Advance Chemicals Ltd.

Safety Data Sheet

Section 01 - Product And Company Identification

Product Identifier	Advance 12A
UN/ID No	UN 1791
Synonyms	12% Chlorine Bleach, Sodium Hypochlorite Solutions, Javel Water, Liquid Swimming Pool
Formula	NaOCl
Molecular Weight	74.44
Product Use	Disinfectant, sanitizer, odour control, water purification, textile bleaching, commercial laundry applications.
Supplier Name	Advance Chemicals Ltd A Division of ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Department Phone: 1(800)387-7503
24-Hour Emergency Phone	1(800)387-7503

Section 02 - Hazard Identification

GHS-Classification

Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 1
Health Hazards not elsewhere classified (corrosive)	Category 1

Signal Word
Danger

Hazard Statements
Causes severe skin burns and eye damage
Causes serious eye damage

Pictograms

Precautionary Statements
Immediately call a POISON CENTER or doctor/physician.
Do not breathe dusts or mists
Wash hands and exposed areas thoroughly after handling
Wear protective gloves and eye/face protection
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store locked up
Dispose of contents/container in accordance to Federal, Provincial, Municipal or other applicable regulations
For specific treatment refer to Section 4 of SDS

Section 03 - Composition / Information on Ingredients

Component	CAS Number	Weight %	Remarks
Sodium Hypochlorite	7681-52-9	10-12%	

Section 04 - First Aid Measures

Inhalation	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
Skin Contact / Absorption	As quickly as possible, flush with lukewarm, gently flowing water for at least 20 minutes, or until the chemical is removed. If irritation persists, repeat flushing. Under running water, remove contaminated clothing, shoes and leather goods. Completely decontaminate clothing, shoes and leather goods before reuse, or discard. Obtain medical advice immediately.
Eye Contact	Check for and remove any contact lenses. Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 240 to 300 mL (8 to 10 oz) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Rinse mouth and repeat administration of water. Quickly transport victim to an emergency care facility.
Additional Information	Provide general supportive measures (comfort, warmth, rest). Consult a doctor and/or the nearest Poison Control Centre for all exposures except minor instances of inhalation or skin contact.

Section 05 - Fire Fighting Measures

Flammable Properties	Non-Flammable
Flash Point	Not Applicable
Auto-ignition Temperature	Not Applicable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Explosive Properties	Pressure buildup in containers could result in an explosion when heated or in contact with acidic fumes. Vigorous reaction with oxidizable organic materials may result in a fire.
Suitable Extinguishing Media	Product does not burn. Use appropriate extinguishing media for material that is supplying the fuel to the fire.
Specific Hazards During Fire Fighting	Chlorine, hydrogen chloride gas, oxygen gas and disodium oxide.
Special Protective Equipment for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Further Information	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.

Section 06 - Accidental Release Measures

Personal Precautions	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Flush with water to remove any residue.
Environmental Precautions	Prevent material from entering sewers or confined spaces.
Methods For Cleaning Up	Contain spill with earth, sand or absorbent material which does not react with spilled material. SMALL SPILLS should be wiped up with absorbent material and disposed of in government approved waste containers. Paper towels may become extremely hot when saturated with this product and cause a secondary fire hazard. Rinse out absorbent materials used in small spill recovery with plenty of water. LARGER SPILLS should be contained by diking with sand, soil or other absorbent, non-combustible material, then transferred into approved waste containers for proper disposal. Keep product out of sewers, storm drains, surface run-off water and soil. Harmful to aquatic life at low concentrations. Can be dangerous if allowed to enter potable water intakes. Wear appropriate respiratory protection and restrict access to non-protected personnel. Comply with all government regulations on spill reporting, and handling and disposal of waste. The contained bleach spill can be effectively neutralized as follows; 1. Wear respiratory protection and protective clothing, gloves, glasses, etc. 2. Very slowly and cautiously, apply a dilute aqueous solution of Sodium Sulphite, or Sodium meta-Bisulphite to the spill. Mix well. This neutralizes the available chlorine content while reducing the pH to about pH 4. Check with a pH meter or test strip paper. Chlorine gas is a dangerous by-product of this reaction procedure. 3. Increase the pH of the contained spill to about pH 7 by slowly adding a dilute aqueous solution of Soda Ash or Sodium Bicarbonate. Check pH frequently. 4. The bleach spill should be neutral, with a pH of 7. Check with the appropriate local, provincial or federal agencies for proper and correct disposal methods for this product. If available, use a field test kit to check for levels of residual chlorine in the treated waste water.

Section 07 - Handling and Storage

Handling Procedures	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. Avoid generating mists. Prevent the release of mists into the workplace air. Never add water to a corrosive. Always add corrosives to water. When mixing with water, stir small amounts in slowly. Use cold water to prevent excessive heat generation. Never return contaminated material to its original container.
Storage Requirements	Store in a cool, dry, well-ventilated area, out of direct sunlight and away from heat sources. Strong solutions (greater than 10% available chlorine) may slowly give off chlorine during storage, especially when warm (above 18°C). Vent caps may be required to prevent a build-up of pressure that could cause containers to burst.
Incompatible Materials	Primary amines, aromatic amines, ammonium salts, ammonia, urea, phenylacetonitrile, acids, metals, reducing agents, ethyleneimine, methanol, formic acid, furfuraldehyde, ethanediol, sodium ethylenediaminetetracetate solution and sodiumhydroxide solution.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Sodium hypochlorite	AIHA	WEEL-STEL	2mg/m^3 (15 min)
Chlorine	ACGIH	TLV-TWA	0.5ppm

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must 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	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	A NIOSH-approved respirator suitable for chlorine is recommended. Where a higher level of protection is required, use a 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	< 12
Melting Point/Freezing Point	~ -15°C (12% trade)
Initial Boiling Point and Boiling Range	Decomposes
Evaporation Rate	Not Available
Vapour Pressure (mm Hg, 20°C)	12.1 mmHg at 20°C (12.5 wt. %)
Vapour Density (Air=1)	Not Available
Relative Density	Not Available
Solubility(ies)	Completely soluble in water.
Partition Coefficient: n-octanol/water	Log P_{OW} = -3.42 (estimated)
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Slowly decomposes above 40°C
Viscosity	Not Available
Specific Gravity (Water=1)	1.16-1.17
% Volatiles by Volume	Not Available

Section 10 - Stability and Reactivity

Reactivity	Sodium hypochlorite solutions decompose slowly at normal temperatures releasing low concentrations of corrosive chlorine gas. Decomposition is influenced by temperature, concentration, pH, ionic strength, exposure to light and the presence of metals, such as copper, nickel or cobalt, metal oxides, e.g. rust and other impurities, such as acids and amines. Hypochlorites react with urea to form nitrogen trichloride which explodes spontaneously in air.
Stability	Unstable at temperatures above 40°C, in sunlight, and in contact with acid.
Incompatible Materials	Primary amines, aromatic amines, ammonium salts, ammonia, urea, phenylacetonitrile, acids, metals, reducing agents, ethyleneimine, methanol, formic acid, furfuraldehyde, ethanediol, sodium ethylenediaminetetracetate solution and sodiumhydroxide solution.
Conditions to Avoid	Heat, sunlight, acidic conditions, the presence of metals and other impurities.
Hazardous Decomposition Products	Chlorine (by reaction with acids), oxygen (by reaction with nickel, copper, tin, manganese, iron), sodium chloride, sodium chlorate, with increased temperature.
Possibility of Hazardous Reactions	Hazardous polymerization will not occur. Reacts exothermically with acids. Reacts with ammonia, amines and ammonia salts to produce chloramines. Decomposes on heating to produce chlorine gas.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	LC_{50}
Undiluted Sodium Hypochlorite	8910mg/kg (rat) 5800mg/kg (mouse	> 10,000mg/kg (rabbit)	5250mg/m^3 (rat, 4hr exposure)

Chronic Toxicity – Carcinogenicity

Component	IARC
Sodium Hypochlorite	Group 3: Not classifiable as to its carcinogenicity to humans.

Skin Corrosion/Irritation	Very dilute solutions have caused negligible irritation, while more concentrated solutions have caused corrosive injury.
Serious Eye Damage/Irritation	Very dilute solutions have caused no irritation. More concentrated solutions have caused corrosive injury, which did not heal within 21 days.
Respiratory or Skin Sensitization	Not known to be a respiratory or skin sensitizer.
Germ Cell Mutagenicity	The available information does not suggest that sodium hypochlorite is mutagenic.
Reproductive Toxicity	Not Available
STOT-Single Exposure	May cause respiratory irritation.
STOT-Repeated Exposure	Not Available
Aspiration Hazard	Prolonged or repeated overexposure causes lung damage.
Synergistic Materials	Not Available

Section 12 - Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Sodium Hypochlorite	EC_{50}(Dunaliella sp., 24hr): 0.4mg/L EC_{50}(Dunaliella tertiolecta, 24hr): 0.11mg/L	LC_{50}(Clupea harengus, 96hr): 0.033-0.097mg/L LC_{50}(Oncorhynchus gorbuscha, 96hr): 0.023-0.052mg/L	EC_{50}(Daphnia magna, 96hr): 2.1mg/L LC_{50}(Gammarus fasciatus, 96hr): 4mg/L

Biodegradability	Not Available
Bioaccumulation	Not Available
Mobility	Not Available

Section 13 - Disposal Considerations

Product, Wastes and Packaging	Dispose of product and containers in accordance with all federal, provincial and municipal regulations.

Section 14 - Transport Information

UN Number	UN 1791
UN Proper Shipping Name	Hypochlorite Solution more than 7% available Chlorine
Transport Hazard Class(es)	8
Packaging Group	III
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations Schedule 3, Column 4.
Special Precautions	
Transport in Bulk	
TDG	
Other	Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

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

Section 15 - Regulatory Information

NSF Certification.....Product is certified under NSF/ANSI Standard 60 for disinfection and oxidation at a maximum dosage for the following:

sodium hypochlorite 5%: 174mg/L
sodium hypochlorite 6%: 145mg/L
sodium hypochlorite 7%: 125mg/L
sodium hypochlorite 8%: 109mg/L
sodium hypochlorite 9%: 97mg/L
sodium hypochlorite 10%: 87mg/L
sodium hypochlorite 11%: 79mg/L
sodium hypochlorite 12%: 72mg/L
sodium hypochlorite 13%: 67mg/L
sodium hypochlorite 14%: 62mg/L
sodium hypochlorite 15%: 58mg/L
sodium hypochlorite 16%: 55mg/L
sodium hypochlorite 17%: 51mg/L
sodium hypochlorite 18%: 48mg/L
sodium hypochlorite 19%: 46mg/L
sodium hypochlorite 20%: 43mg/L

NOTE: Any product strength below 7% is not regulated by TDG.

Sanitizer Use: to obtain 10 liters of a 200 mg/L solution as available chlorine, use 16.7 mL of Hypochlor-12 for each 10 liters of clean, potable water.

Section 16 - Other Information

Preparation Date August 11, 2014

Note: The responsibility to provide a safe workplace remains with the user. The 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 user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / MSDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Material 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 at 1(800)387-7503.

The Product is certified Kosher

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
CAS	Chemical Abstract Service
DSL	Domestic Substance List
EC	Effective Concentration
IARC	International Agency for Research on Cancer
IDHL	International Digest of Health Legislation
LC	Lethal Concentration
LD	Lethal Dosage
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
NTP	National Toxicology Program (U.S.A.)
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
PPE	Personal Protection Equipment
STEL	Short-term Exposure Limit
STOT	Specific Target Organ Systemic Toxicity
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UN	United Nations
WEEL	Workplace Environmental Exposure Level
WHMIS	Workplace Hazardous Materials Information System

References

1) *CHEMINFO: Sodium hypochlorite solutions.* (2014). Retrieved from Canadian Centre for Occupational Health and Safety: http://ccinfoweb2.ccohs.ca/cheminfo/records/351E.html
2) *Safety Data Sheet.* (2013, January 22). Retrieved from Orica Chemicals: http://msds.orica.com/pdf/shess-en-cds-010-000034421401.pdf
3) U.S. National Library of Medicine. (2003). *Sodium hypochlorite*. Retrieved from TOXNET: http://toxnet.nlm.nih.gov/cgi-bin/sis/search/f?./temp/~1M5jou:1
4) http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/152374/37061036
5) http://www.csst.qc.ca/prevention/reptox/pages/fiche-complete.aspx?no_produit=41517&nom_produit=Hypochlorite%20de%20sodium%2012%

ClearTech Industries Inc. - Locations

Corporate Head Office: 1500 Quebec Avenue, Saskatoon, SK, S7K 1V7
Phone: 1(800)387-7503
Fax: 1 (888) 281-8109

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Location	Address	Postal Code	Phone Number
Port Coquitlam, B.C.	223 Kingsway Avenue	V3C 1S9	1(800)387-7503
Calgary, AB.	5516E - 40th St. S.E.	T2C 2A1	1(800)387-7503
Edmonton, AB.	12020 - 142nd Street	T5L 2G8	1(800)387-7503
Saskatoon, SK.	North Corman Industrial Park	S7K 1V7	1(800)387-7503
Regina, SK.	555 Henderson Drive	S42 5X2	1(800)387-7503
Winnipeg, MB.	340 Saulteaux Crescent	R3J 3T2	1(800)387-7503
Mississauga, ON.	7480 Bath Road	L4T 1L2	1(800)387-7503

24 Hour Emergency Number - All Locations – 1(800)387-7503

End of Safety Data Sheet