

Sodium Chlorate Solution (Cell liquor blend)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 05/05/15

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Version: 1.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: Sodium Chlorate Solution (Cell liquor blend)

Synonyms: Chlorate of soda; Chloric acid, sodium salt

Intended Use of the Product

Production of Chlorine dioxide for bleaching pulp; Herbicide

Name, Address, and Telephone of the Responsible Party

Manufacturer

CHEMTRADE LOGISTICS INC.

155 Gordon Baker Road

Suite 300

Toronto, Ontario M2H 3N5

For MSDS Info: (416) 496-5856

www.chemtradelogistics.com

Emergency Telephone Number

Emergency number : Canada: CANUTEC +1-613-996-6666 / US: CHEMTREC +1-800-424-9300
Chemtrade Emergency Contact: (866) 416-4404

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Ox. Liq. 2 H272

Aquatic Chronic 2 H411

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :



Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H272 - May intensify fire; oxidizer
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements (GHS-US) : P210 - Keep away from heat, open flames, sparks. - No smoking
P220 - Keep/Store away from combustible materials, combustibles, clothing
P221 - Take any precaution to avoid mixing with combustible materials
P273 - Avoid release to the environment
P280 - Wear eye protection, protective clothing, protective gloves
P370+P378 - In case of fire: Use appropriate media to extinguish
P391 - Collect spillage
P501 - Dispose of contents/container according to local, regional, national, and international regulations

Other Hazards

Other Hazards Not Contributing to the Classification: Not available

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Name	Product identifier	% (w/w)	Classification (GHS-US)
Sodium chlorate	(CAS No) 7775-09-9	44 - 50	Ox. Sol. 1, H271

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			Acute Tox. 4 (Oral), H302 Aquatic Chronic 2, H411
Sodium chloride	(CAS No) 7647-14-5	0.04 - 1.4	Not classified
Sodium dichromate	(CAS No) 10588-01-9	0.04 - 0.07	Ox. Liq. 2, H272 Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1A, H314 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 1A, H340 Carc. 1A, H350 Repr. 1A, H360 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion: Rinse mouth. Do NOT induce vomiting.

Most Important Symptoms and Effects Both Acute and Delayed

General: Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Inhalation: Inhalation of vapors may cause respiratory irritation.

Skin Contact: May cause skin irritation.

Eye Contact: Direct contact with the eyes is likely irritating.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None known.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use water jet. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: May intensify fire; oxidizer. Will burn if exposed to heat, and in addition, will accelerate the burning of other combustibles, resulting in more rapid spread of fire.

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: 'Oxidizing': substances and preparations which exhibit highly exothermic reactions when in contact with other substances, particularly flammable substances. Oxidizing activity increases with decreasing pH.

Advice for Firefighters

Firefighting Instructions: Exercise caution when fighting any chemical fire. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Not available

Other information: Use water spray or fog for cooling exposed containers.

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Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: No naked lights. No smoking. Do not allow product to spread into the environment.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not take up in combustible material such as: saw dust or cellulosic material.

Methods for Cleaning Up: Collect spillage. Clear up spills immediately and dispose of waste safely.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Hazardous waste due to potential risk of explosion.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place.

Specific End Use(s) Production of Chlorine dioxide for bleaching pulp; Herbicide

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Clothing contaminated with sodium chlorate may become dangerously flammable and should not be allowed to dry (keep wet). Remove contaminated clothing and wash immediately immediately. Clothing and gloves worn in areas where chlorate is stored or used should be washed at the end of each work shift. Leather materials should be kept out of chlorate areas. Change clothing at end of each work shift or when contaminated.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State : Liquid

Appearance : Colorless yellow or green solution

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Odor	: Odorless
Odor Threshold	: Not available
pH	: 7 – 10. Oxidizing activity increases with decreasing pH.
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: 248 °C (478.4°F)
Freezing Point	: Not available
Boiling Point	: 265 °C (509°F) decomposes
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: 0 Does not form vapor
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: 1.375 – 1.425
Solubility	: Fully miscible.
Partition coefficient: n-octanol/water	: Log Pow -7.18 (estimated)
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: On contact with combustible materials: Sensitive to mechanical impact
Explosion Data – Sensitivity to Static Discharge	: On contact with combustible materials: Static discharge could act as an ignition source.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: ‘Oxidizing’: substances and preparations which exhibit highly exothermic reactions when in contact with other substances, particularly flammable substances. Oxidizing activity increases with decreasing pH.

Chemical Stability: May intensify fire; oxidizer. May undergo violent chemical changes at elevated temperature and pressure. Thermal decomposition occurs at temperatures above 482°F (250°C).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Overheating. Open flame. combustible materials.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

pH: 7 – 10. Oxidizing activity increases with decreasing pH.

Serious Eye Damage/Irritation: Not classified

pH: 7 – 10. Oxidizing activity increases with decreasing pH.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

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Symptoms/Injuries After Inhalation: Inhalation of vapors may cause respiratory irritation.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: Direct contact with the eyes is likely irritating.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None known.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Sodium chlorate (7775-09-9)	
LD50 Oral Rat	1200 mg/kg
LC50 Inhalation Rat (mg/l)	> 28 g/m ³ (Exposure time: 1 h)
Sodium chloride (7647-14-5)	
LD50 Oral Rat	3 g/kg
LC50 Inhalation Rat (mg/l)	> 42 g/m ³ (Exposure time: 1 h)
Sodium dichromate (10588-01-9)	
LD50 Oral Rat	50 mg/kg
LD50 Dermal Rabbit	336 mg/kg
LC50 Inhalation Rat (mg/l)	0.124 mg/l/4h
Sodium chlorate (7775-09-9)	
National Toxicity Program (NTP) Status	Evidence of Carcinogenicity.
Sodium dichromate (10588-01-9)	
IARC Group	1

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Toxic to aquatic life with long lasting effects.

Sodium chlorate (7775-09-9)	
LC50 Fish 1	13500 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
LC 50 Fish 2	1750 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
Sodium chloride (7647-14-5)	
LC50 Fish 1	5560 (5560 - 6080) mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 1	1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	12946 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	340.7 (340.7 - 469.2) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Sodium dichromate (10588-01-9)	
LC50 Fish 1	33.2 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.098 - 0.129 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	69 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

Persistence and Degradability

Sodium Chlorate Solution (Cell liquor blend)	
Persistence and Degradability	Not established. May cause long-term adverse effects in the environment.

Bioaccumulative Potential

Sodium Chlorate Solution (Cell liquor blend)	
Bio-accumulative Potential	Not established.
Sodium chloride (7647-14-5)	
BCF fish 1	(no bioaccumulation)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

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SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations:

Additional Information: Hazardous waste due to potential risk of explosion.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name : SODIUM CHLORATE, AQUEOUS SOLUTION
Hazard Class : 5.1
Identification Number : UN2428
Label Codes : 5.1
Packing Group : II
ERG Number : 140



14.2 In Accordance with IMDG

Proper Shipping Name : SODIUM CHLORATE, AQUEOUS SOLUTION
Hazard Class : 5.1
Identification Number : UN2428
Packing Group : II
Label Codes : 5.1
EmS-No. (Fire) : F-H
EmS-No. (Spillage) : S-Q



14.3 In Accordance with IATA

Proper Shipping Name : SODIUM CHLORATE, AQUEOUS SOLUTION
Packing Group : II
Identification Number : UN2428
Hazard Class : 5
Label Codes : 5.1
ERG Code (IATA) : 5L



14.4 In Accordance with TDG

Proper Shipping Name : SODIUM CHLORATE, AQUEOUS SOLUTION
Packing Group : II
Hazard Class : 5.1
Identification Number : UN2428
Label Codes : 5.1



SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Sodium chlorate (7775-09-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sodium chloride (7647-14-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sodium dichromate (10588-01-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag

R - R - indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

US State Regulations

Sodium chlorate (7775-09-9)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

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Sodium dichromate (10588-01-9)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Canadian Regulations

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WHMIS Classification	Class C - Oxidizing Material Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
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Sodium chlorate (7775-09-9)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Class C - Oxidizing Material Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
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Sodium chloride (7647-14-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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Sodium dichromate (10588-01-9)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Listed on the Canadian Ingredient Disclosure List

WHMIS Classification	Class C - Oxidizing Material Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 05/05/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Muta. 1A	Germ cell mutagenicity Category 1A
Ox. Liq. 2	Oxidizing liquids Category 2
Ox. Sol. 1	Oxidizing solids Category 1
Repr. 1A	Reproductive toxicity Category 1A
Resp. Sens. 1	Respiratory sensitisation Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A

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Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H271	May cause fire or explosion; strong oxidizer
H272	May intensify fire; oxidizer
H300	Fatal if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H330	Fatal if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H340	May cause genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

Party Responsible for the Preparation of This Document

CHEMTRADE LOGISTICS, INC.

For SDS Info: (416) 496-5856

Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA'S "Right to Know" (29 CFR 1910.1200) and Canada's WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.



Chemtrade North America SDS Template