



## SAFETY DATA SHEET

### Section 1 – Identification

**MSDS Name:** IonX Electrode Gel

**Synonyms:** Glycerin: 50%  
(v/v) ASTM for Sulfate Solution

**Company Identification:** M. C. Miller Co., Inc.  
11640 US Hwy 1  
Sebastian, Florida 32958

Telephone: 1-772-794-9448  
Fax: 1-772-589-9072  
E-mail: [sales@mcmiller.com](mailto:sales@mcmiller.com)

**Emergency Numbers:** M. C. Miller Co., Inc. 1-772-794-9448

### Section 2 – Hazard(s) Identification

- **Boiling Point:** N/A
- **Vapor Density (Water):** N/A
- **Melting Point:** N/A
- **Appearance/Odor:** Clear, odorless liquid
- **Water Solubility:** 100% by weight
- **Evaporation Rate:** N/A
- **Vapor Pressure: (mm Hg):** N/A
- **Reactivity In Water:** N/A
- **The Substance may be toxic to kidneys**

### Section 3 – Composition/ Information on Ingredients

According to OSHA, this product should not be considered a hazardous material  
OSHA PEL/ACGIH TLV: NA

<b>CAS#</b>	<b>Chemical Name</b>	<b>%</b>	<b>EINECS#</b>
56-81-5	Glycerin	50	200-289-5
7732-18-5	Water	50	215-185-5
N/A	Gelling Agent	< >1%	N/A
Trade Secret	Trade Secret	Trade Secret	Trade Secret

### Section 4 – First Aid Measures

- **Eye Contact:**
  - Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used, Get medical attention if irritation occurs.
- **Skin Contact:**

- Wash with soap and water. Cold water may be used. Cover the irritated skin with an emollient. Get attention if irritation develops.
- **Inhalation:**
  - If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
- **Ingestion:**
  - If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, belt or waistband, Get medical attention immediately.

### **Section 5 - Fire Fighting Measures**

- **Flammability of the Product:** Non-flammable
- **Auto-ignition Temperature:** N/A
- **Flash Point:** N/A
- **Extinguishing Media:** Any
- **Special Fire Fighting Procedures:** N/A
- **Product of Combustion:** N/A
- **Fire Hazards in Presence of Various Substances:** N/A
- **Explosion Hazards in Presence of Various Substances:**
  - Explosion in presence of oxidizing materials
  - Non-explosive in presence of open flames and sparks, of shocks.
- **Special Remarks on Explosion Hazards:**
  - Glycerin is incompatible with strong oxidizers such as chromium trioxide, potassium chlorate, or potassium permanganate and may explode on contact with these compounds. Explosive glyceryl nitrate is formed from a mixture of glycerin and sulfuric acids. Perchloric acids, lead oxide + glycerin from perchloric esters which may be explosive. Glycerin and chlorine may explode if heated and confined. (Glycerin)

### **Section 6 – Accidental Release Measures**

- **Small Spill:**
  - Dilute with water and mop up, or absorb with an inert dry material and place in appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to the local and regional authority requirements.
- **Large Spill:**
  - Stop leak without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Finish cleaning by spreading water on contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

### **Section 7 – Handling and Storage**

- **Precautions:**
  - Do not ingest. Do not breath gas/fumes/vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

### **Section 8 – Exposure Controls / Personal Protection**

- **Engineering Controls:**
  - Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.  
Ensure that eyewash stations and safety showers are proximal to the work-station location.
- **Personal Protection in case of large spill:**
  - Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
- **Exposure Limits:**
  - Glycerin
  - TWA: 10 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] [1999] inhalation total.
  - TWA: 15 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] inhalation total.
  - TWA: 10 STEL: 20 (mg/m<sup>3</sup>) [Canada]
  - TWA: 5 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Respirable. Consult local authorities for acceptable exposure limits.

### **Section 9 – Physical and Chemical Properties**

- **Physical State and appearance:** Liquid
- **Odor:** Not available
- **Taste:** Sweet
- **Molecular Weight:** Not Applicable
- **Color:** Clear
- **pH:** (1% soln/water): Neutral.
- **Boiling Point:** The lowest known value is 100 °C (212 °F)(Water).  
Weighted average: 195 °C (383 °F)
- **Specific Gravity:** 1.129 @ 15 C 1 (Water = 1)
- **Vapor Density:** The highest known value is 2.3 kPa (@ 20 °C) (Water)  
Weighted average: 1.15 kPa ( @ 20 °C)
- **Melting Point:** -23 °C (-9.4 °F)
- **Dispersion Properties:** See solubility in water, acetone.
- **Solubility:** Easily miscible (solution) in cold water, hot water.

### **Section 10 – Stability and Reactive Data**

- **Stability:** The product is stable.
- **Instability Temperature:** Not Available
- **Conditions of Instability:** Not Available
- **Incompatibility with various substances:** Reactive with oxidizing agents.
- **Corrosivity:** Non-corrosive in presence of glass.
- **Special Remarks on Reactivity:** Hygroscopic.  
Glycerin is incompatible with strong oxidizers such as chromium trioxide, potassium Chlorate, or potassium permanganate.  
Glycerin may reacted violently with acetic anhydride, aniline and nitrobenzene, chromic oxide, lead oxide and fluorine, phosphorous triiodide, ethylene oxide and heat, silver perchlorate, sodium peroxide, sodium hydride. (Glycerin)
- **Polymerization:** will not occur.

### **Section 11 – Toxicological Information**

- **Routes of Entry:** Absorbed through skin, Eye contact.
- **Toxicity to Animals:** (LD50): 8180 mg/kg (Mouse) (Calculated value for the mixture).
- **Chronic Effects on Humans:** The substance is toxic to Kidneys.
- **Other Toxic Effects on Humans:**

- **Special Remarks on Chronic Effects on Humans:** Passes through the placental barrier in animals
- **Special Remarks on other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant, permeator, of ingestion, of inhalation).
- **Special Remarks on other toxic Effects on Humans:**
  - Acute Potential health effects:
    - Low hazard for normal industrial handling or normal workplace conditions.
  - Skin:
    - May cause skin irritation. May be absorbed through skin.
  - Eyes:
    - May cause eye irritation with stinging. Redness, burning sensation, and tearing, but no eye injury.
  - Ingestion:
    - Low hazard, low toxicity except with very large doses. When large doses are ingested, it can cause gastrointestinal tract irritation with thirst, nausea or vomiting, diarrhea. It may also effect behavior/central nervous system, general, anesthetic, headache, dizziness, confusion, insomnia, toxic psychosis, muscle weakness, urinary system/kidneys, cardiovascular system, liver. It may also cause elevated blood sugar.
  - Inhalation:
    - Due to low vapor pressure, inhalation at room temperature is unlikely. Inhalation of mist may cause reparatory track irritation.

## **Section 12 – Ecological information**

- **Ecotoxicity:** Not available
- **BOB5 and COD:** Not available
- **Products of Biodegradation:**
  - Possibly hazardous short term degradation products are likely. However, long term degradation products may arise.
- **Toxicity of the products of Biodegradation:** The products are less toxic than the product itself.
- **Special Remarks on the products of Biodegradation:** Not available

## **Section 13 – Disposal Considerations**

- **Waste Disposal:**
  - Waste must be disposed of in accordance with, federal. State and local environmental control regulations

## **Section 14 – Transport Information**

- **DOT Classification:** Not a DOT Controlled Material (United States)
- **Identification:** Not Applicable.
- **Special Provisions for Transport:** Not applicable.

## **Section 15 – Transport Information**

- **Federal and State Regulations:**
  - Illinois toxic substances disclosure to employee act: Glycerin
  - Rhode Island RTK hazardous substances: Glycerin
  - Pennsylvania RTK: Glycerin
  - Minnesota: Glycerin
  - Massachusetts RTK: Glycerin
  - Tennessee Right to Know

- TSCA 8(b) inventory: Glycerin; Water
- **Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910. 1200).
- **WHMIS (Canada):** Not controlled under WHMIS (Canada).
- **DSCL (EEC):**  
Not available  
S24/25 – Avoi contact with skin and eyes.
- **HMIS (U.S.A.):**
  - Health Hazard: 1
  - Fire Hazard: 0
  - Reactivity: 0
  - Personal Protection: g
  -
- **National Fire Protection Association (U.S.A.):**
  - Health: 1
  - Flammability: 0
  - Reactivity: 0
  - Special hazard:
  -
- **Protective Equipment:**
  - Lab Coat
  - Gloves
  - Vapor respirator. Be sure to use an approved/ certified respirator or equivalent.
  - Safety Glasses.

### **Section 16 – Other Information**

The information contained within this document is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if M.C. Miller Co. Inc. has been advised of the possibility of such damages