1. IDENTIFICATION

Product identifier  
**Sodium Chloride Solution, 20-25%**

Product code  
520-USA-TMI

Other means of identification:  
Salt, Saltwater, Brine, Halite, Saline

Recommended use  
Textile dying operations; production of sodium chlorate

Recommended restrictions  
None known.

Manufacturer/Importer/Supplier/Distributor information:

- **Supplier name**: Trinity Manufacturing, Inc.
- **Address**: 11 EV Hogan Drive, PO Box 1519
  Hamlet, NC, 28345, USA
- **Telephone**: 800-632-6228 or 910-419-6551 (Customer Service)
- **E-mail**: sds@trinitymfg.com

Emergency phone number  
FOR CHEMICAL EMERGENCY (Spill, Leak, Fire, Exposure, or Accident)
Call CHEMTREC Day or Night
Within USA and Canada:  1-800-424-9300 (24/7)
Outside USA and Canada:  +1-703-527-3887 (collect calls accepted)

2. HAZARDS IDENTIFICATION

GHS Classification  
Based on available data, this material is not considered a hazardous chemical or mixture per classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Signal Word  
None

GHS Hazard Statements

- Physical hazards: Not classified as a hazardous chemical or mixture
- Health hazards: Not classified as a hazardous chemical or mixture
- Environmental hazards: Not classified as an environmentally hazardous substance

GHS Precautionary Statements

- There are no Precautionary Statements assigned.

Label Elements  
None required

- Signal word: None
- Unknown acute toxicity: 0% of the mixture consists of ingredients of unknown toxicity.

Hazard(s) Not Otherwise classified (HNOC)  
None

Supplemental Information  
Chloride ions increase the conductivity of water and accelerate corrosion on metal objects such as pumps and infrastructure. Brine solutions are slowly, but persistently corrosive to metals.

Dispose of contents/container in accordance with local, state, and federal regulations.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name and Synonyms</th>
<th>CAS Number</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>Salt, Saltwater, Brine, Halite, Saline</td>
<td>7647-14-5</td>
<td>20 - 25</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>7732-18-5</td>
<td>75 - 80</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

- **Inhalation**: No effects expected. If inhalation occurs and you feel unwell, move to fresh air.
- **Skin contact**: Irrigate with water. If irritation occurs, protect skin from further contact.
- **Eye contact**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops and persists, get medical attention.
- **Ingestion**: No effect expected. Rinse mouth. Provide fluids if thirsty. If large amounts are ingested, get medical advice/attention.

**Most important symptoms/effects, acute and delayed**: Direct contact with eyes may cause temporary irritation and redness to conjunctiva. Direct contact with skin may cause redness or dry skin. Inhaling mists or vapors of this material may cause mild respiratory irritation. Ingesting may cause increased thirst. Ingesting large amounts can cause electrolyte imbalance. No delayed/chronic effects have been identified.

**Indication of immediate medical attention and special treatment needed**: Treat symptomatically. Treatment for overexposure should be directed at controlling the symptoms and clinical condition of the patient. Unless symptoms reappear, no further treatment is required.

**Notes to Physician**: This is a concentrated salt solution of sodium chloride. This material is recognized as non-toxic. Health effects are typically reversible within the day of exposure. Correct any fluid/electrolyte imbalance for large ingestions.

5. FIRE-FIGHTING MEASURES

- **Suitable extinguishing media**: Does not burn. Use extinguishing agents suitable for surrounding fire.
- **Unsuitable extinguishing media**: No information available.
- **Specific hazards arising from the substance or mixture**: Hazardous combustion products: Hydrogen chloride gas, Sodium oxides.
- **Special protective equipment and precautions for firefighters**: Wear NIOSH-approved self-contained breathing apparatus pressure-demand, and full protective gear.
- **Specific methods**: Use standard firefighting procedures and consider the hazards of other involved materials.
- **General fire hazards**: Product is not combustible.

6. ACCIDENTAL RELEASE MEASURES

- **Personal precautions, protective equipment and emergency procedures**: Handle in accordance with good industrial hygiene and safety practice. As a precaution, avoid contact with skin and eyes. Use personal protective equipment. See section 8 of the SDS for personal protection.
- **Methods and materials for Containment and cleaning Up**: Stop leak if possible without personal risk. Mop up or absorb in any available absorbent. Liquid material may be removed with a properly rated vacuum truck. Collect spilled material in appropriate container for disposal. Small amounts of residual can be flushed to sewer with plenty of water.
- **Environmental precautions**: Avoid liquid entering sanitary sewer or storm drains or other waterways. Small amounts of residue may be flushed to sewer with plenty of water. Section 12 has additional information.
7. HANDLING AND STORAGE

Precautions for safe handling: Handle in accordance with good industrial hygiene practice. Avoid contact with skin and eyes. Wash after handling. Wear personal protective equipment as described in Section 8.

Conditions for safe storage: Store at ambient temperature and pressure. Keep in properly labeled and closed containers. Keep separate from fresh water supply or outlets. Maintain good housekeeping.

Incompatibilities or Materials to Avoid: None known.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits: No occupational exposure limits have been established for this material or its components.

Non-Regulatory exposure limits: This product does not contain any components that have advisory occupational exposure limits.

Biological limit values: No biological exposure limits have been established for sodium chloride.

Appropriate engineering controls: No airborne limits have been established for this product. Ensure that suitable eyewash flushing facilities are proximal to the workstation location.

Individual protection measures:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin and body protection: Standard industrial work clothes or coveralls, and safety footwear are minimum protection.

Hand protection: Wear chemical resistant gloves when handling product.

Protective material types: Butyl rubber, Natural rubber, Neoprene, Nitrile, Vinyl.

Respiratory protection: Under normal conditions, no respiratory protection is necessary. A NIOSH-approved respirator with N95 cartridges may be worn to minimize exposure to nuisance mists or vapors.

General hygiene considerations: When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing with soap after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid

Appearance: Clear to opaque (cloudy white)

Color: Clear, colorless

Odor: Salty

Odor threshold: No data available

pH: 6.6 – 8.5 typical; pH 10 for electrolyzer-only feed

Melting point/freezing point: -21 °C to 15.5 °C (-6 °F to 60 °F)

Initial boiling point/boiling range: > 100 °C (212 °F)

Flash point: Not flammable

Evaporation rate: No data available

Flammability (solid, gas): Not applicable

Lower Flammability limit: Not flammable

Upper Flammability limit: Not flammable
Vapor pressure  No data available
Vapor density (air = 1)  No data available
Relative density (water = 1) 20% concentration  1.152 specific gravity @ 15.5 °C (60 °F)
25% concentration  1.193 specific gravity @ 15.5 °C (60 °F)
Solubility(ies):
   Solubility in water  31.6 g/100 mL @ 0 °C (32 °F)
Partition coefficient (n-octanol/water)  Not applicable
Auto-ignition temperature  Not applicable
Decomposition temperature  Not data available
Viscosity  No data available
Other information:
   Weight per U.S. gallon 20% concentration  9.594 lbs @ 15.5 ºC (60 ºF)   1.925 lbs salt/gallon water
   25% concentration  9.935 lbs @ 15.5 ºC (60 ºF)   2.491 lbs salt/gallon water
   Flammability class (NFPA) Not flammable
   Molecular formula Na+Cl + H2O
   Molecular weight  58.44  g/mol  (sodium chloride)
   Percent volatile  100 % (water component)
   VOC (Weight %)  0 %

10. STABILITY AND REACTIVITY
Reactivity  The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability  Material is stable under normal temperatures and pressures.
Possibility of hazardous reactions  Hazardous polymerization will not occur. Hydrogen chloride gas is generated if mixed with a concentrated nonvolatile acid such as sulfuric acid.
Conditions to avoid:  Brine solution will slowly corrode metal in the presence of air.
Hazardous decomposition products (produced as a result of use, storage, spill and heating)  When heated above 801 °C (1474 °F), will emit hydrogen chloride gas and sodium oxides.

11. TOXICOLOGICAL INFORMATION
Information on likely routes of exposure, including signs and symptoms related to the physical, chemical, and toxicological characteristics:
   Skin contact  Prolonged and repeated skin contact may cause redness and dry skin.
   Eye contact  Direct contact with eyes may cause mild irritation.
   Inhalation  Prolonged inhalation may cause slight respiratory tract irritation.
   Ingestion  May cause increased thirst. Massive ingestion may cause fluid/electrolyte imbalance, nausea, vomiting, diarrhea, weakness headache convulsions, and coma.
Component Toxicity Data:

<table>
<thead>
<tr>
<th>Component</th>
<th>LD_{50} - Dermal</th>
<th>LD_{50} - Oral</th>
<th>LC_{50} - Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>&gt; 10,000 mg/kg (Rabbit)</td>
<td>3550 mg/kg (Rat)</td>
<td>42 mg/L (Rat) 1-hr, aerosol</td>
</tr>
<tr>
<td>Water</td>
<td>Not listed</td>
<td>&gt; 90 mL/kg (Rat)</td>
<td>Not listed</td>
</tr>
</tbody>
</table>
Information on toxicological effects:

Acute Toxicity
At reasonably possible exposures, sodium chloride is relatively not toxic to human health. It is a normal constituent of the body. This solution acts osmotically to remove water from the local tissue causing dehydration and/or electrolyte imbalance. Dried residue may be gritty and cause mechanical irritation.

Skin corrosion/irritation
Prolonged skin contact may cause temporary irritation that is reversible within the day of exposure.

Serious eye damage/eye irritation
Direct contact with eyes may cause temporary irritation that is reversible within the day of exposure.

Respiratory sensitization
Not expected.

Skin sensitization
This product is not expected to cause skin sensitization in humans.

Carcinogenicity
Not classified as carcinogenic by IARC, U.S. NTP, U.S. OSHA, or ACGIH.

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity
Not classified.

Ecological Information

Ecotoxicity: Not classified as environmentally hazardous. However, does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment by dehydrating animal and vegetative matter.

Aquatic toxicity responses (Sodium chloride, CAS 7647-14-5):

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Species</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC$_{50}$</td>
<td>5840 mg/L</td>
<td>Lepomis Machrochirus (Bluegill fish)</td>
<td>96 hour</td>
</tr>
<tr>
<td>LC$_{50}$</td>
<td>5480 mg/L</td>
<td>Daphnia magna (Water flea)</td>
<td>48 hour</td>
</tr>
<tr>
<td>EC$_{50}$</td>
<td>2430 mg/L</td>
<td>Algae</td>
<td>120 hour</td>
</tr>
<tr>
<td>NOEC/LOEC</td>
<td>5700 mg/L</td>
<td>Pimephales promelas (Fathead minnow)</td>
<td>7 day, biomass</td>
</tr>
</tbody>
</table>

Persistence
This material not classified as persistent in the environment.

Biodegradation
This material is inorganic and not subject to biodegradation. Sodium chloride’s high solubility renders it very mobile, while its particle density makes it sink to the bottom of a surface waterbody. Its vapor pressure and Henry’s Law constant indicate that it does not volatilize from air or water and moist soil surface. Sodium chloride may leach from soil into groundwater.

Bioaccumulative potential
This material has not been tested, but based on the components, it is believed not to bioconcentrate.

Partition coefficient
n-octanol /water (log Kow)
Not available.

Mobility in soil
Very high.
Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected.

13. DISPOSAL CONSIDERATIONS

Disposal instructions: Reuse or reprocess, if possible. Do not allow this material to drain into sewers or water supplies. Do not contaminate ponds, waterways or ditches with product. Dispose of contents in accordance with local, state, and federal regulations.

Hazardous waste code: This material is not a listed or characteristic hazardous waste. However, processing, use or contamination of this product may change the waste management options.

Waste from residues/unused: Dispose of in accordance with local, state, and federal regulations.

Contaminated packaging: Small containers should be emptied to the extent practical and disposed as ordinary trash.

14. TRANSPORT INFORMATION


IATA (Air): Not regulated.

IMO/IMDG (Water): Not regulated.

15. REGULATORY INFORMATION

U.S. federal regulations:

OSHA regulatory status: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Sections 102a/103, EPCRA, Hazardous Substance List (40 CFR 302.4), Reportable Quantity
Not listed.

SARA Section 302, Extremely Hazardous Substance (EHS) Emergency Notification and Planning (40 CFR 355.30)
Not regulated.

SARA Section 302, Extremely Hazardous Substance (40 CFR 355, Appendix A)
Not listed.

SARA Section 311/312, Hazardous Chemical Reporting (40 CFR 370)
Not regulated.

SARA Section 313, Toxic Release Reporting (40 CFR 372.65)
Not listed.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpart D)
Not regulated.

Clean Air Act (CAA) Section 112(b) Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.
US state regulations:

- Not listed US. Massachusetts Right-To-Know (RTK) - Substance List
- Not listed US. New Jersey Worker and Community Right-to-Know Act
- Not listed US. Pennsylvania RTK - Hazardous Substances
- Not listed US. Rhode Island RTK
- Not listed US. California Proposition 65

International Inventories:

<table>
<thead>
<tr>
<th>Country or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>National Existing Chemical Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION

Version 6 date: February 19, 2018

Revision history:

- 05-22-15 Initial version
- 12-07-15 Reformatted and classified to GHS
- 04-14-16 Section 9: Modified pH information
- 04-27-16 Footer: Corrected Date Error in Footer
- 07-14-16 Section 1: Added Other Means of Identification to SDS
- 02-19-18 SDS reviewed with no changes

NFPA rating: NFPA Hazard Scale: 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
Abbreviations:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CHEMTREC</td>
<td>Chemical Transportation Emergency Center</td>
</tr>
<tr>
<td>EC₅₀</td>
<td>Half Maximal Effective Concentration - concentration of a material in water, a single dose which is expected to cause a biological effect on 50% of a group of test species.</td>
</tr>
<tr>
<td>EPCRA</td>
<td>Emergency Planning and Community Right-to-Know</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized Standard</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>LC₅₀</td>
<td>Lethal Concentration - median dose at which 50% of test animals die from inhalation</td>
</tr>
<tr>
<td>LD₅₀</td>
<td>Lethal Dose - median dose at which 50% test animals die from oral or dermal exposure</td>
</tr>
<tr>
<td>LOEC</td>
<td>Lowest Observable Effect Concentration</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute of Occupational Safety and Health</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Health and Safety Administration</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substances Control Act</td>
</tr>
<tr>
<td>US DOT</td>
<td>United States Department of Transportation</td>
</tr>
</tbody>
</table>

WARRANTY

Notice: The information above is believed to be accurate and represents the best information currently available to us. Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.