



Issue date: 01/20/2022  
Version: 1.0

# SAFETY DATA SHEET

## Section 1: Identification

**Product Name:** iPEM-1

**Chemical Name/Synonyms:** Ion-pair high temperature polymer electrolyte membrane (HT-PEM)

**Recommended use:** Fuel cells and electrochemical hydrogen pumps and supercapacitor devices

**Restrictions on use:** For industrial use only. Do not use or resell iPEM-1 for any medical applications including implantation in the human body or contact with internal body fluids or tissues.

**Company:** Ionomer Solutions

**Address:** 8000 Innovation Park Dr, Baton Rouge, LA 70820, USA

**Telephone:** +1 (844) 505-4667

**Website:** <https://www.ionomersolutions.com/>

**In emergency call 911.**

**MEDICAL EMERGENCY Phone: Poison Control Center** 1-800-222-1222 (toll free)

## Section 2: Hazard(s) Identification

**Hazard Classification:**

**GHS classification in accordance with 29 CFR 1910 (OSHA HCS):** Not a hazardous substance or mixture.

**GHS label elements:** Not a hazardous substance or mixture.

**Other hazards:** None known

## Section 3: Composition/ Information on Ingredients

**Substance/mixture:** Mixture

**Components:** No hazardous ingredients

## Section 4: First-Aid Measures

**General advice:** In case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

**In case of skin contact:** Not applicable.

**In case of eye contact:** Not applicable.

**If inhaled:** Not applicable.

**If swallowed:** Not applicable.

**Protection of first aiders:** None required.

**Notes to physician:** Treat symptomatically and supportively.

#### Section 5: Fire-Fighting Measures

**Special hazards arising from the substance or mixture:** In a fire, the membrane melts, producing droplets which may propagate fire. Once started, a fire will tend to self-extinguish. Heating can release hazardous gases.

**Suitable extinguishing agents:** Dry powder, chemical foam, carbon dioxide, water mist.

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.

**Advice for firefighters:** Extinguish fire from a safe distance with enough protection. Prevent fire extinguishing water from contaminating surface water or ground water system.

**Hazardous combustion products:** No data available.

#### Section 6: Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** Not applicable.

**Measures for environmental protection:** No special environmental protections required.

**Measures for cleaning/collecting:** Not applicable.

#### Section 7: Handling and Storage

**Handling:** Use nitrile gloves and protective eyewear while handling.

**Storage:** Store at room temperature.

#### Section 8: Exposure Controls/Personal Protection

##### Control Parameters

**Components with workplace control parameters:** None

**Occupational exposure limits of decomposition products:** None

**Engineering measures:** Not applicable.

**Personal protective equipment**

**Respiratory protection:** Not required.

**Eye/face protection:** Wear laboratory safety glasses.

**Hand protection:** Handle with nitrile or latex gloves.

**Skin and body protection:** Not required.

### Section 9: Physical and Chemical Properties

**Appearance:**

**Form:** Solid, cloudy membrane

**Color:** Orange

**Odor:** Odorless

**Odor threshold:** No data available.

**pH:** No data available.

**Melting point/melting range:** No data available.

**Boiling point/boiling range:** No data available.

**Flash point:** No data available.

**Evaporation rate:** No data available.

**Flammability:** No data available.

**Upper/lower flammability or explosive limits:** No data available.

**Auto ignition temperature:** No data available.

**Vapor pressure:** No data available.

**Vapor density** No data available.

**Relative density:** No data available.

**Solubility in/Miscibility with water:** Insoluble.

**Decomposition temperature:** No data available.

### Section 10: Stability and Reactivity

**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability:** Stable under normal conditions.

**Conditions to avoid:** None known.

**Incompatible materials:** None known.

**Hazardous decomposition products:** None known.

## Section 11: Toxicological Information

**Acute toxicity:** Not classified based on available information.

### **Potential routes of exposure/potential health effects**

**Skin:** No data available.

**Eye:** No data available.

**Inhalation:** No data available.

**Ingestion:** No data available.

**Carcinogenic effects:** No data available.

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP

IARC

OSHA

**Mutagenic effects:** No data available.

**Reproductive toxicity:** No data available.

**Sensitization:** No data available.

**Target organs:** No data available.

## Section 12: Ecological Information (non-mandatory)

**Ecotoxicity:** No data available.

**Component:** No data available.

**Mobility:** No data available.

**Biodegradation:** No data available.

**Bioaccumulation:** No data available.

## Section 13: Disposal Considerations (non-mandatory)

**Disposal of waste product:** Dispose of in according to local regulations.

**Disposal of waste packaging:** Do not reuse. Dispose of in according to local regulations.

## Section 14: Transport Information (non-mandatory)

The transport information provided in this section only applies to the material/formulation itself and is not specific to any package/configuration.

**U.S. Department of Transportation Ground (49 CFR)**

Not dangerous goods

**International Maritime Dangerous Goods (IMDG)**

Not dangerous goods

**International Air Transportation (IATA)**

Not dangerous goods

**Section 15: Regulatory Information (non-mandatory)**

**US Federal Regulations**

**SARA 302 Components:** None above reporting de minimis

**SARA 313 Components:** None above reporting de minimis.

**SARA 311/312 Hazards:** No SARA hazards.

**CERCLA Reportable quantity:** None above reporting de minimis

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs):** Product does not contain hazardous air pollutants.

**TSCA (Toxic Substances Control Act):** All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) inventory.

**TSCA 12 (b) Export Notification:** None above reporting de minimis

**California Proposition 65:** This product does not contain any chemical known in the State of California to cause cancer or cause birth defects or other reproductive harm.

**Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components:** No components are subject to the Pennsylvania Right to Know Act.

**New Jersey Right To Know Components:** No components are subject to the New Jersey Right to Know Act.

**Section 16: Other Information**

**This safety data sheet contains changes from the previous version in sections:** 1-16.

**SDS date of preparation/update:** 01/20/2022

**Abbreviations:**

ACGIH: USA. ACGIH Threshold Limit Values (TLV)

NIOSH REL: USA. NIOSH Recommended Exposure Limits

OSHA Z-1: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

OSHA Z-2: USA. Occupational Exposure Limits (OSHA) - Table Z-2

ACGIH / TWA: 8-hour, time-weighted average

ACGIH / STEL: Short-term exposure limit

ACGIH / C: Ceiling limit

NIOSH REL / TWA: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

NIOSH REL / ST: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday

NIOSH REL / C: Ceiling value is not exceeded at any time.

OSHA Z-1 / TWA: 8-hour time weighted average

OSHA Z-2 / TWA: 8-hour time weighted average

**Disclaimer**

The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed, or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.