SAFETY DATA SHEET
DD-012 SODIUM HYPOCHLORITE, 12% (TRADE)

1. IDENTIFICATION

Product Code : DD-012
Product Name : Sodium Hypochlorite,12% (Trade)
Synonyms : Sodium oxychloride; Soda bleach; Javel water; Chlorox; Javex; Bleach
Recommended Use : Chemical intermediate, laboratory reagent, water treatment, pulp and paper, bleaching agent, cleaning and disinfecting
Restrictions on Use : For commercial and industrial purposes only
Supplier Identifier : Aaladin Superior Cleaning Systems, Ltd.
71 Don Valley Parkway
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Canada
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Emergency Telephone Number (CANUTEC): (613) 996-6666

2. HAZARD IDENTIFICATION

Classification:

- Corrosive to metals (Category 3)
- Acute toxicity, Oral (Category 1)
- Acute toxicity, Dermal (Category 3)
- Acute toxicity, Inhalation (Category 4)
- Skin corrosion/irritation – Skin corrosion (Category 3)
- Serious eye damage/eye irritation – Serious eye damage (Category 1)
- Serious eye damage/eye irritation – Eye irritation (Category 1)
- Skin corrosion/irritation – Skin irritation (Category 1)
- Respiratory or skin sensitization – Skin sensitizer (Category 1)

Symbol:

Signal Word: Danger

Hazard Statements:

- Causes severe skin burns and eye damage
- Harmful if inhaled or swallowed,

Precautionary Statements:

- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash face, hands and exposed skin with plenty of water after handling.
- Do not eat, drink or smoke when handling this product.
- Do not breathe mist/vapor or fumes.
- Use only in well ventilated area.
- Call immediate medical attention when severely exposed.

Other Hazards Not Classified: Not Applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (w/w)
Water (CAS#: 7732-18-5)	80 to 90
Sodium Hypochlorite (CAS#: 7681-52-9)	8 to 12

4. FIRST-AID MEASURES

First Aid Measures by Route of Exposure:

Inhalation: Move victim to fresh air. Call a Poison Centre or doctor if the victim feels unwell.

Skin Contact: Avoid direct contact. Wear chemical protective clothing if necessary. Quickly take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately flush with lukewarm, gently flowing water for at least 60 minutes. DO NOT INTERRUPT FLUSHING. If it can be done safely, continue flushing during transport to hospital. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact: Avoid direct contact. Wear chemical protective gloves if necessary. Quickly and gently blot or brush chemical off the face. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay flushing or attempt to remove the lens. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital.

Ingestion: Have victim rinse mouth with water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital.
First Aid Comments: All first aid procedures should be periodically reviewed by a doctor familiar with the chemical and its conditions of use in the workplace.
Most Important Symptoms and Effects (acute or delayed): Not Available
Immediate medical attention and special treatment needed, if necessary: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Not combustible. Use extinguishing agent suitable for surrounding fire
Unsuitable Extinguishing Media: Carbon dioxide.
Specific Hazards Arising from the Chemical: Contact with water causes violent frothing and spattering. Reacts with metals to produce highly flammable hydrogen gas. Closed containers may rupture violently when heated releasing contents. Toxic hydrogen flouride fumes can be generated at high temperatures. Hazardous decomposition products include hydrogen flouride, sulfides, carbon monoxide and irritating gases.
Hazardous Combustion Products: Not Aavailable
Special Protective Equipment and Precautions for Fire-Fighters: Wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use personal protective equipment as required. Remove or isolate incompatible materials as well as other hazardous materials.
Methods for Containment and Clean-up: Contain and soak up spill with absorbent that does not react with spilled product. Shovel or sweep dry sodium hypochlorite for recycling or disposal. Flush spill area. Dike spilled product to prevent runoff.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Before handling, it is important that all engineering controls are operating and those protective equipment requirements and personal hygiene measures are being followed. Only trained personnel should work with this product. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Avoid generating vapours or mists. Avoid generating dusts. Use corrosion-resistant tools and equipment. Never add water to a corrosive. Alwa,s add corrosives slowly to COLD water. Never reuse ernpty containers, even if they appear to be clean. Keep containers tightly closed when not in use or empty.
Conditions for Safe Storage: Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials. Keep amount in storage tc a minimum. Store in the original, labelled shipping container. Vent drums to prevent pressure buildup. Do not handle swollen drums. G.et expert advice. Empty containers may contain hazardous residue. Store separately. Keep closed. Contain spills or leaks by storing containers in trays made from compatible materials.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Control parameters, including occupational exposure guidelines or biological exposure limits and the source of those values:

Material Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium Hypochlorite Solution	0.5 ppm	Not available	Not available

Appropriate Engineering Controls: Use a local exhaust ventilation and enclosure, if necessary, to control amount in the air. It may be necessary to use stringent control measures such as process enclosure to prevent product release into the workplace. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection.
Individual Protection Measures:
Eye/Face Protection: Wear chemical safety goggles. A face shield (with safety goggles) may also be necessary.
Skin Protection: Wear chemical protective clothing e.g. gloves, aprons, boots. Suitable materials include: butyl rubber, natural rubber, neoprene rubber, nitrile rubber, polyethylene, polyvinyl chloride, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), Trellchem® HPS, Trellchem® VPS, Tychem® SL (Saranex™), Tychem® BR/LV, Tychem® Responder, Tychem® TK.
Respiratory Protection: Up to 10 mg/m^3: wear a NIOSH approved air-purifying respirator with N100, R100, or P100 filter(s), wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator. ESCAPE: wear a NIOSH approved air-purifying respirator with N100, R100, or P100 filter(s), wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Colour: Clear Yelolow Green to Yellow **Odor:** Chlorine odor
Odor Threshold: Not Applicable
pH: 11 to 13
Freezing Po:nt: -25^0C
Initial Boiling Point/Boiling Range: 40^0C
Flash Point: Not Available
Evaporation Rate: Not Available
Flammability (solid; gas): Not Available
Lower Flammable/Explosive Limit: Not Available
Vapour Pressure: Not Available
Upper Flammable/Explosive Limit: Not Available
Vapour Density: Not Available
Relative Density: Not Available
Solubility: Completely Soluble in water
Partition Coefficient – n-octanol/water: Not Available
Viscosity: Not Available
Auto-ignition Temperature: Not Available
Decomposition Temperature: Not Available

10. STABILITY AND REACTIVITY

Reactivity: Not available
Chemical Stability: Unstable at temperature above 40^0C.
Possibility of Hazardous Reactions: Reacts violently with alkaline or base or incompatible material. Can cause splattering and release of large amount of heat.
Conditions to Avoid: High Temperature and Exposure to Intense Light (e.g. direct sunlight)

Incompatible Materials: Highly reactive with acids, oxidizing agents (e.g. peroxides), metals (e.g. Iron). Corrosive to Nickel, Copper, Tin, Manganese, Iron and its alloys. Contact with metals may liberate flammable hydrogen gas.
Hazardous Decomposition Products: Chlorine, Oxygen and Oxides of Sodium. When heated, it emits acrid smoke and irritating fumes.

11. TOXICOLOGICAL INFORMATION

Information on the Likely Routes of Exposure: Skin contact, eye contact.

- **Inhalation:** Not expected to be an inhalation hazard unless it becomes an airborne dust or mist. Can cause severe irritation of the nose and throat. Prolonged exposure may cause cough, running nose, bronchopneumonia, pulmonary edema, and reduction of lung functions. Chlorine gas may cause severe damage to the lung.
- **Skin Contact:** CORROSIVE. Contact can cause pain, redness, burns, and blistering. Burns may not be immediately painful; onset of pain may be delayed minutes to hours.
- **Eye Contact:** CORROSIVE. Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result
- **Ingestion:** Can burn the lips, tongue, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea. Can cause death.
- **Effects of Long-Term (Chronic) Exposure:** Conclusions cannot be drawn from the limited studies available. Can cause dry, red, cracked skin (dermatitis) following skin contact.
- **Carcinogenicity:** Not known to cause cancer.
  International Agency for Research on Cancer (IARC): Not specifically designated.
  American Conference for Governmental Industrial Hygienists (ACGIH): Not specifically designated.
- **Teratogenicity / Embryotoxicity:** Not known to harm the unborn child.
- **Reproductive Toxicity:** Not known to be a reproductive hazard.
- **Mutagenicity:** Not known to be a mutagen.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Toxic to aquatic life
Persistence and Degradability: Not Available
Bioaccumulative Potential: Not Available
Mobility in Soil: Not Available
Other Adverse Effects: Toxic to aquatic life. May decrease pH of waterways and adversely affect aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Disposal of all wastes must be done in compliance with federal, provincial and local regulations. Liquid residues must be properly neutralized to pH 6 – 9 then may be disposed off in waste water treatment facilities which allow the discharge of neutral salt solutions.
Contaminated Packaging: Empty containers should be recycled or disposed off through an approved waste management facility.

14. TRANSPORT INFORMATION

UN Number: UN1791
UN Proper Shipping Name: HYPOCHLORITE SOLUTION
Transport Hazard Class: 8
Packing Group: III
Environmental Hazards: Not Available
Transport in Bulk: Not Available
Special Precautions:

15. REGULATORY INFORMATION

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

16. OTHER INFORMATION

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