

# SAFETY DATA SHEET

Sustainion® XA9 Ionomer solution

Version 2.0

SDS DATE: 12/07/2017

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Sustainion® XA9 ionomer solution

**DISTRIBUTOR:** Fuel Cell Store  
**ADDRESS:** 1902 Pinon Drive, Unit B  
**City, State, Zip:** College Station, TX 77845

**EMERGENCY PHONE:** 217-239-1400  
**EMAIL:** sales@fuelcellstore.com

## SECTION 2: HAZARDS IDENTIFICATION



**Pictogram**

**Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 3), H226

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

**GHS Label elements, including precautionary statements:**

Pictogram

Signal word Warning

Hazard statement(s)

H226 Flammable liquid and vapour.  
H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing Rinse skin with water/shower  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/ container to an approved waste disposal plant.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<b>INGREDIENT:</b>	<b>CAS NO.</b>	<b>PERCENT</b>	<b>SARA 313</b>
1H-Imidazole, 1,2,4,5-tetramethyl-, compd. with 1-(chloromethyl)-4-ethenylbenzene polymer with ethenylbenzene	2066504-63-8	5%	N
Ethanol	64-17-5	balance	N

**SYNONYMS: PSTMIM-CI**

**CHEMICAL FORMULA:**

## SECTION 4: FIRST-AID MEASURES

**GENERAL ADVICE**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**IN CASE OF EYES CONTACT:**

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Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

## IN CASE OF SKIN CONTACT:

Wash off with soap and plenty of water. Consult a physician.

## IF SWALLOWED:

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## IF INHALED:

If inhaled, remove person into fresh air. If not breathing, give artificial respiration. Consult a physician.

## INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No data available

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## SECTION 5: FIRE-FIGHTING MEASURES

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**AUTOIGNITION TEMPERATURE:** data not available

### NFPA HAZARD CLASSIFICATION:

(estimated) HEALTH: 2 FLAMMABILITY: 3 REACTIVITY: 0

### HMS HAZARD CLASSIFICATION:

(estimated) HEALTH: 2 FLAMMABILITY: 3 REACTIVITY: 0

### EXTINGUISHING MEDIA:

#### SUITABLE EXTINGUISHING MEDIA

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### FIRE FIGHTING:

### SPECIFIC HAZARD(S) ARISING FROM THE SUBSTANCE OR MIXTURE

Nature of decomposition products not known.

### ADVICE FOR FIREFIGHTERS

Wear self-contained breathing apparatus for firefighting if necessary.

### FURTHER INFORMATION

Use water spray to cool unopened containers.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

### ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations

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## SECTION 7: HANDLING AND STORAGE

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### PRECAUTIONS FOR SAFE HANDLING

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

### CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

hygroscopic

Storage class (TRGS 510): Flammable liquids

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### ENGINEERING CONTROLS:

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Hand in accordance with good industrial hygiene and safety practice. Washing hands before breaks and at the end of the workday.

## RESPIRATORY PROTECTION:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## SKIN PROTECTION:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 38 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

## EYE PROTECTION:

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

## BODY PROTECTION

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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<b>PHYSICAL STATE:</b>	liquid
<b>COLOR:</b>	light yellow
<b>FORM:</b>	liquid
<b>ODOR:</b>	Alcohol like, similar to vodka
<b>ODOR THRESHOLD</b>	100 ppm
<b>pH:</b>	no data available
<b>BOILING POINT:</b>	78 °C (172 °F) (Ethanol)
<b>MELTING/FREEZING POINT:</b>	-114 °C (-173.2 °F) (Ethanol)
<b>VAPOR PRESSURE (mmHg):</b>	44.6 mmHg at 20.0 °C (68.0 °F) (Ethanol)
<b>VAPOR DENSITY (AIR = 1):</b>	1.6 (Ethanol)
<b>RELATIVE DENSITY:</b>	0.79 g/mL at 25 °C (77 °F) (Ethanol)
<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1):</b>	0.79 (Ethanol)
<b>EVAPORATION RATE:</b>	1.7 (Ethanol)
<b>SOLUBILITY IN WATER:</b>	Ethanol: soluble, polymer: insoluble
<b>DECOMPOSITION TEMP:</b>	no data available
<b>PARTITION COEFFICIENT:</b>	no data available
<b>FLASH POINT:</b>	13.0 °C (55 °F) - closed cup (Ethanol)
<b>EXPLOSION PROPERTIES:</b>	no data available
<b>OXIDIZING PROPERTIES:</b>	no data available
<b>FLAMMABILITY LIMIT:</b>	Lower 3.3% upper 19% (Ethanol)
<b>AUTOIGNITION TEMP:</b>	363.0 °C (685.4 °F) (Ethanol)
<b>VISCOSITY:</b>	1.06 cP at 25 °C

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## SECTION 10: STABILITY AND REACTIVITY

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**REACTIVITY:** no data available

**CHEMICAL STABILITY:** stable under ambient conditions

**INCOMPATIBILITY (MATERIAL TO AVOID):** strong oxidizing agents.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** no data available

**HAZARDOUS POLYMERIZATION:** will not occur

**POSSIBILITY OF HAZARDOUS REACTIONS:** Ethanol vapours may form explosive mixture with air.

**CONDITIONS TO AVOID:** Heat, flames and sparks.

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**INCOMPATIBLE MATERIALS:** Alkali metals, Oxidizing agents, Peroxides

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### TOXICOLOGICAL INFORMATION:

**ACUTE TOXICITY:** no data available

**SKIN CIRROSION/IRRITATION:** no data available

**SERIOUS EYE IRRITATION/EYE DAMAGE:** no data available

**INHALATION:** no data available

**REPRODUCTIVE TOXICITY:** no data available

**TARGET ORGAN(S) or SYSTEM(S):** no data available

**RTECS:** not available

**CARCINOGENITY:** no data available. Note 2-methyl-imidazole and 4-methyl imidazole have been shown to lead to increased incidence of lung and liver cancer in rats at doses of 230 mg/kg

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## SECTION 12: ECOLOGICAL INFORMATION

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**TOXICITY:** no data available

**PERSISTENCE AND DEGRADABILITY:** no data available

**BIOACCUMULATIVE POTENTIAL:** no data available

**MOBILITY IN SOIL:** no data available

**OTHER ADVERSE EFFECTS:** no data available

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## SECTION 13: DISPOSAL CONSIDERATIONS

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### WASTE DISPOSAL METHOD:

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state and local environmental regulations.

**CONTAMINATED PACKAGING:** dispose of as unused product.

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## SECTION 14: TRANSPORTATION INFORMATION

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### U.S. DEPARTMENT OF TRANSPORTATION

**PROPER SHIPPING NAME:** UN 1993 Flammable Liquid n.o.s. (Ethanol)

**NON-HAZARDOUS FOR TRANSPORT:** This substance is considered to be hazardous for transport.

**UN NUMBER:** UN 1993

**PACKING GROUP:** II

**HAZARD CLASS:** 3

### WATER TRANSPORTATION

**PROPER SHIPPING NAME:** UN 1993 Flammable Liquid n.o.s. (Ethanol)

**NON-HAZARDOUS FOR WATER TRANSPORT:** This substance is considered to be hazardous for water transport.

### AIR TRANSPORTATION

**PROPER SHIPPING NAME:** UN 1993 Flammable Liquid n.o.s. (Ethanol)

**NON-HAZARDOUS FOR AIR TRANSPORT:** This substance is considered to be hazardous for air transport.

**UN NUMBER:** UN 1993

**PACKING GROUP:** II

**HAZARD CLASS:** 3

### Quantities less than 100 lbs:

**DOT SHIPPING DESCRIPTION:** Regulated

**DOT HAZARD CLASSIFICATION:** Regulated

**DOT LABELS REQUIRED:** Needed

**DOT MARKING REQUIRED:** None

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## SECTION 15: REGULATORY INFORMATION

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### SARA 302 COMPONENTS

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 COMPONENTS

no chemicals in this materials are subject to the reporting requirement of SARA Title III, Section 313.

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## SARA 311/312 HAZARDS

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**STATE REGULATIONS:** no data available

**INTERNATIONAL REGULATIONS:** no data available

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## SECTION 16: OTHER INFORMATION

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### DISCLAIMER:

For R&D use only. The information on this data sheet represents data available at the time of writing and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified in the technical guidance literature. Any other use of the product, which involves using the product in combination with any other product or any other process, is the responsibility of the user.

**MSDS CREATION DATE:** March 13, 2017

**REVISION DATE:** July 10, 2019

**REVISIONS MADE IN SECTIONS:** 2, 3