Aemion+®

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 2/20/2026 Revision date: 2/25/2026 Supersedes: 2/20/2026 Version: 1.1

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Trade name : Aemion+®

1.2. Other means of identification

Other means of identification : Aemion® AEM Pre-exchanged Membrane

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Laboratory chemical,Scientific research and development
Restrictions on use : Commercial use has been approved under a US EPA TSCA Low Volume Exemption only for membrane coatings and electrode coatings.

1.4. Supplier's details

Company
Ionomr Innovations
2386 E Mall
Unit 111
Vancouver, BC V6T 1Z3
Canada
T 1-604-628-6098
safety@ionomr.com

Supplier
Ionomr Innovations, Inc.
500 Rutherford Ave.
Charlestown, MA 02129
USA

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA) CCN 1015296
Back-up Emergency Number: +1 703-741-5970 (Washington, DC)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation, Category 2B	H320	Causes eye irritation.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs (kidneys, liver) through prolonged or repeated exposure.
Combustible dust		May form combustible dust concentrations in air [if small particles are generated during further processing, handling or by other means.].

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning

Hazard statements (GHS US) : CODU - May form combustible dust concentrations in air [if small particles are generated during further processing, handling or by other means.]
H320 - Causes eye irritation
H373 - May cause damage to organs (kidneys, liver) through prolonged or repeated exposure

Precautionary statements (GHS US) : Do not breathe dust.
Wash hands, forearms and face thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical advice or attention if you feel unwell.
If eye irritation persists: Get medical advice or attention.
Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
1H-Imidazole, 4-(4-chlorophenyl)-2-[4-[5-(4-chlorophenyl)-1-methyl-4-phenyl-1H-imidazol-2-yl]-2,3,5,6-tetramethylphenyl]-1-methyl-5-phenyl-, homopolymer, compd. With 1-iodobutane, nitrate-exchanged	CAS-No.: 3114073-64-9	15 – 40	Eye Irrit. 2B, H320 Comb. Dust 1
Ethylene Glycol	CAS-No.: 107-21-1	1 – 5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2B, H320 STOT RE 2, H373

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret
Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : First Aid Provider: Pay attention to self protection. Never give anything by mouth to an unconscious person. Give artificial respiration if necessary. Induce artificial respiration with mask fitted with one-way valve or other suitable device; not mouth-to-mouth. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin areas with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth out with water. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.

Symptoms/effects after skin contact : Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Symptoms/effects after eye contact : Stinging, redness, itching, tears, blurred vision, swelling.

Symptoms/effects after ingestion : Dusts from the product, if present, may cause throat irritation.

Most Important Symptoms/Effects : Causes eye irritation.

Chronic symptoms : May cause damage to organs (kidneys, liver) through prolonged or repeated exposure.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Dry sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : May form combustible dust concentrations in air.

Explosion hazard : May form explosive dust-air mixture if small particles are generated during further processing, handling, or by other means.

Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon dioxide. Carbon monoxide. Nitrous oxide.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Eliminate all ignition sources if safe to do so. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all personal contact including breathing in the dust. Avoid contact with skin and eyes. Remove ignition sources. Do not take actions involving personal risks.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, remove ignition sources, ventilate area. Prevent other non-emergency personnel from entering the danger area.

For emergency responders

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate personnel to a safe area. Ventilate spillage area.

Environmental precautions : Avoid release to the environment. Do not let the product reach soil, drains, sewers, or surface and ground water. Do NOT wash away into sewer.

6.2. Methods and materials for containment and cleaning up

For containment : Contain with non-combustible inert absorbent.
Methods for cleaning up : Small spills: Take up in non-combustible inert absorbent and place into container for disposal. Decontaminate surfaces and equipment with water and detergent. Large spills: scoop solid spill into closing containers. Avoid creating or spreading dust. Clean contaminated surfaces with an excess of water. Until a sufficient level of dilution is achieved, the decontamination water may pose the same hazards as the product. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

For further information refer to section 8: "Exposure controls/personal protection",For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe dust. Wear personal protective equipment. Avoid contact with skin and eyes. Use only outdoors or in a well-ventilated area. May form combustible dust concentrations in air. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Keep only in original container. Store in a well-ventilated place. Keep cool.
Incompatible materials : Oxidizing agents. Reducing agents.
Specific end uses : Laboratory chemicals. Scientific research and development.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Ethylene Glycol (107-21-1)

USA - ACGIH® - Threshold Limit Values

Local name	Ethylene glycol
ACGIH® TLV® TWA	25 ppm (V - Vapor fraction)
ACGIH® TLV® STEL	10 mg/m³ (I - Inhalable particulate matter, H - Aerosol only)
	50 ppm (V - Vapor fraction)
Remark (ACGIH®)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2025

8.2. Appropriate engineering controls

Appropriate engineering controls : Use general ventilation, local exhaust ventilation, or process enclosure to keep the airborne concentrations below the permissible exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure good ventilation of the work station.
Environmental exposure controls : Take measures to reduce or limit air emissions and releases to soil and the aquatic environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:
Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment. Wear recommended personal protective equipment.

Hand protection:
Protective gloves. Nitrile rubber
Eye protection:
Safety glasses. Where excessive dust may result, wear goggles
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of inadequate ventilation wear respiratory protection. Effective dust mask: N95 (NIOSH-42C FR84)

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Fibrous.
Color	:	Light yellow Yellow
Odor	:	Odorless
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1.2 g/cm³
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	> 180 °C / 356 °F
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

At high temperatures : > 180 °C / 356 °F.

10.4. Conditions to avoid

Avoid dust formation. High temperature. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agents. Reducing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates: Carbon dioxide. Carbon monoxide. Nitrogen oxides.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Ethylene Glycol	
LD50 oral rat	4700 mg/kg body weight
LD50 oral	6140 mg/kg
LD50 dermal rat	9530 mg/kg body weight
LD50 dermal	> 3549 mg/kg

Skin corrosion/irritation : Not classified

Ethylene Glycol	
pH	6 – 7.5
Skin corrosion/irritation, rabbit	Not irritating to skin

Serious eye damage/irritation : Causes eye irritation.

Ethylene Glycol	
pH	6 – 7.5
Serious eye damage/irritation, rabbit	<40% Irritating to eyes (Fully reversible effects within 7 days of observation)

Respiratory or skin sensitization : Not classified

Ethylene Glycol	
Guinea pig maximization test	Not sensitive

Ethylene Glycol	
Skin sensitization, human	Not sensitive

Germ cell mutagenicity : Not classified

Ethylene Glycol	
Germ cell mutagenicityDominant lethal test, rat	Negative

Carcinogenicity : Not classified

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs (kidneys, liver) through prolonged or repeated exposure.

Ethylene Glycol	
STOT-repeated exposure	May cause damage to organs (kidneys, liver) through prolonged or repeated exposure.

Aspiration hazard : Not classified
Symptoms/effects after inhalation : Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact : Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact : Stinging, redness, itching, tears, blurred vision, swelling.
Symptoms/effects after ingestion : Dusts from the product, if present, may cause throat irritation.
Most Important Symptoms/Effects : Causes eye irritation.
Chronic symptoms : May cause damage to organs (kidneys, liver) through prolonged or repeated exposure.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Not classified

Ethylene Glycol	
LC50 - Fish [1]	> 72860 mg/l
EC50 - Crustacea [1]	> 100 mg/l
EC50 96h - Algae [1]	6500 – 13000 mg/l
ErC50 algae	> 1000 mg/l
NOEC (chronic)	≥ 1000 mg/l
NOEC chronic fish	32000 mg/l 7 days
NOEC chronic crustacea	24000 ml/l (48h)

12.2. Persistence and degradability

Aemion+®	
Persistence and degradability	Not established.

1H-Imidazole, 4-(4-chlorophenyl)-2-[4-[5-(4-chlorophenyl)-1-methyl-4-phenyl-1H-imidazol-2-yl]-2,3,5,6-tetramethylphenyl]-1-methyl-5-phenyl-, homopolymer, compd. With 1-iodobutane, nitrate-exchanged	
Persistence and degradability	Not rapidly degradable

Ethylene Glycol	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Ethylene Glycol	
Partition coefficient n-octanol/water (Log Pow)	-0.337
Bioaccumulative potential	Does not bioaccumulate.

12.4. Mobility in soil

Ethylene Glycol	
Mobility in soil	0.2
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions.
Ecological waste information : Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated

DOT	IMDG	IATA
14.5. Environmental hazards		
	Not regulated	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

IMDG
Not regulated

IATA
Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

1H-Imidazole, 4-(4-chlorophenyl)-2-[4-[5-(4-chlorophenyl)-1-methyl-4-phenyl-1H-imidazol-2-yl]-2,3,5,6-tetramethylphenyl]-1-methyl-5-phenyl-, homopolymer, compd. With 1-iodobutane, nitrate-exchanged	CAS-No. 3114073-64-9	15 – 40%
Poly(oxy-p-phenyleneoxy-p-phenylenecarbonyl-p-phenylene)	CAS-No. 31694-16-3	6%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Ethylene Glycol	CAS-No. 107-21-1	1 – 5%

Ethylene Glycol (107-21-1)

Listed on EPA Hazardous Air Pollutant (HAPS)
Listed on EPA HAPs Chronic Dose Response Assessment List - Carcinogens
Listed on EPA HAPs Acute Dose Response Assessment List – Exposure limits

CERCLA RQ	5000 lb

15.2. International regulations

CANADA

1H-Imidazole, 4-(4-chlorophenyl)-2-[4-[5-(4-chlorophenyl)-1-methyl-4-phenyl-1H-imidazol-2-yl]-2,3,5,6-tetramethylphenyl]-1-methyl-5-phenyl-, homopolymer, compd. With 1-iodobutane, nitrate-exchanged (3114073-64-9)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Ethylene Glycol (107-21-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Ethylene Glycol (107-21-1)
Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on EPA HAPs Chronic Dose Response Assessment List - Carcinogens Listed on EPA HAPs Acute Dose Response Assessment List – Exposure limits

15.3. State regulations

WARNING: This product can expose you to Ethylene glycol (ingested), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
Ethylene Glycol(107-21-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16 Other information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Revision date : 2/25/2026
Issue date : 2/20/2026

Full text of hazard classes and H-statements	
H302	Harmful if swallowed
H320	Causes eye irritation
H373	May cause damage to organs through prolonged or repeated exposure

Indication of changes:		
Section	**Changed item**	**Comments**
3	Concentration	**Modified**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.