products: May include and are not limited to: Oxides of sodium. Hydrogen chloride. Chlorine gas. Oxygen.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, (see section 8 of the SDS).

Methods and materials for containment and cleaning up:	Stop leak if you can do so without risk. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental Precautions:	In case of spill isolate area and deny entry to unnecessary personnel. Do not allow product to enter sewers, lakes, streams or other bodies of water.

7. HANDLING & STORAGE

Precautions for Safe Handling:	DANGER -- CORROSIVE Use only with adequate ventilation. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment (see Section 8 of the SDS). Wash thoroughly after handling. Keep container tightly closed. Use good industrial hygiene practices in handling this material. Eating, drinking and smoking in work areas is prohibited. Container Handling: Refillable container. Refill this container with sodium hypochlorite solution only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.
Conditions for Safe Storage, including any Incompatibilities:	Store locked up. Store in corrosive resistant container with a resistant inner liner. Keep in original vented container. Do not freeze. Store in a cool, ventilated - dry area at room temperature, and away from direct sunlight. Keep container tightly closed when not in use. Keep out of reach of children and livestock. Store in locked location away from incompatible material (see section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium Hydroxide (CAS# 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium Hydroxide (CAS# 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium Hydroxide (CAS# 1310-73-2)	Ceiling	2 mg/m3

USA American Industrial Hygiene Association (AIHA) / Workplace Environmental Exposure Level (WEEL)

Components	Type	Value
Sodium Hypochlorite (CAS# 7681-52-9)	STEL	2 mg/m3

Biological limit values:	No biological exposure limits noted for the ingredient(s).
Appropriate engineering Controls:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles). Eye fountain and washing facilities should be available.
Skin protection	
Hand protection	Wear impervious gloves. Confirm with reputable supplier first.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. As required by employer code. Rinse immediately if skin is contaminated. Remove contaminated clothing and promptly wash before reuse.

Respiratory protection	Avoid breathing vapor or mist. When airborne exposure limits are exceeded, use a NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and chemical goggles. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134). For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus.
Thermal hazards	Not applicable.
General hygiene considerations	Use good industrial hygiene practices in handling this material. When using do not eat, drink, or smoke. Wash thoroughly after handling. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical state:	Liquid	**Upper/Lower flammability limits:**	Not available
Appearance:	Pale straw-colored liquid	**Vapor pressure:**	12.1 mmHg (20°C)
Odor:	Chlorine odor	**Vapor density: (air =1)**	2.61
Odor threshold:	0.9 mg/m_3	**Specific Gravity: (H_2O = 1)**	1.2 @ 20°C (68°F)
pH:	11.0 – 12.0	**Solubility:**	soluble in water
Melting point:		**Partition coefficient**	Not available
Freezing point:	-9.94°F (-23.3°C)	**(n-octanol-water):**	
Pour Point:	Not available	**Auto-ignition temperature:**	Not available
Initial boiling point and boiling range:	Decomposes @ 110°C (230°F)	**Decomposition temperature:**	110°C (230°F)
Flash point:	Not flammable	**Viscosity:**	1.75 – 2.5 centipoises (varies with temperature)
Evaporation rate:	Not available	**Explosive properties:**	Not explosive
Flammability (solid, gas):	Not applicable	**Oxidizing properties:**	Not available

10. STABILITY & REACTIVITY

Reactivity hazards:	This product may react with strong oxidizing agents and other incompatible materials.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Chemical stability:	Material is stable under normal conditions.
Conditions to avoid:	Contact with incompatible materials. Do not mix with other chemicals. High heat, sunlight, ultra-violet light.
Incompatible materials:	Strong acids. Strong oxidizing agents. Metals. Nitrogen compounds. Iron. Copper. Nickel. organic materials.
Hazardous decomposition products:	May include and are not limited to: Oxides of sodium. Hydrogen chloride. Chlorine gas. Oxygen. Decomposition rate increases as it is heated.

11. TOXICOLOGICAL INFORMATION

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Information on likely routes of exposure	
Ingestion	Causes digestive tract burns. May cause stomach distress, nausea or vomiting.
Inhalation	Prolonged inhalation may be harmful. May cause irritation to the respiratory system.
Skin corrosion / irritation:	Causes severe skin burns.
Eye damage / irritation:	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	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.

Information on toxicological effects

Acute toxicity: Causes burns. May cause respiratory irritation.

Components	**Species**	**Test Results**
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Rabbit	325 mg/kg, ECHA

Components	**Species**	**Test Results**
Sodium Hypochlorite (CAS 7681-52-9)		
Acute		
Dermal		
LD50	Rabbit	>20000 mg/kg, ECHA >10000 mg/kg, ECHA
Inhalation		
LC50	Rat	>10.5 mg/L, 1 Hours, ECHA
Oral		
LD50	Mouse	5800 mg/kg, ECHA
	Rat	8910 mg/kg, ECHA 1100 mg/kg, ECHA 5.2%, ECHA

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye Irritation: Causes serious eye damage.

Respiratory sensitization: Not a respiratory sensitizer.

Skin sensitization: This product is not expected to cause skin sensitization.

Germ cell mutagenicity: Non-hazardous by WHMIS/OSHA criteria.

Carcinogenicity: Non-hazardous by WHMIS/OSHA criteria.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium hypochlorite (CAS 7681-52-9) Volume 52 - 3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity: Occasional workplace exposure is not expected to present a hazard.

Teratogenicity: Non-hazardous by WHMIS/OSHA criteria.

Specific target organ toxicity - single exposure: Respiratory tract irritation.

Specific target organ toxicity - repeated exposure: Not classified.

Aspiration hazard: Material does not present an aspiration hazard.

Chronic effects: Prolonged inhalation may be harmful.

12. ECOLOGICAL INFORMATION

Ecotoxicity

This product is toxic to fish.
Toxic to aquatic organisms.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge.
Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

Ecotoxicological data

Components	**Species**	**Test Results**
Sodium hydroxide (CAS 1310-73-2)		

Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/L, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/L, 96 hours
Sodium Hypochlorite (CAS 7681-52-9)			
Crustacea	EC50	Daphnia	2.1 mg/L, 48 Hours
Aquatic			
Fish	LC50	Chinook salmon (Oncorhynchus tshawytscha)	0.038 - 0.065 mg/L, 96 hours

Persistence/ degradability: No data is available on the degradability of this product.

Bioaccumulative potential

Mobility in soil: Not available

Mobility in general: Not available

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. Review federal, provincial, and local government requirements prior to disposal. Pesticide Disposal: Product or rinsate that cannot be used should be diluted with water and disposed of in a sanitary sewer.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]

Waste from residues / unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Transport of Dangerous Goods (TDG) Proof of Classification: Classification method: Classified according to Part 2, sections 2.1-2.8 of the Regulations for the transport of dangerous goods. If applicable, the technical name and product classification will appear below.

U.S. Department of Transportation (DOT)

UN number: UN 1791

Proper shipping name: Hypochlorite Solutions

Hazard class(es): 8

Packing group: III

Marine Pollutant: Not applicable

Special provisions: 386, IB3, N34, T4, TP2, TP24

Packaging exceptions: 154

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
EPA Reg. No. 64864-55
EPA Est. No. 64864-WA-1
PRECAUTIONARY STATEMENTS:

HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER
Corrosive.
May cause severe irritation or chemical burns to broken skin. Causes eye damage. Wear goggles or face shield and rubber gloves when handling this product. Wash thoroughly after handling. Remove and wash contaminated clothing promptly. Avoid breathing vapors and mist. Use with adequate ventilation. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated.

PHYSICAL AND CHEMICAL HAZARDS Strong oxidizing agent. Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc) or organic matter (e.g. urine, feces, etc) will release chlorine gas which is irritating to eyes, lungs and mucous membranes.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium Hydroxide (CAS 1310-73-2)	Listed.
Sodium Hypochlorite (CAS 7681-52-9)	Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed

Superfund Amendments and Reauthorization Act of 1986 (SARA)	Hazard Categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes
SARA 302 Extremely hazardous substance		No
SARA 311/312 Hazardous chemical		No
SARA 313 (TRI reporting)		Not regulated.

OTHER FEDERAL REGULATIONS

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)

Hazardous substance.

US STATE REGULATIONS

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

US - California Hazardous Substances (Director's): Listed substance

Sodium Hydroxide (CAS 1310-73-2)	Listed.
Sodium Hypochlorite (CAS 7681-52-9)	Listed.

US - Illinois Chemical Safety Act: Listed substance

Sodium Hydroxide (CAS 1310-73-2)

Sodium Hypochlorite (CAS 7681-52-9)

US - Louisiana Spill Reporting: Listed substance

Sodium Hydroxide (CAS 1310-73-2)	Listed.
Sodium Hypochlorite (CAS 7681-52-9)	Listed.

US - Minnesota Haz Subs: Listed substance

Sodium Hydroxide (CAS 1310-73-2)	Listed.
Sodium Hypochlorite (CAS 7681-52-9)	Listed.

US - New Jersey RTK - Substances: Listed substance

Sodium Hydroxide (CAS 1310-73-2)

Sodium Hypochlorite (CAS 7681-52-9)

US - Texas Effects Screening Levels: Listed substance

Sodium Hydroxide (CAS 1310-73-2)	Listed.
Sodium Hypochlorite (CAS 7681-52-9)	Listed.

US. Massachusetts RTK - Substance List

Sodium Hydroxide (CAS 1310-73-2)

Sodium Hypochlorite (CAS 7681-52-9)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium Hydroxide (CAS 1310-73-2)

Sodium Hypochlorite (CAS 7681-52-9)

US. Rhode Island RTK

Sodium Hydroxide (CAS 1310-73-2)

US. California Proposition 65

Not listed.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION

HMIS Ratings: Health – 3 | Flammability – 0 | Reactivity – 0

NFPA Ratings:

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Pace International, LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Pace International, LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Pace International, LLC) to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.

SDS preparation date: June 25, 2019 **Replaces MSDS dated:** February 7, 2019

Changes since last revision: Several updates through out SDS all sections.