Section 1: IDENTIFICATION

Product Identifier:	Sodium Hypochlorite 12-16% Hypochlor-12, PCP Hypochlor 12, NSF® - 60 Hypochlor 15, NSF® - 60 Hypochlor 16, NSF® - 60 Sodium Hypochlorite 12%, NSF® - 60 Sodium Hypochlorite 12.5% With 1% Alkalinity Sodium Hypochlorite 15%, NSF® - 60 Sodium Hypochlorite 16%, NSF® - 60
Other Means of Identification:	Sodium Hypochlorite, bleach, Chlorox, Hypochlorous acid, sodium salt, Javel water, liquid bleach CAS: 7681-52-9
Product Use and Restrictions on Use:	Bleaching agent, source of available chlorine, deodorizer. This product is NSF certified for use in drinking water, see section 15 and the NSF website for further information.
Supplier:	Bri-Chem Supply Ltd. 27075 Acheson Road Acheson, AB T7X 6B1
Phone Number:	780-962-9490
24 Hour Emergency:	1-306-664-2522

Section 2: HAZARD(S) IDENTIFICATION

Physical Hazards	
Corrosive to Metals:	Category 1
Health Hazards	
Skin Corrosion/Irritation:	Category 1B
Serious Eye Damage/Eye Irritation:	Category 1
Signal Word:	Danger
Hazard Statements	
	H290 May be corrosive to metals
	H314 Causes severe skin burns and eye damage
Pictograms:	

Precautionary Statements

Prevention:

P234:	Keep only in original packaging
P260:	Do not breathe vapours, fumes, or mists.
P264:	Wash affected body parts thoroughly after handling
P273:	Avoid release to the environment
P280:	Wear protective gloves, protective clothing, eye protection, face protection.

Response:

P303 P330 P331:	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 P361 P353 P363:	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.
P304 P340 P310:	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
P305 P351 P338:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P390:	Absorb spillage to prevent material damage

Storage

P405:	Store locked up

Disposal

P501:	Dispose of contents / container in accordance with all federal, provincial and / or local regulations including the Canadian Environmental Protection Act.
Hazards Not Otherwise Classified:	Contact with acids liberates toxic gas
Supplemental Information:	Not available

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients:

Chemical Name	Common Name(s)	CAS Number	Concentration (w/w%)
Hypochlorous acid, sodium salt	Sodium Hypochlorite	7681-52-9	10-16%

Section 4: FIRST-AID MEASURES

Description of Necessary First-Aid Measures

Inhalation:	Remove source of exposure or move person to fresh air and keep comfortable for breathing. Call a POISON CENTER or

	doctor. If breathing has stopped, trained personnel should begin rescue breathing or if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth to mouth contact by using a barrier device. May release toxic chlorine gas.
Ingestion:	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. If vomiting occurs naturally, lie on your side, in the recovery position.
Skin Contact:	Avoid direct contact. Wear chemical protective clothing, if necessary. Take off immediately contaminated clothing, shoes and leather goods. Rinse skin with lukewarm, gently flowing water / shower for 30 minutes. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before re-use, or discard.
Eye Contact:	Avoid direct contact. Wear chemical protective gloves, if necessary. Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor.

Most Important Symptoms and Effects, both Acute and Delayed

Inhalation:	Causes severe burns to the mouth and throat (mist). May release toxic and irritating chlorine gas.
Ingestion:	Causes burns to the mouth and throat
Skin Contact:	Causes severe skin burns
Eye Contact:	Causes serious eye damage
Further Information:	For further information see Section 11 Toxicological Information

Section 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Extinguish fire using extinguishing agents suitable for the surrounding fire
Unsuitable Extinguishing Media:	Do NOT use dry chemical fire extinguishing agents containing ammonium compounds (such as some A:B:C agents), since an explosive compound can be formed. Water jets are not recommended in fires involving chemicals.
Specific Hazards Arising from the Chemical:	Explosive decomposition may occur under fire conditions and closed containers may rupture violently due to a rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time.

Special Protective Equipment for Firefighters:	Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions/Protective Equipment/Emergency Procedures:	Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area. Do not breathe vapours, fumes, or mists. Do not use material handling equipment with exposed metal surfaces. Sodium hypochlorite solutions release chlorine when in contact with acids or oxidizable materials, such as organic material or most metals. Chlorine is a respiratory irritant, so respiratory protection is advised.
Environmental Precautions:	Do NOT let this chemical enter the environment. Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.
Methods and Materials for Containment and Cleaning Up:	SMALL SPILLS: Stop or reduce leak if safe to do so. Clean up spill with non-reactive absorbent and place in suitable, covered, labeled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product. Use vented containers to avoid pressure buildup. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling:	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Prevent the release of vapours, fumes, or mists into the workplace air. Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Have suitable emergency equipment for fires, spills and leaks readily available. Never return contaminated material to its original container.
Conditions for Safe Storage:	Store in a cool, dry, well-ventilated area, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Empty containers may contain hazardous residues. Protect label and keep it visible. Do not transfer to metal containers. Sodium hypochlorite solutions may slowly give off oxygen during storage. Vent caps are required to prevent a build-up of pressure that could cause containers to burst.

Incompatibilities: Acids, such as sulphuric, nitric, hydrochloric, phosphoric, flurosilicic (HFSA), sulphonic, acetic, citric, oxalic, and formic. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids and permanganates. Reducing agents, such as hydrogen, sodium borohydride, sulphur dioxide, thiosulphates, hydrazine, phosphites, carbon, and oxalic, formic and ascorbic acid. Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids

Metals, such as aluminum, steel, and brass.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Component	Regulation	Type of Listing	Value
Sodium Hypochlorite	NIOSH	REL	2 mg/m³
	OSHA	PEL	2 mg/m³
Chlorine	ACGIH	TWA	0.1 ppm

Engineering Controls

Ventilation Requirements: Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems

Other: An emergency shower and eyewash station should be available, tested, and be in close proximity to the product being handled in accordance with provincial regulations.

Protective Equipment

The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.

Eye and Face Protection: Where there is potential eye or face exposure, tightly fitting safety goggles and a face shield or a full face respirator or similar protective equipment which protects the wearer's face and eyes are recommended. Contact lenses are not recommended; they may contribute to severe eye injury.

Hand and Body Protection: Disposable latex or nitrile gloves are recommended to prevent incidental contact. Butyl rubber, neoprene, or PVC skin protection is recommended for extended contact. Leather gloves are not recommended for chemical protection. Refer to manufacturer’s specifications for breakthrough times and permeability information; note that breakthrough times and permeability vary with temperature, application and age of material. Continued use of

	contaminated safety gear or clothing is not recommended; wash before reuse or discard.
Respiratory Protection:	In case of insufficient ventilation wear suitable respiratory equipment.
NIOSH Respirator Recommendations for: Chlorine	**Up to: 5 ppm** (APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against Chlorine (APF = 10) Any supplied-air respirator **Up to: 10 ppm** (APF = 25) Any supplied-air respirator operated in a continuous-flow mode (APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against Chlorine (APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against Chlorine (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Chlorine (APF = 50) Any self-contained breathing apparatus with a full facepiece. (APF = 50) Any supplied-air respirator with a full facepiece **Emergency or planned entry into unknown concentrations or IDLH conditions:** (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode (APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary selfcontained positive-pressure breathing apparatus **Escape:** (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Chlorine Any appropriate escape-type, self-contained breathing apparatus
Thermal Hazards:	Not available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State:	Liquid
Colour	Clear, greenish-yellowish solution
Odour	Strong chlorine odour
Odour Threshold	Not available
Property	
pH:	10.8-11.2
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	Not available
Evaporation Rate:	Not available
Flammability:	Not applicable
Upper Flammable Limit:	Not available
Lower Flammable Limit:	Not available
Vapour Pressure:	Negligible
Vapour Density:	Not available
Relative Density:	Not applicable
Solubility:	Completely Soluble in Water
Partition Coefficient N-Octanol/Water:	Log POW = ~ -3.42
Auto-Ignition Temperature:	Not available
Decomposition Temperature:	Sodium hypochlorite's decomposition rate is an exponential function of temperature. Each increase of 10 °C will increase the degradation rate by a factor of 2 to 4 (there is disagreement in the literature).
Viscosity:	Not available
Specific Gravity:	1.1-1.2 g/mL
Particle Characteristics:	Not Applicable
Formula:	NaOCl
Molecular Weight:	74.44g/mol

Section 10: STABILITY AND REACTIVITY

Reactivity:	May be corrosive to metals. Reacts violently with acids.

Stability:	Sodium hypochlorite solutions are unstable and will decompose over time. Sodium hypochlorite's decomposition rate is an exponential function of temperature. Each increase of 10 °C will increase the degradation rate by a factor of 2 to 4 (there is disagreement in the literature). Exposure to ultraviolet light (sunlight) will accelerate the degradation of sodium hypochlorite.
Possibility of Hazardous Reactions:	Hazardous polymerization is not known to occur. Reacts with acids to form hypochlorous acid, a powerful oxidizing agent, which degrades into toxic chlorine gas.
Conditions to Avoid:	Do not heat. Do not freeze.
Incompatible Materials:	Acids, such as sulphuric, nitric, hydrochloric, phosphoric, flurosilicic (HFSA), sulphonic, acetic, citric, oxalic, and formic. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids and permanganates. Reducing agents, such as hydrogen, sodium borohydride, sulphur dioxide, thiosulphates, hydrazine, phosphites, carbon, and oxalic, formic and ascorbic acid. Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids. Metals, such as aluminum, steel, and brass.
Hazardous Decomposition Products:	Chlorine, sodium chlorate.

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity (LD50 LC50 values)

Component	Route	Species	Value	Exposure Time
Sodium Hypochlorite	Oral	Rat	>5000 mg/kg bw	
Chlorine	Inhalation	Mouse	137 ppm	1 hour

Toxic Health Effect Summary

Chemical Characteristics:	Toxicity caused primarily by high pH and oxidative potential. Hypochlorites may react with organic molecules to form organochlorides which have unknown toxicology.
Skin:	Very dilute solutions have caused negligible irritation, while more concentrated solutions have caused acute corrosive injury to skin. Prolonged exposure may lead to permanent scarring of skin.
Ingestion:	Acute exposure may lead to burning of the mouth and throat, abdominal cramps, nausea, vomiting, diarrhea, shock. May lead to convulsions, coma, and even death

Inhalation: Causes severe burns to the mouth and throat (mist). May release toxic and irritating chlorine gas. Chlorine, one of the primary decomposition products of sodium hypochlorite, is an irritant of the nose and throat, causing coughing, difficulty breathing, and pulmonary edema.

Eye Contact: Causes irritation, redness, and pain. May cause burns and possible damage to vision.

Sensitization: This product and its components at their listed concentration have no known sensitizing effects.

Mutagenicity: This product and its components at their listed concentration have no known mutagenic effects.

Carcinogenicity: IARC has classified hypochlorite salts as group 3, not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity: This product and its components at their listed concentration have no known reproductive effects.

Specific Organ Toxicity: This product and its components at their listed concentration have no known effects on specific organs.

Aspiration Hazard: Prolonged or repeated overexposure may cause lung damage.

Synergistic Materials: Not available

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Component	Type	Species	Value	Exposure Time
Sodium Hypochlorite 12%	LC50	Marine fish	0.27 mg/L	96 hours
	EC50	Marine invertabrates	0.22 mg/L	48 hours
	EC50	Freshwater algea	0.42 mg/L	72 hours

Biodegradability: The domestic substance list categorizes sodium hypochlorite as non-persistent

Bioaccumulation: The domestic substance list categorizes sodium hypochlorite as non-bioaccumulative

Mobility: This product is water soluble, is not predicted to adsorb to soil and may contaminate ground water.

Other Adverse Effects: The domestic substance list categorizes sodium hypochlorite as inherently toxic to aquatic organisms

Section 13: DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products:	Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act
Contaminated Packaging:	Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

Section 14: TRANSPORT INFORMATION

UN Number:	UN 1791
UN Proper Shipping Name and Description:	HYPOCHLORITE SOLUTION with more than 7% available chlorine.
Transport Hazard Class(es):	8
Packing Group:	III
Excepted Quantities:	5 L
Environmental Hazards:	Listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions:	No special precautions
Transport in Bulk:	ERAP index: not required

MARPOL 73/78 and IBC Code:

Product Name:	Sodium Hypochlorite solution (15% or less)
Pollution Category:	Y
Hazards:	The product is included in the code because of both it's safety and pollution hazards.
Ship Type:	Ship type 2
Tank Type:	Integral gravity tank
Tank Vents:	Controlled venting
Tank Environment Control:	No special requirements under this Code
Temperature Classes:	No requirements.
Electrical Equipment:	Apparatus group: No requirements Flash point: Non-Flammable Product
Gauging:	Restricted gauging
Vapour Detection:	No Special requirements under this Code
Fire Protection:	No Special requirements under this Code
Emergency Equipment:	No Special requirements under this Code
Specific and Operational Requirements:	15.19.6

Additional Information: Secure containers (full or empty) during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 16 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

Section 15: REGULATORY INFORMATION

NOTE: THE PRODUCT LISTED ON THIS SAFETY DATA SHEET HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN HAZARDOUS PRODUCTS REGULATIONS. THIS SAFETY DATA SHEET CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

All components of this product appear on the domestic substance list.
NSF Certification: Hypochlor 12 is certified under NSF / ANSI Standard 60 for disinfection & oxidation at a maximum dosage of: 103 mg/L. NSF product use restrictions based on requirements obtained from the NSF website; consult NSF website for current requirements.

Section 16: OTHER INFORMATION

Note: The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.

References:

1) NIOSH Pocket Guide to Chemical Hazards; U.S. Department of Health and Human Services,

https://www.cdc.gov/niosh/npg/default.html

2) WorkSafe BC E-Limit; Workers' Compensation Foard of British Columbia, https://elimit.online.worksafebc.com/

3) ECHA - Registered Substance Dossier; European Chemicals Agency, https://echa.europa.eu/registration-dossier/-/registered-dossier/15516

4) Transportation of Dangerous Goods Regulations; Transport Canada, https://laws-lois.justice.gc.ca/eng/regulations/SOR-2001-286/index.html

5) Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Seventh revised edition

6) International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) 2007

Edition

7) The ACS Style Guide

Disclaimer:
The information contained herein is based on data available to us and is believed to be true and accurate. However, no guarantee or warranty is provided, expressed or implied, by the company or its subsidiaries regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained from the use thereof. Since the use of this product is within the exclusive control of the user, we do not assume any responsibility and expressly disclaim any liability for any use of this product. It is the user's responsibility to determine the conditions of safe use, storage, and disposal of the product. Compliance with all applicable federal, provincial, and local regulations remains the responsibility of the user.

Prepared by:	**Bri-Chem Supply Ltd.**
Revision Date:	May 27, 2024