

SAFETY DATA SHEET

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

1. Identification	
Product identifier	ERCOPure™ 31
Other means of identification	Sodium Chlorite Solution, ERCOPURE
Recommended use	Generation of chlorine dioxide for use as an oxidant. Bleaching of
	textiles and other fibers.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier	/Distributor information
Manufacturer	
Company name	International Dioxcide, Inc.
Address	40 Whitecap Drive
	North Kingstown, RI 02852
	United States of America
Telephone	Information #: (800) 477-6071
Website	https://idiclo2.com
E-mail	idiclo2@ercoworldwide.com
Emergency phone number	Canada & U.S.A.: (800) 424 9300 (CHEMTREC)
	International: (703) 527 3887
Supplier	Refer to Manufacturer

2. Hazard(s) Identification

•	Physical hazards	None	
	Health hazards	Acute toxicity, oral	Category 4
		Acute toxicity, inhalation	Category 3
		Serious eye damage	Category 1
		Specific target organ toxicity, repeated exposure (blood, kidneys, liver, spleen)	Category 2
		Skin corrosive	Category 1B
	Environmental hazards Label elements	Not currently regulated by the Canadian Regulation (WHMIS 2015), refer to Section information.	
	Signal word	Danger	



Hazard statement Precautionary statement	Harmful if swallowed. Toxic if inhaled. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure (blood, kidneys, liver, spleen). Causes severe skin burns and eye damage.
Prevention	Wear protective gloves, protective clothing, eye protection, face protection. Do not eat, drink or smoke when using this product. Do not breathe dust, fume, gas, mists, vapours, spray. Wash hands and face thoroughly after handling. Use only outdoors or in a well- ventilated area.
Response	Immediately call a POISON CENTER or doctor/physician.
	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water (or shower). Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see Section 4 of the SDS)
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents and containers in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Other hazards which do not result in classification: Contact with some metals will generate flammable hydrogen gas. Chronic skin contact with low concentrations may cause dermatitis. Contact with acids or reducing agents will generate toxic chlorine dioxide gas.
Supplemental information	Not applicable.

3. Composition/Information on Ingredients

Chemical name	Common name and synonyms	CAS number	Conc. % By Weight
Sodium Chlorite	None	7758-19-2	31 w/w%
Dihydrogen Oxide	Water	7732-18-5	Balance

Chemical name of impurities, stabilizing solvents and/or additives: None



4. First-Aid Measures

4.	Inhalation	Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Call a POISON CENTER or doctor/physician.
	Skin Contact	Take off immediately all contaminated clothing. Immediately flush skin with running water for at least 20 minutes. Wash contaminated clothing promptly. Leather and shoes that have been contaminated with the solution may need to be destroyed. Immediately call a POISON CENTER or doctor/physician.
	Eye Contact	Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor/physician.
	Ingestion	Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a POISON CENTER or doctor/physician if you feel unwell.
	Most important symptoms/effects, acute and delayed	Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May be harmful if swallowed. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Can cause severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Prolonged exposure may cause chronic effects. Material is irritating to mucus membranes and upper respiratory tract. Symptoms may include bloody nose and sneezing. High concentrations may cause lung damage.
	Indication of immediate medical attention and special treatment needed	Immediate medical attention is required. Causes chemical burns. May be harmful if swallowed. Symptoms may be delayed.
	General information	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
5.	Fire-Fighting Measu	
	Suitable extinguishing	Water spray for (flooding amounts) Water only: no dry chemical CO_2 or

media	Halon. This product itself does not burn but combustibles wetted with this solution and subsequently dried are easily ignited and burn vigorously.
Unsuitable extinguishing media	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. DO NOT use carbon dioxide, dry chemical powder or other extinguishing agents that smother flames, since they are not effective in extinguishing fires involving oxidizers. Use chemical extinguishing agents with caution.

- Specific hazards arisingMay intensify fire; oxidizer when dry. Drying of this product on clothing orfrom the chemicalcombustible materials may cause fire.
- Special protectiveFirefighters must use standard protective equipment including flameequipment andretardant coat, helmet with face shield, gloves, rubber boots, and inprecautions forenclosed spaces, SCBA.firefightersfirefighters
- Firefighting
equipment/instructionsEvacuate area. Remove all sources of ignition. In case of fire: Stop leak if safe
to do so. Move combustibles out of path of advancing pool if you can do so
without risk. Move containers from fire area if you can do so without risk.
Fight fire from upwind to avoid exposure to combustion products. In case of
fire and/or explosion do not breathe fumes.
- **Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.
- **General fire hazards** May intensify fire; oxidizer when dry.
- Hazardous combustionDisodium oxide. Hydrogen chloride. Oxygen. Contact with acids, organic
materials, reducing agents or chlorine donors will produce chlorine dioxide
gas and heat. Ventilate area with large amounts of air to keep the chlorine
dioxide concentration low.

6. Accidental Release Measures

Personal precautions,
protective equipment
and emergency
proceduresImmediately evacuate personnel to safe areas. Keep unnecessary
personnel away. Keep people away from and upwind of spill/leak. Wear
appropriate protective equipment and clothing during clean-up. Do not
touch damaged containers or spilled material unless wearing appropriate
protective clothing. Local authorities should be advised if significant
spillages cannot be contained. For personal protection, see section 8 of the
SDS. DO NOT USE RAGS, SAWDUST OR OTHER COMBUSTIBLE ABSORBENTS.

Methods and materials
for containment and
cleaning upVentilate the contaminated area. Eliminate all ignition sources (no smoking,
flares, sparks, or flames in immediate area). Stop the flow of material, if this
is without risk. Keep combustibles (wood, paper, oil, etc.) away from spilled
material. Absorb in dry sand or earth and place into containers. Use water
spray to reduce vapors or divert vapor cloud drift. Do not let the product
dry.



Small Spills: Absorb spill with dry sand, earth or other inert material. Neutralize the spilled material before disposal.

Large Spills: Stop the leak, if this is without risk. Dike the spilled material, where this is possible. Absorb in dry sand or earth and place into containers. If not recoverable, dilute with water or flush to holding area and neutralize. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

EnvironmentalAvoid release to the environment. Avoid discharge into drains, waterprecautionscourses or onto the ground. Contact local authorities in case of spillage to
drain/aquatic environment.

7. Handling and Storage

Precautions for safe handling	Use only in a well-ventilated area. Wear chemically resistant protective equipment during handling. Do not breathe mist or vapor. Do not taste or swallow. Keep away from heat. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not let the product dry. When using, do not eat, drink or smoke. Keep away from clothing and other combustible materials. Observe good industrial hygiene practices. Avoid release to the environment.
Conditions for safe	Store in a cool, dry place out of direct sunlight. Store in a well-ventilated

Conditions for safe
storage, including any
incompatibilitiesStore in a cool, dry place out of direct sunlight. Store in a well-ventilated
place. Storage area should be clearly identified, clear of obstruction and
accessible only to trained and authorized personnel. Store away from
incompatible materials (see Section 10 of the SDS). Store in original tightly
closed container. Do not store near combustible materials. Do not handle
or store near an open flame, heat or other sources of ignition.

8. Exposure Controls/ Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use separate, corrosion-resistant ventilation system to capture mist or fume. Do not use wood or other combustibles to construct vent system. Prevent entry into bearings or gear boxes, which could cause an explosion. Provide eyewash station.



Individual protection measures, such as personal protective equipment:

- Eye/face protectionWear safety glasses with side shields (or goggles) and a face shield.
Provide an emergency eye wash fountain and quick drench shower
in the immediate work area.
- Skin protection
 Gloves impervious to the material are recommended, such as butyl rubber or neoprene gloves. Advice should be sought from glove suppliers.

 Other
 Where contact is likely, wear chemical-resistant gloves, a chemical
 - suit, rubber boots, and chemical safety goggles plus a face shield. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Eye wash facilities and emergency shower must be available when handling this product.
- **Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH/MSHA approved air-purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may be used to reduce exposure. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Seek advice from respiratory protection specialists.

Thermal Hazards None.

General hygiene considerations Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and Chemical Properties

Appearance	Aqueous solution.	
Physical state	Liquid.	
Form	Liquid.	
Colour	Clear water-white to slightly yellow liquid	
Odor	Odorless to slight Chlorine-like or faint bleach-like	



Odor threshold	Not available
Molecular formula	NaClO ₂
Molecular weight	90.45
рН	>12
Melting point/Freezing point	3°C (37.4°F)
Initial boiling point and boiling range	106 °C (1013 hPa)
Flash point	Closed cup: >100°C (>212°F)
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper/lower flammability or explosive lin	nits
Flammability limit – lower (%)	Not applicable
Flammability limit – upper (%)	Not applicable
Explosive limit – lower (%)	Not available
Explosive limit – upper (%)	Not available
Vapor pressure	19.87 hPa (20°C)
Vapor density	Not available
Relative density	Not available
Solubility (ies)	
Solubility (water)	Miscible in water
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Dynamic: 3.26 mPa·s
Other information	
Density	1.26 g/cm ³
Flammability	Not applicable
Specific gravity	Not available
Surface tension	Not available

10.Stability and Reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport. Reacts on mixing with acids to give toxic chlorine dioxide and chlorine gases. Mixtures with combustibles, if allowed to dry out, are easily ignited by heat or friction and burn vigorously or may explode.
Chemical stability	Material is stable under normal conditions. Will decompose if heated. Absorption of atmospheric carbon dioxide may lower the pH of the solution, which will cause it to slowly decompose.
Possibility of hazardous reactions	Contact with acids, organic materials, reducing agents and oxidizing agents will release toxic gases of chlorine and/or chlorine dioxide.
Conditions to Avoid	Keep away from heat, sparks and open flame. Keep away from direct sunlight and contact with incompatible materials. This product may react with reducing agents.



Incompatible materials	Combustible material. Acids. Organic compounds. Oxidizing agents. Metals. Sulfur and Sulfur-containing materials. Ethylene glycol. Ammonia. Amines. Phosphorus. Reducing agents.
Hazardous decomposition products	In the event of fire, the following can be released: Chlorine, Chlorine Dioxide.

11.Toxicological Information

Information on likely routes of exposure

Inhalation	Toxic if inhaled.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage/irritation.
Ingestion	Harmful if swallowed.

Delayed and immediate effects and chronic effects from short-term and long-term exposure

Effects of short-term (acute) exposure:	Causes serious eye damage, may cause severe irritation and possibly burns. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
	Causes severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
	Acute ingestion of large quantities may also cause anemia due to the oxidizing effects of the chemical.
	Material is irritating to mucous membranes and upper respiratory tract. Symptoms may include coughing, bloody nose and sneezing. High concentrations can cause lung damage.
	May be harmful if swallowed. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.
Effects of long-term (chronic) exposure:	Prolonged exposure may cause chronic effects. Dermatitis is likely to occur from repeated or prolonged contact. Other symptoms may include methemoglobinemia (causes bluish discolouration of the skin and mucous membranes). Will irritate and may cause corrosion of the gastrointestinal tract.



Product	Species	Test Results	
Sodium Chlorite Solution 40%			
Acute			
Inhalation			
LC ₅₀	Rat	0.58 mg/L (Calculated ATE at 40%)	
Oral			
LD ₅₀	Rat	413 mg/kg (Calculated ATE at 40%)	
Product	Test	Test Results	
Sodium Chlorite Solution 37%			
Dermal	OECD Guideline 43 "In Vitro Membran Barrier Test Metho for Skin Corrosion"	e calculated at 37%) d	
Components	Species	Test Results	
Sodium Chlorite (CAS 7758-19-2) Acute			
Inhalation			
LC ₅₀	Rat	0.23 mg/L (Mist)	
Oral			
LD ₅₀	Rat	165 mg/kg	
* Estimates for product may be based on	additional component data not sl	nown.	
Skin corrosion/irritation	Can cause severe skin bu	rns.	
Serious eye damage/eye irritation	Can cause serious eye damage/irritation.		
Respiratory or skin sensitization Respiratory sensitization	Not expected to be a respiratory sensitizer.		
Skin sensitizer	Not sensitizing.		
Germ cell mutagenicity	Not expected to be mutagenic.		
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.		



IARC Monographs. Overall Evaluation of Carcinogenicity		Sodium Chlorite (CAS 7758-19-2) Not classifiable as to carcinogenicity to humans.
	OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
Reproduc	tive toxicity	Not classified as a reproductive toxin.
Specific ta single exp	nrget organ toxicity - osure	Not classified as a specific target organ toxicity -single exposure.
Specific ta repeated	rrget organ toxicity - exposure	Specific Target Organ Toxicity (STOT), Repeated Exposure: blood, kidneys, liver, spleen.
Aspiration	n toxicity	Not expected to be an aspiration hazard.
Chronic ef	fects	Chronic skin contact with low concentrations may cause dermatitis. Prolonged or repeated overexposure may cause blood, liver, spleen and kidney effects.

12. Ecological Information

Ecotoxicity

Toxic to aquatic life. In water and soil, sodium chlorite will eventually degrade to sodium chloride.

Components			Species	Test Results	
Sodium (Chlorite (CAS Aquatic Acute	7758-19-2	2)		
	Algae	EC ₅₀	Green algae (Selenastrum capricornutum)	1.2 mg/l	
	Crustacea	EC ₅₀	Water flea (Daphnia)	0.025 mg/l	
	Fish	LC ₅₀	Sheepshead minnow (Cyprinodon variegatus)	110 mg/l	
	Chronic Algae	EC ₅₀	Green algae (Selenastrum capricornutum)	1 mg/l	
Persistence and Bioo degradability		Bic	odegradation is not applicable to inorganic sub	ostances.	
Bio accumulative The potential		The	e product itself has not been tested.		



Mobility in soil	In soil, will degrade to sodium chloride but may form chlorine dioxide in contact with acidic soils. Chlorate is an intermediate product of decomposition; it will slowly degrade to chloride.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.



14. Transport Information

Regulatory Information	UN Number	Proper Shipping Name	Classes	Packing Group	Label	Additional Information
TDG Classification	UN1908	CHLORITE SOLUTION	8	II	CORROSHE	<u>Marine pollutant</u> Marine pollutant
					1	Explosive Limit and Limited Quantity Index 1
						Passenger Carrying Road or Rail Index 1
						<u>Remarks</u> Product classified per Transportation of
						Dangerous Goods Regulations sections 2.40-2.42 (Class 8)
						Product classified per Transportation of Dangerous Goods
						Regulations sections 2.7, 2.43-2.45 (Class 9).
IMDG Class	UN1908	CHLORITE SOLUTION	8	II		<u>Marine pollutant</u> Marine pollutant
					H	Emergency Schedules (EmS) F-A, S-B
IATA-DGR Class	UN1908	Chlorite Solution	8	II		<u>Marine pollutant</u> Marine pollutant
					E	Passenger Aircraft 851: 1 L
						Cargo Aircraft 855: 30 L



15. Regulatory Information

Country(s) or region	Inventory name	On inventory (yes/no) *
Australia	Australian Inventory of Chemical	Yes
	Substances (AICS)	
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List	No
	(NDSL)	
China	Inventory of Existing Chemical	Yes
	Substances in China (IECSC)	
Europe	European Inventory of Existing	Yes
	Commercial Chemical Substances	
	(EINECS)	
Europe	European List of Notified Chemical	No
	Substances (ELINCS)	
Japan	Inventory of Existing and New	Yes
	Chemical Substances (ENCS)	
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals	Yes
	and Chemical Substances (PICCS)	
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	Yes
	Inventory	

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16.Other Information

Issue date	8/9/2021
Revision #	7
Revision Indicator	Company logo updated.
List of abbreviations	ACGIH: American Conference of Governmental Industrial
	Hygienists
	CAS: Chemical Abstract Services
	CFR: Code of Federal Regulations
	DSL: Domestic Substance List
	EINECS: European Inventory of Existing Commercial chemical
	Substances
	EPA: Environmental Protection Agency
	HSDB [®] - Hazardous Substances Data Bank
	IARC: International Agency for Research on Cancer
	IATA: International Air Transport Association
	IBC: Intermediate Bulk Container
	IMDG: International Maritime Dangerous Goods LC: Lethal
	Concentration



LD: Lethal Dose NIOSH: National Institute of Occupational Safety and Health NTP: National Toxicology Program OECD: Organization for Economic Cooperation and Development OSHA: Occupational Safety and Health Administration **PPE:** Personal Protective Equipment **RTECS: Registry of Toxic Effects of Chemical Substances** SDS: Safety Data Sheet TWA: Time Weighted Average WHMIS: Workplace Hazardous Materials Information System Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2014 (Chempendium, RTECs, HSDB, INCHEM). European Chemicals Agency, Classification Legislation, 2014. Material Safety Data Sheet from manufacturer. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2014.

Disclaimer

References

Information presented in this SDS is furnished in accordance with the Workplace Hazardous Materials Information System (WHMIS).

This information provided was developed and is provided for educational purposes and is not intended to be, nor should it be construed as, legal advice or as ensuring compliance with any laws or regulations of any jurisdiction. ERCO Worldwide, A division of Superior Plus LP ("ERCO") assumes no responsibility and shall have no liability for any inaccuracies, errors or omissions in, nor for any damages (including consequential, or indirect damages), losses, costs, fees, resulting from the use of, or reliance on, any part of this information. Likewise, ERCO assumes no responsibility for injury to, or the death of, recipient(s) or users of this information, or for any loss or damage to any property, arising from the use or consideration of this information. The recipient(s) and users, and each of their respective employees and agents, assume all responsibility and liability for all such risks, costs, losses, damages, fees, or otherwise, even if caused by the negligence, omission, default, or error in judgement of ERCO, its agents, subsidiaries, affiliates, or representatives.

Recipients or users of this information should ensure, and are responsible for, its compliance with the current state of the law and legislation applicable thereto, and the content of the laws and regulations of any other jurisdictions, as applicable. Any person receiving or using this SDS is responsible for and must exercise their own judgment and due diligence in ensuring safe and lawful use and handling of any product or information, as they assume the risk of using or relying on any information contained herein.