Advance Chemicals Ltd.

Safety Data Sheet

Section 01 Identification

Product Identifier	Advance Bleach 6%
Other Means of Identification	Sodium hypochlorite; Bleach; Hypochlorous acid, sodium salt; liquid bleach.
Product Use and Restrictions on Use	Sanitizer, Bleaching agent, source of available chlorine, deodorizer.
Initial Supplier Identifier	ClearTech Industries Inc 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7 Phone: 800.387.7503 Fax: 888.281.8109 www.cleartech.ca
Prepared By	ClearTech Industries Inc. technical writer
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Section 02 Hazard Identification

Physical Hazards

Corrosive to metals	Category 1

Health Hazards

Skin corrosion / irritation	Category 2
Serious eye damage / eye irritation	Category 1

Signal Word

Danger

Hazard Statements

H290 May be corrosive to metals.

H315 Causes skin irritation.

H318 Causes serious eye damage.

Pictograms



Precautionary Statements

Prevention

P234 Keep only in original packaging.

P264 Wash affected body parts thoroughly after handling.

P280 Wear protective gloves, eye protection, face protection

Response

P303 P352 P332 P313 P362 P364 IF ON SKIN (or hair): Wash with plenty of water. If skin irritation occurs: Get medical advice / attention. Take off contaminated clothing and wash it before reuse.

P305 P351 P338 P310 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.

P390 Absorb spillage to prevent material damage.

Hazards Not Otherwise Classified

Contact with acids liberates toxic gas.

Supplemental Information

Not available

Section 03 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	5.0-6.0%

Section 04 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 you feel unwell. May release toxic chlorine gas.

Ingestion Rinse mouth. Get medical advice / attention if you feel unwell or are concerned.

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 15 to 20 minutes. Get medical advice / attention. Wash contaminated clothing before re-use, or discard.

Eye contact 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 May cause respiratory irritation.

Ingestion May cause discomfort or nausea.

Skin contact Causes skin irritation.

Eye contact Causes serious eye damage.

Further information For further information see Section 11 Toxicological Information.

Section 05 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 fire-fighters	Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing.

Section 06 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 use material handling equipment with exposed metal surfaces.
Environmental Precautions	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 07 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. 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.
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. Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids Metals, such as aluminum, steel, and brass.

Section 08 Exposure Controls and Personal Protection

Exposure limits

Component	Regulation	Type of listing	Value
Chlorine	ACGIH	TWA	0.5 ppm
		STEL / Ceiling	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	A soak hose and eyewash station or 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 self-contained 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 09 Physical and Chemical Properties

Appearance

Physical state	Liquid
Colour	Clear, greenish-yellow solution
Odour	Strong chlorine odour
Odour threshold	Not available

Property

pH	10.8-11.2
Melting point / freezing point	~ -6 °C
Initial boiling point and boiling range	Not available
Flash point	Does not flash
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	Does not ignite
Decomposition temperature	Sodium hypochlorite's decomposition rate is an exponential function of temperature. Each increase of 10 °C will increase the degredation rate by a factor of 2 to 4 (there is disagreement in the literature).
Viscosity	Not available
Specific gravity	1.03-1.10 g/mL
Particle characteristics	Not applicable
Formula	NaOCl
Molecular weight	74.44 g/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 degredation rate by a factor of 2 to 4 (there is disagreement in the literature). Exposure to ultraviolet light (sunlight) will accelerate the degredation 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	Avoid contact with incompatible materials. 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. 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	8,910 mg/kg bw	
	Oral	Mouse	5,800 mg/kg bw	
Chlorine	Inhalation (gas)	Mouse	137 ppm	1 hour

Toxic Health Effect Summary

Chemical characteristics	This product is not bioavailable. This product is highly reactive and is not expected to persist in the body.
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	May cause respiratory irritation. 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	Negative results (0/20 guinea pigs sensitized) have been obtained for 8% sodium hypochlorite solution in a skin sensitization test. Insufficient details are available to evaluate a report of a positive result (positive reactions in 2/10 animals) obtained using 6% sodium hypochlorite (pH 11.2) with the guinea pig ear swelling test for non-immunological contact urticaria.
Mutagenicity	This product and its components at their listed concentration have no known mutagenic effects.
Carcinogenicity	IARC has classified sodium hypochlorite 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	EC50	Red algea	46 mg/L	96 hours
	LC50	Salmo gairdneri	0.07 mg/L	48 hours
	LC50	Daphnia magna	0.032 mg/L	48 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 Not available

UN proper shipping name and description Not available

Transport hazard class(es) Not available

Packing group Not available

Excepted quantities Not available

Environmental hazards Listed as a marine pollutant under Canadian TDG Regulations, schedule III.

Special precautions No special provisions

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 its safety and pollution hazards.
Ship type: ship type 2
Tank type: integral gravity tank
Tank vents: controlled venting
Tank environmental control: no special requirements under this Code
Electrical equipment: Temperature classes — no requirements
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: Advance Bleach 6% is certified under NSF / ANSI Standard 60 for Disinfection & Oxidation at a maximum dosage of: 206 mg/L. NSF product use restrictions based on requirements obtained from the NSF website; consult NSF website for current requirements.

Section 16 Other Information

Date of latest revision: August 25, 2021

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.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) TOXNET
3) eChemPortal
4) ECHA
5) Transportation of Dangerous Goods Canada
6) HSDB
7) PAN