LAVO
11900 Boul. Saint-Jean Baptiste
Montréal, QC, H!C 2J3
CANADA
1-800-361-6898

PRODUCT: ULTRAQUA Chlorinating Liquid, NSF mul 97 mg/L **CODE: LVUQF07-0165**

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:..... ULTRAQUA Chlorinating Liquid, NSF mul 97 mg/L
PRODUCT CODE(S)..... LVUQ F07-0165
RECOMMENDED USE:..... Swimming pool, Shock & regular treatment. Chlorinating liquid for controlling bacteria and algae in swimming pool waters. Alkaline Hypochlorite Solution is used as an oxidizing and bleaching agent. .
MANUFACTURING NAME AND ADDRESS LAVO
11900 Boul. Saint-Jean-Baptiste
Montréal, QC, H1C 2J3
CANADA
1-800-361-6898
24 HOUR EMERGENCY NUMBER:..... CANUTEC 24-Hour Number: 613-996-6666.

SECTION 02: HAZARD IDENTIFICATION

SIGNAL WORD..... DANGER.
GHS CLASSIFICATION:..... Serious Eye Damage/ Eye Irritation Category 1. Skin corrosion Category 1. Specific Target Organ Toxicity Single Category 3. Respiratory tract irritation Category 1.
HAZARD STATEMENTS..... H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H411 Toxic to aquatic life with long lasting effects.
PRECAUTIONARY STATEMENTS..... P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 Immediately call a POISON CENTER or doctor/physician. P305+P351+P338: IN CAS OF CONTACT WITH EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501: Dispose of contents/container to an approved waste disposal plant.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Sodium Hypochlorite	7681-52-9	7.0-13.0
Sodium Hydroxide	1310-73-2	0.5-1.5

SECTION 04: FIRST AID MEASURES

GENERAL ADVICE:..... Consult a physician. Show this safey data sheet to the doctor.
ROUTES OF EXPOSURE..... Eye, Skin, Ingestion and Inhalation.
INHALATION..... Remove victim to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get immediate medical attention. Call a poison center or physician.
EYE CONTACT..... Immediately hold eyelids open and flush with water for at least 15 minutes. Check for and remove any contact lenses if easy to do. Consult a physician.
SKIN CONTACT..... Immediately flush skin with plenty of water for 15 minutes. Remove contaminated clothing and wash before reuse. Consult a physician.
INGESTION..... Call IMMEDIATELY a poison centre or a doctor. Do not induce vomiting or give anything by mouth to an unconscious person. Rinse out mouth with water.

ACUTE SYMPTOMS/EFFECTS
Eyes:..... Causes eye burns. Causes eye irritation.
Ingestion:..... May cause severe irritation damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.
Skin:..... Causes severe burns. Causes skin irritation. Direct skin contact may cause skin burns, deep ulcerations and possibly permanent scaring.

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SECTION 04: FIRST AID MEASURES

Inhalation:..... Inhalation of high concentrations of fumes or mists may cause severe irritation and corrosive damage to the nose, throat and upper respiratory tract.
DELAYED SYMPTOMS/EFFECTS..... Prolonged or repeated contact may cause drying, cracking and de fatting of the skin.

SECTION 05: FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY..... Non-flammable substance. Non combustible substance.
SUITABLE EXTINGUISHING MEDIA..... Use fire-extinguishing media appropriate for surrounding materials. Use Water spray, Alcohol-resistant foam, Dry chemical or Carbon dioxide.
UNSUITABLE EXTINGUISHING MEDIA.. Do not use dry chemical extinguishing agents that contain ammonium compounds.
SPECIAL PROTECTIVE EQUIPMENT .... Firefighter should wear proper protective equipment and seft contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Use water to cool fire exposed containers.
AND PRECAUTIONS FOR FIREFIGHTERS
HAZARDOUS COMBUSTION PRODUCTS May include and are not limited to:. Chlorine; Hydrogen chloride gas; Oxygen; Sodium dioxides.

EXPLOSION HAZARDS:
Sensitivity to static discharge:..... No data available.
Sensitivity to mechanical impact: No data available.

SECTION 06: ACCIDENTAL RELEASE MEASURES

PERSONNAL PRECAUTIONS:..... Restrict access to area until completion of clean up. Evacuate personnel to safe areas. Ensure clean up is conducted by trained personnel only. Do not touch and walk through spilled material. All persons dealing with clean up should wear the appropriate protective equipment including self contained breathing apparatus. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personnel protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
ENVIRONMENTAL PRECAUTONS:..... Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Prevent further leakage or spillage if safe to do.
METHODS AND MATERIALS FOR ..... Contain and absorb spilled liquid with non combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal. Flush with water. Do not flush into surface water or sanitary sewer system. Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.
CONTAINMENT AND CLEANING

SECTION 07: HANDLING AND STORAGE

HANDLING PROCEDURES..... Use good industrial hygiene practices in handling this material. Do not eat, drink or smoke when using this product. Use in well ventilated areas. Do not get in eyes, on skin or on clothing. Avoid inhalation of mists/vapours/fumes. Wash thoroughly after handling. Keep container tightly closed.
STORAGE NEEDS..... Keep out of reach of children. Protect from sunlight. Keep container tightly closed. Store in a cool, dry and well ventilated area. Do not store near acids.
STORAGE TEMPERATURE..... <30°C.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL	NIOSH REL
Sodium Hypochlorite	Information not available	Ceiling: 2 mg/m3	2 mg/m3	Information not available	Information not available
Sodium Hydroxide	No information available	2 mg/m3	2 mg/m3	No information available	No information available

ACGIH TLV:..... American Conference of Governmental Industrial Hygienists - Threshold Limit Value.
OSHA PEL:..... Occupational Safety and Health Administration - Permissible Exposure Limits.
NIOSH IDLH:..... Immediately Dangerous to Life or Health.
ENGINEERING CONTROLS..... Use under well-ventilated conditions or with respiratory protection.
GENERAL HYGIENE CONSIDERATIONS: Avoid breathing vapor or mist. Avoid contact with skin, eyes and clothing. Remove soiled clothing and wash it thoroughly before reuse. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Do not eat, drink, smoke or use cosmetics while working with this product.
PERSONNAL PROTECTION EQUIPMENT: As required by employer. Complete suit protecting agains chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workspace.
Eye / Face protection:..... Wear saftey glasses with side shields or goggles.
Hand protection:..... Wear protective gloves. Gloves must be inspected prior to use.

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SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory protection:..... Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s). Use a full face respirator with multi-purpose combination or Wear self contained breathing apparatus.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE..... Clear, pale yellow liquid. Translucent.
COLOUR..... Yellow to greenish.
ODOUR..... Chlorine odor.
ODOUR THRESHOLD (ppm)..... No information available.
pH..... >12.5.
DENSITY..... 1.10-1.25 g/mL.
% SOLID..... 7.0-8.0.
FREEZING POINT (ºC)..... -30°C to -20°C.
BOILING POINT (ºC)..... 96 to 120°C.
FLASH POINT (ºC), Method..... Not applicable. Product does not sustain combustion.
EVAPORATION RATE..... No information available.
VAPOUR PRESSURE (mm Hg)..... < 2.3 kPa (17.5 mm Hg @ 20°C).
VAPOUR DENSITY (AIR=1)..... Heavier than air.
SOLUBILITY IN WATER (% W/W)..... Soluble in cold water.
COEFFICIENT OF WATER\OIL DISTRIBUTION ..... No information available.

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY..... Stable under the recommended storage and handling conditions prescribed.
REACTIVITY..... Reacts with other chemicals such as toilet bowl cleaners, rust removers, acids, or products containing ammonia to produce hazardous irritating gases, such as chlorine and other chlorinated compounds. Contact with some reactive metals may produce flammable hydrogen gas. Corrosive to metals.
HAZARDOUS POLYMERIZATION..... Hazardous polymerization cannot occur.
CONDITIONS TO AVOID..... Avoid heat and open flame. Exposure to sunlight. Do not mix with other chemicals.
INCOMPATIBILITY..... Toilet bowl cleaners, rust removers, acids, reducing agents, other oxidizing agents and products containing ammonia. Avoid contact with the following materials: Urea, Ammonia, Amides, Amines, Nitrogen containing compounds, Combustible materials, Organic materials, Metals, Reducing materials, Hydrocarbons materials, Alcohols, Ether. Contact with Magnesium, galvanized Zinc, Tin, Chronium, Brass and Bronze generates explosive Hydrogen.
HAZARDOUS PRODUCTS OF DECOMPOSITION ..... May include and are not limited to: Hydrogen chloride, Chlorine gas, Sodium dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Sodium Hypochlorite	Inhalation Rat > 10.5 mg/kg;	Oral Rat: 8200 mg/kg; Oral Mice: 5800 mg/kg; Dermal Rat:>2000 mg/kg; Dermal >10000 mg/kg Rabbit;
Sodium Hydroxide	No information available	Oral Rat 300-500mg/kg;Dermal Rabbit >2000mg/kg

ROUTE OF EXPOSURE..... Eyes, skin, respiratory system and digestive system.
POTENTIEL EFFECTS ON HUMANS
- Eye contact..... Causes eye burns. Causes severe eye damage.
- Skin contact..... Causes skin burns. Causes skin irritation.
- Inhalation..... Harmful if inhaled. May cause respiratory tract irritation or chemical burns.
- Ingestion..... Harmful if swallowed. May cause severe irritation and corrosive damage to mouth, throat and stomach.

CHRONIC EFFECTS ON HUMANS..... Safe handling of this material on a long term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures.
SENSITIZATION..... No information available.
TARGET ORGANS..... Contains material which my cause damage to the following organs:upper respiratory tract, skin, eye, lens of cornea and stomach.
CARCINOGENICITY..... No evidence of carcinogenic effects.
Carcinogen classification code
American Conference of Governmental Industrial Hygienists, ACGIH ... A4 - Not classifiable as a human carcinogen (Sodium Hypochlorite). No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
International Agency for Research on Cancer, IARC ..... 3 - Group 3:Not classifiable as to its carcinogenicity to humans (Sodium Hypochlorite).

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SECTION 11: TOXICOLOGICAL INFORMATION

MUTAGENICITY.....	No information available.
REPRODUCTIVE EFFECTS.....	No information available.
TERATOGENICITY.....	No information available.
SPECIFIC TARGET ORGANS TOXICITY - Single exposure	No information available.
SPECIFIC TARGET ORGANS TOXICITY - Repeated exposure	No information available.
ASPIRATION HAZARD.....	No information available.
SIGNS AND SYMPTOMS OF EXPOSURE	Symptoms may include stinging, tearing, redness, swelling and blurred vision. Permanent eye damage including blindness could result. Burning sensation, Cough, Wheezing, Laryngitis, Shortness of breath, Spasm, Inflammation and Edema of the Larynx, Inflammation and Edema of the bronchi and Pneumonary edema.
SYNERGISTIC MATERIALS.....	No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY DATA, Sodium	Acute 96Hrs LC50 Rainbow trout: 0.030 - 0.070 mg/L.
Hypochlorite:	Acute 48Hrs LC50 Daphnia magna:0.032 - 0.036 mg/L.
ECOTOXICITY DATA, Sodium Hydroxide:	Acute 96Hrs LC50 fish Guppy Poecilia reticulata:196 mg/L Chronic 96Hrs NOEC fish Guppy Poecilia reticulata:56 mg/L.
MOBILITY IN SOIL.....	No information available.
BIODEGRADABILITY.....	No information available.
BIOACCUMULATION.....	No information available.
OTHER ADVERSE EFFECTS.....	Very toxic to aquatic life with long lasting effects.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL.....	The disposal of the product must be made in an approved sanitary landfill or in a foundry in accordance with state, provincial and/or federal regulations.

SECTION 14: TRANSPORT INFORMATION

Domestic Substances list, DSL.....	All components of this product are either on the Domestic Substances List, the Non Domestic Substances List or exempt.
TDG CLASSIFICATION.....	Limited quantity exception per TDG Regulations Part 1.17(2) -Containers not more than 5L. UN1791 Class 8 Packing group: III HYPOCHLORITE SOLUTION more than 7% available chlorine.
DOT US: Department of Transport US.....	Limited Quantity 5L. UN1791 Class 8 Packing group: III HYPOCHLORITE SOLUTION more than 7% available chlorine.
IMDG: International Maritime Dangerous Goods .	UN1791 Class:8 PG III Shipping name: HYPOCHLORITE Solution more than 7% available chlorine.
IATA: International Air Transportation Association	UN1791 Class8 PG III Shipping name: HYPOCHLORITE Solution more than 7% available chlorine.

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION.....	This product has been classified in accordance with the hazard crireria of the Controlled Products Regulations and this document contains all the information required by the Controlled Products Regulations. Class E: Corrosive Material. Class C: Oxidizing Material. Class D1B: Materials Causing Immediate/Serious Effects - Toxic Material. Class D-2B: Toxic material Causing other toxic effects.

SECTION 16: OTHER INFORMATION

POOL.....	F0007-0165.
DISCLAIMER:.....	The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. Lavo Inc. expressly disclaims all expressed or implied warranties for the accuracy or completeness of the data contained herein and assumes no responsibilities for any involved damages by above data. Product's users have to do their own tests to establish the applicability of the information for a specific use of the product. MSDS data does not apply to use with any other product or in any other process.
PREPARED BY:	Regulatory Affairs
PREPARATION DATE.....	AUG 03/2018