


# TRILITE<sup>®</sup> MC-14MH

Strong Acid Cation Exchange Resin

## 1. PRODUCT AND COMPANY INFORMATION

- 1) Product name: TRILITE<sup>®</sup> MC-14MH
- 2) Recommended use of the chemical and restrictions on use
  - Recommended use: Ion exchange resin
  - Restrictions on use: It is inedible
- 3) Company information
  - Company: Samyang corporation ion exchange resin sales team
  - Address: #31 Jongno 33-gil, Jongno-gu, Seoul 03129, Korea
  - Telephone: +82-2-740-7423
  - Fax: +82-2-740-7709
  - E-Mail: trilite@samyang.com
  - Homepage: www.samyangtrilite.com

## 2. HAZARDS IDENTIFICATION

- 1) Globally Harmonized System of Classification and Labeling of Chemicals(GHS)
  - Physical hazard: Not applicable
  - Health hazard: Eye Irritation - Category 2
  - Environment hazard: Not applicable
- 2) Label elements including precautionary statements
  - Symbol: 
  - Signal word: **Warning**
  - Hazard statements: H319 Causes serious eye damage
  - Precautionary statements
    - Prevention
      - P264 Wash thoroughly after handling.
      - P280 Wear protective gloves, protective clothing, eye protection, face protection.
    - Responses
      - 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.
- 3) US NFPA
  - Health: 1, Flammability: 1, Reactivity: 0, Water reactivity: 0

## 3. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	EINECS No.	Conc. %
Diethenylbenzene polymer with ethenylbenzene and ethenylethylbenzene, sulfonated	69011-20-7	No data available from ECHA	40±5
Water	7732-18-5	231-791-2	60±5

#### **4. FIRST AID MEASURES**

- 1) In case of eye contact
  - Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- 2) In case of skin contact
  - Wash off with soap and plenty of water.
- 3) If inhaled
  - If breathed in, move person into fresh air.
  - If not breathing, give artificial respiration.
  - Consult a physician.
- 4) If swallowed
  - Never give anything by mouth to an unconscious person.
  - Rinse mouth with water.
- 5) Other medical attention
  - Medical personnel should be aware of the protective measures of the substance.
- 6) Potential health effect
  - May be harmful if swallowed.

#### **5. FIRE, FIGHTING MEASURES**

- 1) Flammable properties
  - Flash point: No flash occurred under 93°C (Rapid equilibrium method)
  - Autoignition temperature: No spontaneous combustion under 200°C
  - Burning rate: Did not ignite (UN TDG test & criteria - Test N1)
- 2) Suitable extinguishing media
  - Water spray, alcohol-resistant foam, dry chemical, carbon dioxide
- 3) Specific hazards arising from the chemical
  - No data available
- 4) Special protective equipment for fire-fighters
  - Wear self-contained breathing apparatus for firefighting if necessary.

#### **6. ACCIDENTAL RELEASE MEASURES**

- 1) Personal precautions
  - Ensure adequate ventilation.
- 2) Environmental precautions
  - No data available
- 3) Methods and materials for containment and cleaning up
  - Keep in suitable, closed containers for disposal.

#### **7. HANDLING AND STORAGE**

- 1) Precautions for safe handling
  - Avoid breathing dust.
  - Provide appropriate exhaust ventilation at places where dust is formed.
- 2) Conditions for safe storage
  - Store in a closed container.

- Avoid direct sunlight, heat sources, and strong oxidizing agents.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

- 1) Components with workplace control parameter
  - KOSHA: No data available
  - US ACGIH: No data available
- 2) Biological exposure limits: No data available
- 3) Appropriate engineering controls: No data available
- 4) Personal protective equipment
  - Respiratory protection: Dust mask for chemicals
  - Eye protection: Protective goggles for chemicals
  - Hand protection: Protective gloves
  - Skin and body protection: Working clothes for chemicals

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- 1) State: Solid (Granular) at 20°C
- 2) Odour and Odour threshold: No data available
- 3) pH: 2.8~3.8 at 20°C ※ Sample:H<sub>2</sub>O = 1:5(V/V)
- 4) Melting point, Freezing range (Initial): > 80°C
- 5) Boiling point: No data available
- 6) Flash point: No flash occurred under 93°C (Rapid equilibrium method)
- 7) Evaporation rate: No data available
- 8) Flammable properties
  - Burning rate: Did not ignite ※ UN TDG test & criteria - Test N1
- 9) Lower explosion limit, Upper explosion limit: No data available
- 10) Vapour pressure: No data available
- 11) Water solubility: Insoluble at 20°C
- 12) Vapor density: No data available
- 13) Density: 1.2 at 20°C
- 14) Partition coefficient (n-octanol, water): No data available
- 15) Autoignition temperature: No spontaneous combustion under 200°C
- 16) Decomposition temperature: No data available
- 17) Viscosity: No data available
- 18) Explosive properties: No self-reaction hazard ※ UN TDG test & criteria - Test E3
- 19) Oxidizing properties: No data available
- 20) Molecular weight: No data available

## 10. STABILITY AND REACTIVITY

- 1) Chemical stability
  - Stable under general condition.
- 2) Conditions to avoid
  - Avoid breathing dust.
- 3) Materials to avoid
  - Strong oxidizing agents

- 4) Hazardous decomposition products
  - Carbon oxides, Sulfur oxides

## 11. TOXICOLOGICAL INFORMATION

- 1) Information on the likely route of exposure
- 2) Information on health harmfulness
- 3) Acute toxicity
  - Oral rat LD50: No data available ※ from US NLM/ECHA
  - Skin rabbitLD50: No data available
  - Inhalation rat LC50(dust, 4h): No data available
- 4) Skin irritation: No data available
- 5) Eye irritation
  - Irritating (Vinylbenzyltrimethylammonium hydroxide polymer with divinylbenzene)※ from US NLM/ECHA
- 6) Respiratory sensitization: No data available
- 7) Skin sensitization: No data available
- 8) Germ cell mutagenicity: No data available
- 9) Carcinogenicity: Not classifiable ※ from CCRIS/IARC
- 10) Reproductive toxicity: No data available
- 11) Specific target organ toxicity - single exposure (GHS): No data available
- 12) Specific target organ toxicity - repeated exposure (GHS): No data available
- 13) Aspiration hazard: No data available

## 12. ECOLOGICAL INFORMATION

- 1) Toxicity
  - Fish LC50: No data available ※ from US NLM/ECHA
  - Crustacean EC50: No data available
  - Algae EC50: No data available
- 2) Persistence and degradability: No data available
- 3) Bio accumulative potential: No data available
- 4) Mobility in soil: No data available
- 5) Other adverse effects: No data available

## 13. DISPOSAL CONSIDERATIONS

- 1) Disposal consideration
  - Observe all environmental regulations.
- 2) Disposal precaution (including contaminated container and packaging method)
  - Keep in suitable, closed containers for disposal.

## 14. TRANSPORT INFORMATION

- 1) UN TDG: Not dangerous goods
- 2) UN proper shipping name: Not dangerous goods
- 3) Dangerousness class: Not dangerous goods
- 4) Packing group (if possible): Not dangerous goods

- 5) Marine pollution (applicable or not applicable): Not applicable
- 6) Special precaution
  - Fire EmS Guide: F-A (Recommendation)
  - Spillage EmS Guide: Not dangerous goods

## 15. REGULATORY INFORMATION

- 1) Korea Industrial Safety and Health Act (GHS): Eye Irritation - Category 2
- 2) Korea Hazardous Materials Safety Control Act: Not hazardous material
- 3) Korea Chemicals Control Act: Not toxic chemical
- 4) Korea Persistent Organic Pollutants Control Act: Not applicable
- 5) US OSHA hazards(GHS): Eye Irritation

## 16. OTHER INFORMATION

- 1) Issued Date: 2013. 6. 21
- 2) Revision No: 4.0
- 3) Revision Date: 2023. 4. 27
- 4) References
  - GHS Classification: Korea MSDS Testing Lab Certificate (Report No. 2016-03-002455), US NLM
  - Physical and chemical properties: Korea MSDS Testing Lab Certificate
  - Transport information: Korea MSDS Testing Lab Certificate
  - Toxic & ecological information: OECD SIDS, ECHA, US NLM, HSDB, IARC, CCRIS, JP NITE
- 5) Acronyms and Websites
  - ECHA: European chemical agency, <http://echa.europa.eu/>
  - US NLM: U.S. National Library of Medicine, <http://chem.sis.nlm.nih.gov/chemidplus/>
  - HSDB: U.S. Hazardous Substances Data Bank, <http://toxnet.nlm.nih.gov/>
  - CCRIS: U.S. Chemical Carcinogenesis Research Information System, <http://toxnet.nlm.nih.gov/>
  - IARC: International Agency for Research on Cancer, <http://monographs.iarc.fr/>
  - JP NITE: Japan National Institute of Technology and Evaluation, <http://www.safe.nite.go.jp/>
- 6) Hazards Testing and Classification
  - Korea MSDS Testing Laboratory