1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Starch Indicator Solution Stabilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat No.</td>
<td>SS408-1</td>
</tr>
<tr>
<td>Synonyms</td>
<td>None</td>
</tr>
<tr>
<td>Recommended Use</td>
<td>Laboratory chemicals</td>
</tr>
<tr>
<td>Company</td>
<td>Ememrgency Telephone Number</td>
</tr>
<tr>
<td>Fisher Scientific</td>
<td>Chemtrec US: (800) 424-9300</td>
</tr>
<tr>
<td>One Reagent Lane</td>
<td>Chemtrec EU: 001 (202) 483-7616</td>
</tr>
<tr>
<td>Fair Lawn, NJ 07410</td>
<td></td>
</tr>
<tr>
<td>Tel: (201) 796-7100</td>
<td></td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

**CAUTION!**

Emergency Overview
May cause eye, skin, and respiratory tract irritation.

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Colorless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>odor</td>
<td>odorless</td>
</tr>
</tbody>
</table>

Target Organs
No information available.

Potential Health Effects

Acute Effects

Principle Routes of Exposure

<table>
<thead>
<tr>
<th>Eyes</th>
<th>May cause irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>May cause irritation</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May cause irritation of respiratory tract</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea</td>
</tr>
</tbody>
</table>

Chronic Effects
None known

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions
No information available.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Water</td>
<td>7732-18-5</td>
<td>98.8</td>
</tr>
<tr>
<td></td>
<td>Acetic acid</td>
<td>64-19-7</td>
<td>&lt; 1.0</td>
</tr>
<tr>
<td></td>
<td>Starch</td>
<td>9005-25-8</td>
<td>&lt; 0.1</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes

Inhalation
Move to fresh air

Ingestion
Do not induce vomiting

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point
Method
No information available.

Autoignition Temperature
No information available.

Explosion Limits
Upper
No data available
Lower
No data available

Unsuitable Extinguishing Media
No information available.

Hazardous Combustion Products
No information available.

Sensitivity to mechanical impact
No information available.

Sensitivity to static discharge
No information available.

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Ensure adequate ventilation

Environmental Precautions
Should not be released into the environment
Methods for Containment and Clean Up

7. HANDLING AND STORAGE

Handling
Ensure adequate ventilation

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Ensure adequate ventilation, especially in confined areas

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
</table>
| Acetic acid | TWA: 10 ppm  
             STEL: 15 ppm | (Vacated) TWA: 10 ppm  
                             (Vacated) TWA: 25 mg/m³  
                             TWA: 10 ppm  
                             TWA: 10 ppm  
                             STEL: 15 ppm  
                             STEL: 37 mg/m³ | TWA: 25 mg/m³  
                             TWA: 10 ppm  
                             STEL: 15 ppm  
                             STEL: 37 mg/m³ |
| Starch | TWA: 10 mg/m³ | (Vacated) TWA: 15 mg/m³  
                        (Vacated) TWA: 5 mg/m³  
                        TWA: 15 mg/m³  
                        TWA: 5 mg/m³ | TWA: 10 mg/m³  
                        TWA: 5 mg/m³ |

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWA EV</th>
</tr>
</thead>
</table>
| Acetic acid | TWA: 10 ppm  
               TWA: 25 mg/m³  
               STEL: 37 mg/m³  
               STEL: 15 ppm | TWA: 10 ppm  
                             TWA: 25 mg/m³  
                             STEL: 37 mg/m³  
                             STEL: 15 ppm | TWA: 10 ppm |
| Starch | TWA: 10 mg/m³ | | TWA: 10 mg/m³ |

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State
Liquid

Appearance
Colorless

odor
odorless

Odor Threshold
No information available.

pH

Vapor Pressure
14 mmHg

Vapor Density
0.7

Viscosity
No information available.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point/Range</td>
<td>°C</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>0°C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>(Ether = 1.0)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.0</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>log Pow</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products None under normal use

Hazardous Polymerization Hazardous polymerization does not occur

Hazardous Reactions None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (LD50 Oral)</th>
<th>LD50 Dermal (LD50 Dermal)</th>
<th>LC50 Inhalation (LC50 Inhalation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>90 mL/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>3310 mg/kg (Rat)</td>
<td>1060 mg/kg (Rabbit)</td>
<td>11.4 mg/L (Rat) 4 h</td>
</tr>
</tbody>
</table>

Irritation May cause eye, skin, and respiratory tract irritation

Toxicologically Synergistic Products No information available.

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.
12. ECOLOGICAL INFORMATION

Ecotoxicity
Do not empty into drains

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>EC50: 13 mg/L 72h</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>Not listed</td>
<td>Pimephales promelas: LC50 = 88 mg/L/96h</td>
<td>Photobacterium phosphoreum: EC50 = 8.8 mg/L/15 min</td>
<td>EC50 = 95 mg/L/24h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lepomis macrochirus: LC50 = 75 mg/L/96h</td>
<td>Photobacterium phosphoreum: EC50 = 8.8 mg/L/25 min</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Photobacterium phosphoreum: EC50 = 8.8 mg/L/5 min</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available

Bioaccumulation/ Accumulation
No information available

Mobility
No information available

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>-1.87</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

IATA
Not regulated
14. TRANSPORT INFORMATION

IMDG/IMO

Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>X</td>
<td>X</td>
<td></td>
<td>231-791-2</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>X</td>
<td>X</td>
<td></td>
<td>200-580-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>K</td>
<td>KE-00013</td>
<td>X</td>
</tr>
<tr>
<td>Starch</td>
<td>XU</td>
<td>X</td>
<td></td>
<td>232-679-6</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>KE-32128</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard  No
Chronic Health Hazard No
Fire Hazard  No
Sudden Release of Pressure Hazard  No
Reactive Hazard  No

Clean Water Act
Not applicable
Component CWA - Hazardous Substances CWA - Reportable Quantities CWA - Toxic Pollutants CWA - Priority Pollutants

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>X</td>
<td>5000 lb</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Clean Air Act**
Not applicable

**OSHA**
Not applicable

**CERCLA**
Not Applicable

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**State Right-to-Know**
Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Starch</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**
Reportable Quantity (RQ): N
DOT Marine Pollutant: N
DOT Severe Marine Pollutant: N

**U.S. Department of Homeland Security**
This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade**
No information available

**Canada**
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**
Non-controlled
16. OTHER INFORMATION

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 490-8929

Print Date
19-Apr-2011

Revision Summary
“**”*, and red text indicates revision

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS