




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	PurDOX BCD
Other means of identification	Material number: 57960438
Recommended use	Industrial use
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	International Dioxide, Inc. an ERCO Worldwide
Address	ERCO Worldwide 5050 Satellite Drive Mississauga ON, L4W 0G1
Telephone	(416) 239-7111 (M- F: 8:00 am – 5:00pm EST)
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	Oxidizing liquids	Category 2
Health hazards	Serious eye damage	Category 1
	Acute toxicity, oral	Category 4
Environmental hazards	Not currently regulated by the Canadian Hazardous Products Regulation (WHMIS 2015), refer to Section 12 for additional information.	
Label elements		

Signal word Danger

Hazard statements May intensify fire; oxidizer.
Harmful if swallowed.
Causes serious eye damage.

Precautionary statement

Prevention	Wear eye protection and face protection Wear Protective gloves, clothing, eye and face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking Keep away from clothing and other combustible materials. Wash thoroughly after handling. Do not eat, drink or smoke when using this product IN CASE OF FIRE: Use only water to extinguish.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Call a Poison Center if you feel unwell. Rinse mouth IF ON CLOTHING: Immediately remove, keep contaminated areas wet with water and launder.
Storage	Store separately
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazard(s) not otherwise classified (HNOC)	May cause mild skin irritation. Product is a strong oxidizer, if allowed to dry on organic materials could cause intense fire if heat is applied. Wear non melting clothing such as cotton when handling. In case of spill keep wet with water until cleaned up.

3. Composition/Information on Ingredients

Chemical name	Common name and synonyms	CAS number	Conc. % By Weight
Sodium chlorate	Chlorate of soda	7775-09-9	40% w/w
Hydrogen Peroxide	None	7722-84-1	≤10% w/w
Water		7732-18-5	Balance

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

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

4. First-Aid Measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if necessary.
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Skin Contact	If on skin (or hair): Take off immediately all contaminated clothing. Rinse contaminated areas with water or take a shower. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.
Eye Contact	Immediately flush eyes with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.
Ingestion	<p>If swallowed: Rinse mouth. Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.</p> <p>If the patient is conscious, give one or two glasses of water to dilute stomach contents.</p> <p>Seek medical attention immediately if the patient feels unwell or is unconscious.</p>
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Notes to physician: Treat symptomatically. No specific treatment.

5. Fire-Fighting Measures

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.
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.
Specific hazards arising from the chemical	Oxidizing material. May intensify fire.
Special protective equipment and precautions for firefighters	Fire-fighters must use standard protective equipment. Protective equipment contaminated with the product needs to be thoroughly decontaminated afterwards.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
Hazardous combustion products	Pure dry sodium chlorate decomposes explosively under intense fire conditions. It initially decomposes to sodium perchlorate and begins to liberate oxygen at about 265°C. Besides oxygen, other compounds formed in a fire include chlorine, hydrogen chloride and sodium oxide.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk-through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal

Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

7. Handling and Storage

Precautions for safe handling

Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest.

Keep in the original container or an approved alternative made from a compatible material, kept tightly closed. Keep away from clothing, incompatible materials and combustible materials. Keep away from heat. Empty containers retain product residue and can be hazardous. Do not reuse container.

Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and away from incompatible materials and food and drink.

Keep separate from reducing agents, acids, and combustible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. All containers should have venting capability and be regularly inspected for swelling.

Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not

8. Exposure Controls/ Personal Protection

	Sodium chlorate: No Information Available
	Hydrogen peroxide
	ACGIH TLV (United States, 3/2016).
	TWA: 1 ppm 8 hours.
Occupational exposure limits	TWA: 1.4 mg/m ³ 8 hours.
	OSHA PEL (United States, 6/2016).
	TWA: 1 ppm 8 hours.
	TWA: 1.4 mg/m ³ 8 hours.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Individual protection measures, such as personal protective equipment:	
Eye/face protection	Wear safety glasses with side shields (or goggles). Eye wash fountain and emergency showers are recommended.
Skin protection	
Hand protection	Permeation resistant gloves.
Other	For exposures with a high potential of contact, wear PVC or rubber rain suit, hard hat, rubber or plastic gloves, rubber boots, and safety Use a NIOSH/MSHA approved respirator if there is a risk of exposure to mists at levels exceeding the exposure limits. Seek advice from respiratory protection specialists.
Respiratory protection	
Thermal Hazards	No specific data
General hygiene considerations	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Appearance	
Physical state	Liquid
Form	Liquid
Colour	Clear to light blue
Odor	Not available
Odor threshold	Not available
Molecular formula	Not available
Molecular weight	Not available
pH	2.0 to 4.0

Melting point/Freezing point	Crystallization begins at -15°C
Initial boiling point and boiling range	Not available
Flash point	Closed cup: Not applicable.
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Flammability limit – lower (%)	Not available
Flammability limit – upper (%)	Not available
Explosive limit – lower (%)	Not available
Explosive limit – upper (%)	Not available
Vapor pressure	Not available
Vapor density	Not available
Relative density	Not available
Solubility (ies)	
Solubility (water)	Not available
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	1.38 g/cm ³
Flammability	Not available
Specific gravity	1.38
Surface tension	Not available

10. Stability and Reactivity

Reactivity	Will react with acids to form chlorine/chlorine dioxide gases.
Chemical stability	Stable when stored under normal conditions and kept free of contamination. Contamination, pH change, or elevated temperature may result in peroxide degradation and oxygen gas generation.
Possibility of hazardous reactions	Contact with combustible materials may increase the risk of causing or intensifying fire.
Conditions to Avoid	High temperature. Contamination. Allowing the product to dry on clothing or other combustible materials will increase flammability hazard and may cause fire.
Incompatible materials	Combustible materials, reducing materials, mineral acids, organic materials, and compounds that decompose hydrogen peroxide.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information

Information on likely routes of exposure

Inhalation	Mists may cause irritation to the respiratory system.
Ingestion	Harmful if swallowed. May cause burns to mouth, throat and stomach.
Skin contact	Can cause mild skin irritation on contact.
Eye contact	Can cause mild eye irritation on contact.

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

Effects of short-term (acute) exposure:	May cause mild eye irritation. Symptoms may include redness and itching.
	May cause mild skin irritation. Symptoms may include redness and itching.
	May cause irritation to the nose, throat and upper respiratory tract if mist is inhaled. Symptoms may include coughing, choking and wheezing.
	If a large quantity is ingested could cause cyanosis (bluish discoloration of the skin), nervous system damage, lung inflammation and pulmonary edema (fluid accumulation). Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.
Effects of long-term (chronic) exposure:	Not available.

Information on toxicological effects

Acute toxicity

Component	Species	Test Results
Sodium chlorate		
Acute		
LD50 Oral	Rat	1200 mg/kg
LC50 Inhalation, vapor	Rat	>7 mg/l over 4 hours
Component	Species	Test Results
Hydrogen peroxide		
Acute		
LD50 Oral	Rat	>500 mg/kg
LD50 Dermal	Rat	4060 mg/kg
LC50 Inhalation, vapor	Rat	>0.17 mg/l over 4 hours (LC50 could not be determined because no deaths were observed in the rats at the maximum saturation concentration).

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Hydrogen Peroxide: Slightly irritant

Serious eye damage/eye irritation	Sodium chlorate: May cause mild eye irritation. Symptoms may include redness and itching. Hydrogen Peroxide: Severe irritant, Risk of serious damage to eyes.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	Not a skin sensitizer.
Germ cell mutagenicity	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
IARC Monographs. Overall Evaluation of Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	No known significant effects or critical hazards.
Specific target organ toxicity - single exposure	Not available
Specific target organ toxicity - repeated exposure	Not applicable
Aspiration toxicity	Not expected to be an aspiration hazard.
Chronic effects	Not available

12. Ecological Information

Ecotoxicity

Component

Species

Test Results

Hydrogen Peroxide

Acute

EC50	Algae – Skeletonema costatum	1.38 mg/l (growth rate) over 72 hours
EC50	Daphnia – Daphnia magna	2.4 mg/l over 48 hours
LC50	Fish – Pimephales promelas	16.4 mg/l over 96 hours

Chronic

NOEC	Algae – Skeletonema costatum	0.63 mg/l (growth rate) over 72 hours
NOEC	Daphnia – Daphnia magna	0.63 mg/l over 21 days

Persistence and degradability



Hydrogen Peroxide: Readily
Sodium Chlorate: Readily biodegradable. Degrades very slowly in soil under aerobic conditions. May decompose by microbial degradation more rapidly under anaerobic conditions.





Bio accumulative potential	Hydrogen Peroxide: LogPow -1.1, low potential
Mobility in soil	High water solubility indicates a high mobility in soil. Sodium chlorate can be leached out of soil. Chlorate accumulates in plant cells until toxic concentrations are reached and the plant dies.
Other adverse effects	No known significant effects or critical hazards.

13. Disposal Considerations

Disposal instructions	The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.
Local disposal regulations	Dispose in accordance with all applicable regulations
Hazardous waste code	Not available
Waste from residues / unused products	Not available
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use containers.

14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN3139	OXIDIZING LIQUID, N.O.S. (SODIUM CHLORATE, HYDROGEN PEROXIDE)	5.1	II	 	<u>Marine Pollutant</u> Marine pollutant <u>Explosive Limit and Limited Quantity Index 1</u> <u>Passenger Carrying Road or Rail Index</u> 1 <u>Special Provisions</u> 16

IMDG Class	UN3139	OXIDIZING LIQUID, N.O.S. (SODIUM CHLORATE, HYDROGEN PEROXIDE)	5.1	II	 	<u>Emergency schedules (EmS)</u> F-A, S-Q
IATA-DGR Class	UN3139	Oxidizing liquid, n.o.s. (SODIUM CHLORATE, HYDROGEN PEROXIDE)	5.1	II	 	<u>Passenger aircraft</u> 550: 1 L <u>Cargo aircraft</u> 554: 5 L

15. Regulatory Information

CEPA Status	All components of this product are on the Canadian DSL list.
U.S. Toxic Substances Control Act	Listed on the TSCA Inventory.

16. Other Information

Issue date	6/5/2022
Revision #	6
Revision Indicator	Address updated and Precautionary Statements clarified

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

References

None.

Disclaimer

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

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