SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

1.1 Product Identifier
   Product Name: SE-CA-50
   Trade Name: Citric Acid 50% Solution
   Synonyms: 2-Hydroxy-1,2,3-Propanetricarboxylic Acid
   CAS Number: 77-92-9
   SDS Number/Grade: 0044

1.2 Use of Substance/Mixture
   Recommended use: Membrane Cleaner, Well Cleaning Aid

1.3 Company Identification
   Name: Shannon Chemical Corporation
   Address: P.O. Box 376
             Malvern, PA 19355

1.4 Contact Information
   Information #: (610) 363-9090
   Chem Tel #: (800) 255-3924
   Emergency #: (800) 860-9090

SECTION 2: HAZARDS IDENTIFICATION

2.1 Emergency Overview
   • SE-CA-50 is an odorless, clear to light yellow solution.
   • The primary routes of exposure for SE-CA-50 are through inhalation, and skin or eye contact.

   HMIS Rating: Health- 2  Fire- 1  Reactivity- 0
               0-Minimal; 1-Slight Hazard; 2-Moderate Hazard; 3-Serious Hazard; 4-Severe Hazard

   Hazard Symbols
2.2 Potential Health Effects

Inhalation: • May cause mucous membrane irritation with symptoms of sore throat, coughing and/or shortness of breath.

Contact with Eyes: • SE-CA-50 is damaging to eye tissue on contact. It may cause burns that result in damage to the eye.

Contact with Skin: • May cause irritation with redness, swelling and pain.

Ingestion • SE-CA-50 if swallowed, may cause burns to mucous membranes of the mouth, throat, esophagus, and stomach.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Citric Acid Component

The following component(s) in this product are considered hazardous under applicable OSHA (USA), WHMIS (Canada), and/or NOM-002-SCT-2003 (Mexico) regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric Acid</td>
<td>77-92-9</td>
<td>50 ± 1</td>
</tr>
<tr>
<td>Non-hazardous Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>50 ± 1</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

4.1 Eye Exposure • Flush eyes immediately with water while holding eyelids apart and open for 15 minutes. Seek prompt medical attention.

4.2 Skin Exposure • Wash contaminated area with soap and water. Seek medical attention if a rash appears or irritation is severe. Thoroughly wash all contaminated clothing

4.3 Inhalation • Use caution and do not breathe mist or vapors. If exposed move to open fresh air. If breathing is difficult or stopped, administer oxygen, resuscitate, and call 911.

4.4 Ingestion • Seek prompt medical attention. If an individual swallows product give copious amounts of water. NEVER give anything by mouth to an unconscious person.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media • Use extinguishing measures appropriate to local circumstances.
5.2 Special Hazards

Unusual Fire and Explosion Hazards  • None

Special Fire Fighting Procedures  • Apply excess water to any fire. Wear self-contained breathing apparatus.

Flash Point  • No Data

NFPA Rating: Health- 2  Fire- 1  Reactivity- 0

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment & Emergency Procedures

Personal Precaution  • Avoid contact with skin or eyes. Ensure adequate ventilation. Use personal protective equipment.

Environmental Precaution  • If a spill or leak occurs, do not flush into surface water or sanitary sewer system. Prevent product from entering drains. Dike or dam spill area and neutralize.

6.2 Methods and Material for Containment and Cleaning Up

Containment/Clean-up  • Immediately try to contain or dike effected area. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. After cleaning, flush away traces with water.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Handling  • Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage  • Keep in properly labelled containers. Keep container tightly closed in a dry and well-ventilated place. Keep away from metals. Keep away from oxidizing agents. Keep away from strong bases. Keep away from amines.
SECTION 8: EXPOSURE CONTROL/PERSOHAL PROTECTION

8.1 Personal Protections

Respiratory Protection • If the potential to exposure of mists or vapor exists always use an approved N105H-MSHA mist respirator.

Hand Protection • Wear protective rubber or plastic gloves.

Eye Protection • Wear protective eye protection. i.e. face shield, goggles, safety glasses.

Other Protection • Wear chemical protective apron if the potential for splashing exists. Remove clothing immediately if contaminated. Spontaneous ignition of clothing may occur.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 General Information

Appearance • Clear to light yellow solution

Odor • Light, sweet, citric odor

9.2 Important Health Safety and Environmental Information

Density • 10.2-10.5

Specific Gravity • 1.22 - 1.26 (H₂O=1)

Solubility • Completely miscible

Boiling Point • 100-104°C

Freezing Point • -15 to -10°C

pH • 2.2 ± 0.5

Vapor Pressure • No information available

SECTION 10: STABILITY AND REACTIVITY

10.1 Chemical Stability • SE-CA-50 is stable under normal ambient conditions of temperature and pressure.
10.2 Conditions to Avoid

- Incompatible products.

10.3 Incompatible Materials


10.4 Hazardous Decomposition Products

- No hazardous decomposition products

10.5 Hazardous Polymerization

- Gives off hydrogen by reaction with metals.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity

Skin Contact
- Based on available data, not, or only slightly irritating.

Eye Contact
- Irritant, may cause serious eye irritation

Method Species Results
- OECD Guideline 405 (Eye irritation)
- Rabbit (New Zealand White)
- Test data is not provided for 50% solution, but results for 30% solution indicate significant irritation score.

11.2 Carcinogenicity

SE-CA-50 has not been classified as a carcinogen by ACGIH, NIOSH, OSHA, NTP, or IARC.

SECTION 12: ECOLOGICAL INFORMATION

No aquatic toxicity is available for citric acid. Contains no substances known to be hazardous to the environment. Contains no substances known to be degradable in waste water treatment plants.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Methods

Hazardous as supplied. The classification and disposal method of waste material resulting from this product should be determined by the user at the time of disposal. Dispose of in compliance with the laws and regulations pertaining to this product in your jurisdiction. Taking into account local regulations the product may be disposed of as waste water after neutralization. Solutions with low pH-value should be neutralized before discharge.

13.2 Contaminated Package

Triple rinse containers. Empty containers should be decontaminated and taken for local recycling, recovery or waste disposal
### SECTION 14: TRANSPORT INFORMATION

- **Proper Shipping Name**: Corrosive liquid, acidic, organic, n.o.s. (Citric acid)
- **DOT Hazard Class**: 8
- **U.N. Identification**: 3265
- **Packaging Group**: III

### SECTION 15: REGULATORY INFORMATION

- **OSHA Status**: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard CFR 1910.1200.
- **TSCA Status**: Listed in the TSCA inventory
- **SARA Extremely Hazardous Substances**: This product does not contain any chemicals subject to reporting requirements.
- **SARA Hazard Categories**
  - Acute: Y
  - Chronic: N
  - Fire: N
  - Pressure: N

### SECTION 16: OTHER INFORMATION

- **Preparation Date**: 01/01/2014
- **Last Revision Date**: 06/01/2015