




G.K. Chemical Specialties Co. Inc.
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SAFETY DATA SHEET (SDS)

PRODUCT NAME: G-12 LIQUID GENERAL PURPOSE CHLORINE DISINFECTANT	
HEALTH HAZARD RATING:	(2)- MODERATE HAZARD NFPA Rating
FLAMMABILITY HAZARD RATING:	(0)- MINIMAL HAZARD
REACTIVITY HAZARD RATING:	(2)- MODERATE HAZARD
PERSONAL PROTECTION:	h - (Safety glasses, Gloves, Synthetic apron, Vapor respirator)
HAZARD ALERT SIGN:	

SECTION 1 – IDENTIFICATION	
PRODUCT IDENTIFIER	
PRODUCT NAME	G-12 LIQUID GENERAL PURPOSE CHLORINE DISINFECTANT
MANUFACTURER'S NAME AND ADDRESS EMERGENCY PHONE NO.	G.K. Chemical Specialties Co. Inc. 90 Barbados Blvd. Scarborough, Ontario M1J 1K9 (416) 261-7182 / 905 427-7605/ 416-526-4037 CHEMTREC(24 HR EMERGENCY) 1-800-424-9300 International CHEMTREC: 1-703-527-3887
SUPPLIER'S NAME AND ADDRESS EMERGENCY PHONE NO.	
CHEMICAL NAME	Sodium Hypochlorite solution (10.8%)
CHEMICAL FAMILY	NOT APPLICABLE
TRADE NAME AND SYNONYMS	CHLORINE BLEACH, JAVEX 12, CHLOROX 12
MATERIAL USE	COMMERCIAL, INSTITUTIONAL AND INDUSTRIAL CLEANING

G.K. Chemical Specialties Co. Inc. has compiled the information and recommendations contained in this Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the SDS was prepared. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation.

G.K. Chemical Specialties Co. Inc. extends no warranty and assumes no responsibility as to the accuracy of the content or sufficiency of the information and expressly disclaims all liability for reliance thereon. This SDS provides guidelines for the safe handling of this product. It does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

G.K. Chemical Specialties Co. Inc. assumes no responsibility for personal injury or property damage to vendors, users or third parties caused by the material. Such vendors or users assume all risks associated with the use of the material.

INGREDIENTS. This SDS, under section of Ingredients, contains all ingredients listed under INGREDIENT DISCLOSURE LIST P.C. 1987-2719, 20/1/88 CANADA GAZETTE PART II VOL. 122, No 2 of HAZARDOUS PRODUCT ACT.

Percentage range of concentration of ingredients is expressed as percentage by weight of the total weight of the product. Ingredient List does not necessarily list all ingredients in the formulation and does not necessarily list all ingredient range of concentration, other than ingredients under the Disclosure List.

T.L.V. (units) or Threshold Limit Values refer to the limiting concentrations recommended by the Ministry of Labour. These values were adopted by the American Conference of Governmental Industrial Hygienists (A.C.G.I.H.). The figures refer to time-weighted average concentrations as P.P.M. (V/V) or mg/m³ for a normal working day or at any time for some materials.

"C.A.S REG. No." means the identification number assigned to a chemical substance by the Chemical Abstracts Service Division of the American Chemical Society.

"LC 50" means the concentration of a substance in air that when administered by means of inhalation over a specified length of time in an animal assay, is expected to cause the death of 50 per cent of a defined animal population.

"LD 50" means the single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause death of 50 per cent of a defined animal population.

FLASH POINT. The minimum temperature at which a substance gives off flammable vapors which in contact with spark or flame will ignite.

NIOSH- National institute for occupational safety and health

STEL- Short term exposure limit

TWA- Time-weighted average

PEL- Permissible exposure limit

ACGIH- American conference of governmental industrial hygienist

OSHA- Occupational safety and health act

SECTION 2 – HAZARD IDENTIFICATION

Dangerous Goods: CLASS E (Corrosive)

GHS CLASSIFICATION

Serious Eye Damage / irritation–Category 1

Skin Corrosion/Irritation – Category 1

Corrosive to metals- Category 1

HAZARDOUS SUBSTANCE (HSNO) CLASSIFICATION

Corrosive liquid: CLASS E

GHS Label Elements, including precautionary statements: Hazard Statements:

Signal word- DANGER

HAZARD STATEMENTS

H314: Causes severe skin burns and eye damage

H318: Causes serious eye damage

H302: Harmful if swallowed

H335: May cause respiratory irritation

H373: May cause damage to organs through prolonged or repeated exposure

H290: May be corrosive to metals



PREVENTION

P260- Do not breathe fumes, mist, vapors or spray

P264: Wash skin thoroughly after handling

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection

P405: Store locked up

P233: Keep containers tightly closed

P202: Do not handle until all safety precautions have been read and understood

RESPONSE

P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes: Remove contact lenses if present and easy to do so. Continue rinsing.

P301 + P310: If swallowed: Immediately call a POISON CENTER or doctor/ physician.

P301 + P330 + P331” IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P304 +P340 + P310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water. Shower

POTENTIAL HEALTH EFFECTS

INHALATION: Can cause severe respiratory irritation. Large inhalation could result in pulmonary edema (fluid accumulation)

SKIN: Contact can cause skin irritation and/or chemical burns.

EYE: Contact can cause serious damage / chemical burns

INGESTION: May cause severe irritation and corrosive damage in the mouth, throat and stomach

	<p>OTHER HAZARDS: Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis, or obstructive lung disease may be aggravated by exposure to high concentrations of vapour or mist.</p> <p>Potential acute and chronic health effects: OVEREXPOSURE MAY CAUSE DAMAGE TO DISORDERS OF, OR ADVERSELY AFFECT THE FOLLOWING SYSTEMS, FUNCTIONS, ORGANS: Skin, eyes, respiratory system, destruction of body tissues.</p> <p>Product is corrosive to Aluminum, Galvanized, Brass and Tin. Avoid prolonged contact with these metals.</p> <p>Product is toxic to aquatic life</p> <p>Product reacts strongly with acids, acid based products such as bowl cleaners, rust removers as well with products containing Ammonia to produce hazardous, VERY POISONOUS and irritating gases, such as Chlorine and other chlorinated compounds.</p> <p>NEVER MIX THIS PRODUCT OR SIMILAR PRODUCTS WITH OTHER CHEMICALS.</p>
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SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS				
HAZARDOUS INGREDIENTS	APPROXIMATE CONCENTRATION %	C.A.S., N.A. OR U.N. NUMBERS	LD50 {SPECIFY SPECIES & ROUTE}	LC 50 {SPECIFY SPECIES}
Sodium Hypochlorite	10 - 12	7681-52-9	Oral (Rat): 8,200 mg/kg Dermal (Rabbit): 10000mg/kg	TWA/TLV ppm 0.5 (as chlorine)
Sodium Hydroxide	1 - 3	1310-73-2	Oral (Rat): 140-340 mg/kg Dermal (Rabbit): 1,350 mg/kg	TWA: 2 mg/m³
Water, inert	Balance	Non hazardous		

SECTION 4 – FIRST AID MEASURES	
SKIN CONTACT	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
EYE CONTACT	Immediately hold eyelids open and flush with water for at least 15 minutes. Seek medical attention.
INHALATION	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary
INGESTION	Harmful if swallowed. Do not induce vomiting. Drink 1 or 2 glasses of water. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.
NOTES TO PHYSICIAN	Product is corrosive material. Immediate medical attention is required. Causes respiratory irritation if inhaled. Symptoms may include: Coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. If <i>ingested may cause burns or irritation of the lining of the mouth, throat, and gastrointestinal tract.</i>

	<i>Symptoms may include abdominal pain, vomiting, burns, bleeding and eventually death. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.</i>
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SECTION 5 – FIRE-FIGHTING MEASURES	
FLASH POINT (°C)	Nil
FLASH POINT METHOD	Not applicable
AUTOIGNITION TEMPERATURE (°C)	Non-combustible
UPPER FLAMMABLE LIMIT (% VOL.)	Not applicable
LOWER FLAMMABLE LIMIT (% VOL.)	Not applicable
HAZARDOUS COMBUSTION PRODUCTS	Hydrogen gas, Hydrogen chloride, Chlorine, Oxygen, Sodium oxides
UNUSUAL FIRE/ EXPLOSION HAZARDS	Product does not burn, but can provide oxygen, which can intensify a fire. Toxic fumes may be released. Product is an oxidizer. It may react vigorously with organics or other materials resulting in an explosion and fire.
SENSITIVITY TO MECHANICAL IMPACT	No.
SENSITIVITY TO STATIC DISCHARGE	No
EXTINGUISHING MEDIA	Do not use dry chemical extinguishing agents that contain Ammonium compounds. Use chemical extinguishing agents with caution. Some chemical extinguishing agents may react with this material. Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide. Use water with caution. Contact with water will generate considerable heat.
SPECIAL FIRE FIGHTING PROCEDURES	Fire fighters should wear full protective clothing, including self-contained breathing equipment. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition will release Hydrogen gas, Hydrogen chloride, chlorine, oxygen and sodium oxides. Move product from fire area if can be done safely. Evacuate non-essential personnel. Fight fire with normal precaution from a reasonable distance. Do not allow run-off from fire-fighting to enter drains or water courses. Dike for water control.

SECTION 6 – ACCIDENTAL RELEASE MEASURES	
LEAK AND SPILL PROCEDURE	Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Stop leak. Move containers from spill area if can be done safely. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Be careful that vapors are not present at a concentration level above TLV. For large spills dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Recover free product. Recovered liquids may be reprocessed or incinerated, in a permitted facility in accordance with Federal and local regulations. Product may be neutralized with reducing agents such as Bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious quantities of water. Principal end product is salt water (NaCl).
ENVIRONMENTAL PRECAUTIONARY	Prevent entry into sewers or streams. Any release to the environment should be subject to federal or local reporting requirements. Contact local authorities in case of spillage to drains / Aquatic environment.

PERSONAL PRECAUTIONARY MEASURES	Wear protective clothing during cleanup. See section 8 for recommendations on the use of personal protective equipment. Avoid breathing vapors, mist or gas. Avoid contact with clothing and skin.
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SECTION 7 – HANDLING AND STORAGE	
HANDLING PROCETURES	Avoid contact with eyes and skin. Avoid ingestion. Do not breathe mist. Use good industrial hygiene practices in handling this product. Keep container closed when not in use. Use in a well-ventilated area. Do not mix with other chemicals.
STORAGE NEEDS	Keep container tightly closed. Store in a cool area above freezing point. Do not store in direct sunlight as product will decompose and produce Oxygen and other gases. This will slowly produce pressure-buildup in closed containers. Keep out of the reach of children. Keep in properly labeled containers. Store away from incompatible materials. (See section 10 of this SDS)

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION	
VENTILATION REQUIREMENTS	Good ventilation is recommended. When ACGIH TLV (Threshold Limit Value) is greater than 0.5 ppm as Chlorine (Cl ₂) provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective. TWA – STEL 1 ppm. For Sodium Hydroxide: NIOSH Ceiling: 2 mg/m ³ , ACGIH TLV Ceiling 2 mg/m ³ , OSHA PEL 2mg/m ³
PROTECTIVE EQUIPMENT	Ensure that eyewash stations are proximal to the work-station location. The selection of personal protective equipment will vary depending on the condition of use
EYE/TYPE	Splash goggles, safety glasses
RESPIRATORY/TYPE	Approved/ certified vapor respirator when airborne concentration exceed exposure limits.
GLOVE/TYPE	Nitrile, Vinyl, Butyl impervious gloves
FOOTWEAR/TYPE	Boots. Chemical resistant and as specified by the workplace
BODY/TYPE	Protective clothing is required. Use impervious clothing (apron, coveralls). The selection of personal protective equipment will vary depending on the conditions of use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE – PHYSICAL STATE	Thin, clear yellow to greenish liquid
ODOUR	Strong Chlorine-like
ODOUR THRESHOLD (PPM)	Not determined
PH	12.0 – 13.5 ± 0.5 concentrate
MELTING POINT (°C)	See freezing point
BOILING POINT (°C)	>100°C (212° F) INITIAL
FREEZING POINT (°C)	-3°C (26.6° F)
EVAPORATION RATE	>1.00 (n-Butyl Acetate)
FLAMMABILITY	Not combustible
FLASH POINT (°C)	Not applicable
AUTO IGNITION TEMPERATURE	Not applicable
DECOMPOSITION TEMPERATURE	Not available
VAPOUR DENSITY	2.5 (Chlorine gas) (air=1)
VAPOUR PRESSURE	@ 20°C 1.6 kPa

SOLUBILITY	Completely soluble in water
VISCOSITY	Thin liquid
% VOLATILE BY VOLUME	Not determined
SPECIFIC GRAVITY	1.19 ± 0.02 gm / cm ³ @ 20°C

SECTION 10 – STABILITY AND REACTIVITY	
REACTIVITY	Reacts with other chemicals such as acids, acid based products such as toilet bowl cleaners, rust removers, products containing ammonia to produce hazardous irritating gases, such as Chlorine and other Chlorinated compounds. Avoid contact with metals, reducing agents, and other oxidizing agents. Sodium Hypochlorite is very corrosive to brass, and moderately corrosive to bronze.
CHEMICAL STABILITY	Stable under proper conditions (storage temperature -5° C to 30° C). May decompose upon heating and exposure to sunlight.
POSSIBILITY OF HAZARDOUS REACTIONS	Arise in contact with incompatible materials.
CONDITIONS TO AVOID	Avoid incompatible materials, heat, and exposure to sunlight.
INCOMPATIBLE MATERIALS	Avoid contact with inorganic acids, organic acids, organic bases, hydrocarbons, organic mixtures. Avoid prolonged contact with metals such as Aluminum, Zinc, brass and Tin. Avoid contact with strong reducing agents such as hydrazine, sulfites, sulfides, nitrites. Product is an oxidizer. It may react vigorously with organics or other materials resulting in an explosion and fire.
HAZARDOUS DECOMPOSITION PRODUCTS	Hydrogen Chloride, Chlorine, oxygen, oxides of sodium

SECTION 11 –TOXICOLOGICAL INFORMATION	
TOXICITY EFFECTS ON ANIMALS	For Sodium Hypochlorite (7681-52-9): Acute Oral Toxicity LD50 (Rat): 8,200 mg/kg. Acute Dermal Toxicity LD50 (Rabbit): >10,000 mg/kg For Sodium Hydroxide (1310-73-2): Acute oral toxicity (LD50): 140-340mg/kg (Rat), LD50 dermal (Rabbit) 1,350 mg/kg,
TOXIC EFFECTS ON HUMANS	Inhalation: May cause irritation to the respiratory tract, leading to sore throat, coughing, shortness of breath and delayed lung edema. Ingestion: May cause circulatory system failure. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and tissue destruction of the esophagus and digestive tract. Skin contact: Contact with this corrosive liquid may cause burns and ulceration Eye contact: Causes severe burns
CHRONIC EFFECTS ON HUMANS	Contact with skin may defat tissue causing dermatitis or skin problems.
CARCINOGENICITY	No evidence
TERATOGENICITY	Not expected to be a teratogen
MUTAGENICITY	No evidence
REPRODUCTIVE EFFECTS	No evidence

SECTION 12 – ECOLOGICAL INFORMATION	
ECOTOXICITY DATA	<p>Figures for Sodium Hypochlorite (7681-52-9): Is Toxic to aquatic life. The ecotoxicity data is expected to be primarily associated with high PH. Acute Toxicity to fish, LC50, Bluegill (<i>Lepomis macrochirus</i>): 0.58 mg /L /96 h. Acute Toxicity to aquatic invertebrates, EC50, <i>Daphnia magna</i> (Water flea): 0.169 mg /L /48 h. This product is inorganic and not subject to biodegrading, No accumulation in living organisms is expected due to high solubility and dissociation properties.</p> <p>Figures for Sodium Hydroxide (1310-73-2) Toxicity to fish: LC50- <i>Gambusia affinis</i> (Mosquito fish) 125 mg/L/96h, LC50 <i>Oncorhynchus mykiss</i> (rainbow trout) 45.4 mg/L/96h Toxicity to daphnia and other aquatic invertebrates: EC50-<i>Daphnia</i>-40 mg/L/48h.</p> <p>Because of the high PH of this product, it would be expected to exhibit high toxicity to aquatic organisms.</p>
BIODEGRADABILITY	Does not bioaccumulate. This product will disassociate into ionic form in the aquatic environment. Natural acidity in water and soil and Carbon dioxide will neutralize this product.
PRODUCTS OF DEGRADATION	Not available

SECTION 13 – DISPOSAL CONSIDERATIONS	
WASTE DISPOSAL	Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations. This product is hazardous to the aquatic environment. Keep out of waterways.
INFORMATION ON SAFE HANDLING FOR DISPOSAL INCLUDING ANY CONTAMINATED PACKAGING	Suitable waste facility.

SECTION 14 – TRANSPORT INFORMATION	
UN NUMBER	1791
UN PROPER SHIPPING NAME	Hypochlorite solution, more than 7% available chlorine
TRANSPORT HAZARD CLASS	CLASS: 8 (CORROSIVE), (For containers < or = to 5 L- Limited quantity exception per TDG Regulations Part 1,17 (2) applies)
PACKAGING GROUP	III
ENVIRONMENTAL HAZARDS	YES
TRANSPORT IN BULK, if applicable	NOT AVAILABLE
SPECIAL PRECAUTIONS	Guide to Canadian Transportation/ Emergency Response Guidebook (ERG): # 154

SECTION 15 – REGULATORY INFORMATION	
SAFETY HEALTH & ENVIRONMENTAL REGULATIONS SPECIFIC TO THE PRODUCT	<p>U.S. TSCA inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) INVENTORY List or exempt.</p> <p>Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL) or exempt.</p>

SECTION 16 – OTHER INFORMATION	
PREPARED BY:	Gus Kaklamanos - Chemist
TELEPHONE NO.:	416-261-7182
DATE OF THE LATEST REVISION OF SDS:	October 2, 2017

NOTE: In case of medical emergency ensure that medical personnel are aware of the material involved. Show this SDS to the doctor in attendance.

NOTE: Potable water **must not** contain > 105 mg / L of Sodium Hypochlorite 10 % or > 84 mg / L of Sodium Hypochlorite 12.5 %.

NOTE: This controlled product by Health Canada is to be used in accordance with the directions on the label.

Drug Identification No: 02285231