



# MATERIAL SAFETY DATA SHEET

IDENTITY (As Used on Label and List)  
**MIOX Catholyte Solution**

Note: Blank spaces are not permitted if any item is not applicable, or no information is available. The space must be marked to indicate that.

## Section I

Manufacturer's Name  
**MIOX Corporation**

Emergency Telephone Number  
**1-505-343-0090**

Address (Number, Street, City, State, and Zip Code)  
**5500 Midway Park Place, NE  
 Albuquerque, NM 87109**

Telephone Number for Information  
**1-505-343-0090**

**(505)343-0090**

Date Prepared  
**December 23, 1996**  
 Signature of Preparer (Optional)

## Section II - Hazardous Ingredients/Identify Information

Hazardous Components (Source Chemical Identity: Common Name(s))

	Concentrations in mg/L					OSHA PEL	ACGIH TLV	Other Names Recommended
	C5	C20	C30	C40	C80			
MIOX Cell Size								
Cl <sub>2</sub> /OCl <sup>-</sup> Chlorine gas/Hypochlorite Ion	30	30	100	375	1000	0.5 mg/m <sup>3</sup>	N/A	N/A
H <sub>2</sub> Hydrogen Gas dissolved in solution	8	8	8	8	8	N/A	N/A	N/A
NaOH Sodium Hydroxide (pH>11.0)	50	200	250	300	400	N/A	N/A	pH<12.5t
H <sub>2</sub> Hydrogen Gas Rate (ml/min)	60	200	350	580	1460	N/A	N/A	N/A

\*Gas phase limits. Also see Section IV below. tRCRA characteristics of corrosivity in solution.

The MIOX mixed-oxidant solution is generated electrolytically from a sodium chloride brine. The solution contains several chemical components which are either dissolved completely or are in dynamic equilibrium with the overlying gas phase.

Hazards are associated largely with the gases that may evolve from the solution. Dissolved chlorine is completely hydrolyzed in solution; thus chlorine vapor is minimal.

## Section III - Physical/Chemical Characteristics

Boiling Point	100° C	Specific Gravity (H <sub>2</sub> O= 1)	1.03
Vapor Pressure (mm Hg)	N/A	Melting Point	0° C
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate =1)	N/A

Solubility in Water: **Completely Soluble**

Appearance and Odor

**Clear Liquid. Mild Caustic Odor.**

## Section IV - Fire and Explosive Hazard Data

Flash Point (Method Used)	None	Flammable Limits	LEL	UEL
		None	9.4% (H <sub>2</sub> )	91.6% (H <sub>2</sub> )

Extinguishing Media **N/A**

Special Fire Fighting Procedures **No special procedures required.**

Unusual Fire and Explosion Hazards

**Hydrogen buildup can occur in a tightly sealed, unventilated enclosure. Smoking and other sources should be avoided.**

<b>MIOX Catholyte Solution continued...</b>				
<b>Section V - Reactivity Data</b>				
Stability	Unstable		Conditions to Avoid	
	Stable	X		
Incompatibility (Materials to Avoid)				
<b>No Vapor incompatibilities.</b>				
Hazardous Decomposition or By-products		May Occur		Conditions to Avoid
None		Will Not Occur	X	
<b>Section VI - Health Hazard Data</b>				
Route(s) of Entry:	Inhalation?	Skin?	Ingestions?	
	X	X	X	
Health Hazards (Acute and Chronic)				
Inhalation of hydrogen gas causes no symptoms (the primary hazard from hydrogen gas is explosions.)				
Exposure to catholyte solution causes minor skin or eye irritation. Ingestion causes vomiting and gastric distress.				
Carcinogenicity	NTP?	IARC Monographs?	OSHA Regulated	
<b>None- No components are known carcinogens.</b>				
Signs and Symptoms of Exposure				
Exposure to skin causes mild irritation. Ingestion causes vomiting.				
Medical Conditions				
Generally Aggravated by Exposure.	Dermatitis			
Emergency and First Aid Procedures				
Wash immediately if skin, eyes, or mouth are exposed to solution.				
Induce vomiting if solution is ingested.				
<b>Section VII - Precautions for Safe Handling and Use</b>				
Steps to be taken in case material is released or spilled.				
Flush spill area with clean water				
Waste Disposal Method:	Sanitary or storm sewer.			
Precautions to be taken for handling and storing:	No special precautions required.			
Other Precautions				
Catholyte production area must be well-ventilated to prevent hydrogen gas accumulation.				
<b>Section VIII - Control Measures</b>				
Respiratory Protection (Specify Type)				
None required.				
Ventilation	Local Exhaust	Normal room ventilation	Special	Not required
	Mechanical (General)	Normal room ventilation	Other	N/A
Protective Clothing/Gloves		Eye Protection		
Rubber gloves advised		Goggles Advised		
Other Protective Clothing or Equipment				
None				
Work/Hygienic Practices				
Avoid smoking and other ignition sources in vicinity				