Safety Data Sheet

This safety data sheet complies with the requirements of: 2012 OSHA Hazard Communication Standard (29CFR 1910.1200)

Product name  SILV-EX PLUS Class A Fire Control Foam Concentrate

1. Identification

1.1. Product Identifier
Product name  SILV-EX PLUS Class A Fire Control Foam Concentrate

1.2. Other means of identification
Product code  434467
Synonyms  None
Chemical Family  No information available

1.3. Recommended use of the chemical and restrictions on use
Recommended use  Fire extinguishing agent.
Uses advised against  Consumer use.

1.4. Details of the Supplier of the Safety Data Sheet
Company Name  Tyco Fire Protection Products
One Stanton Street
Marinette, WI 54143-2542
Telephone: 715-735-7411

Contact point  Product Stewardship at 1-715-735-7411
E-mail address  psra@tycofp.com

1.5. Emergency Telephone Number
Emergency telephone  CHEMTREC 001-800-424-9300 or 001-703-527-3887

2. Hazards Identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Serious eye damage/eye irritation  - Category 2A

2.2. Label Elements

Signal Word
WARNING

Hazard Statements
Causes serious eye irritation

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling. Wear eye/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

2.3. Hazards Not Otherwise Classified (HNOC)
Not Applicable.

2.4. Other Information
Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

Unknown Acute Toxicity 29.7% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/information on Ingredients

3.1. Mixture
The following component(s) in this product are considered hazardous under applicable OSHA(USA)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Alkene sulphonate</td>
<td>68439-57-6</td>
<td>7 - 13</td>
</tr>
<tr>
<td>1-(2-Butoxy-1-methylethoxy)propan-2-ol</td>
<td>29911-28-2</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Lauryl Alcohol</td>
<td>112-53-8</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1. Description of first aid measures

Eye Contact  Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact  Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation  Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.).

Ingestion  Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control center or physician immediately.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms  No information available.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to physicians  Treat symptomatically.

5. Fire-fighting measures

5.1. Suitable Extinguishing Media
Product is extinguishing agent. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.2. Unsuitable Extinguishing Media
None.

5.3. Specific Hazards Arising from the Chemical
None known.

| Hazardous Combustion Products | Carbon oxides, Nitrogen oxides (NOx), Oxides of sulfur |

5.4. Explosion Data
- Sensitivity to Mechanical Impact: None.
- Sensitivity to Static Discharge: None.

5.5. 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

6.1. Personal precautions, protective equipment and emergency procedures
- Personal Precautions: Ensure adequate ventilation, especially in confined areas.
- For emergency responders: Use personal protection recommended in Section 8.

6.2. Environmental Precautions
- Environmental Precautions: Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up
- Methods for Containment: Prevent further leakage or spillage if safe to do so.
- Methods for Cleaning Up: Pick up and transfer to properly labeled containers.

7. Handling and Storage

7.1. Precautions for Safe Handling
- Advice on safe handling: Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
- Storage Conditions: Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure Controls/Personal Protection

Revision date 20-Oct-2017  Version 26
8.1. Control Parameters

Exposure guidelines

8.2. Appropriate Engineering Controls

Engineering controls  
Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection  
Avoid contact with eyes. Tight sealing safety goggles.

Skin and Body Protection  
Wear protective gloves and protective clothing.

Respiratory Protection  
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Ventilation  
Use local exhaust or general dilution ventilation to control exposure with applicable limits

8.4. General hygiene considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
<td>Color Light yellow</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>7 - 8.5</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>100 °C / 212 °F</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 100 °C / &gt; 212 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability limit in air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

10. Stability and Reactivity
10.1. Chemical Stability
Stable under recommended storage conditions.

10.2. Reactivity
No data available

10.3. Possibility of hazardous reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

10.4. Conditions to Avoid
Extremes of temperature and direct sunlight.

10.5. Incompatible Materials

10.6. Hazardous decomposition products

11. Toxicological Information

11.1. Information on Likely Routes of Exposure

Product information
No data available

Inhalation
No data available.

Eye Contact
Severely irritating to eyes.

Skin contact
Irritating to skin.

Ingestion
No data available.

Component Information
Acute Toxicity

<table>
<thead>
<tr>
<th>Component Information</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Alkene sulphonate</td>
<td>= 2220 mg/kg ( Rat )</td>
<td>&gt; 740 mg/kg ( Rabbit )</td>
<td>-</td>
</tr>
<tr>
<td>68439-57-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-(2-Butoxy-1-methylethoxy)propan-2-ol</td>
<td>= 1620 µL/kg ( Rat )</td>
<td>= 5860 µL/kg ( Rabbit )</td>
<td>= 42.1 ppm ( Rat ) 4 h</td>
</tr>
<tr>
<td>29911-29-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lauryl Alcohol</td>
<td>&gt; 12800 mg/kg ( Rat )</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>112-53-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11.2. Information on Toxicological Effects

Symptoms
No information available.
11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Severe skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Severely irritating to eyes.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>No information available.</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>STOT - Single Exposure</td>
<td>No information available.</td>
</tr>
<tr>
<td>STOT - Repeated Exposure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

11.4. Numerical Measures of Toxicity - Product information

The following values are calculated based on chapter 3.1 of the GHS document

| ATEmix (oral)      | 8981 mg/kg |
| ATEmix (dermal)    | 5472 mg/kg |

12. Ecological Information

12.1. Ecotoxicity

Harmful to aquatic life with long lasting effects.

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Alkene sulphonate 68439-57-6</td>
<td>-</td>
<td>LC50 (96h) semi-static = 12.2 mg/L Brachydanio rerio LC50 (96h) static 1.0 - 10.0 mg/L Brachydanio rerio</td>
<td>-</td>
</tr>
<tr>
<td>1-(2-Butoxy-1-methylethoxy)propan-2-ol 29911-28-2</td>
<td>-</td>
<td>LC50 (96h) static = 841 mg/L Poecilia reticulata</td>
<td>-</td>
</tr>
<tr>
<td>1,2-Propanediol 57-55-6</td>
<td>EC50 (96h) = 19000 mg/L Pseudokirchneriella subcapitata</td>
<td>LC50 (96h) static = 51600 mg/L Oncorhynchus mykiss LC50 (96h) static = 51400 mg/L Pimephales promelas LC50 (96h) = 710 mg/L Pimephales promelas LC50 (96h) static 41 - 47 mL/L Oncorhynchus mykiss</td>
<td>EC50 (48h) Static &gt; 1000 mg/L Daphnia magna EC50 (24h) &gt; 10000 mg/L Daphnia magna</td>
</tr>
<tr>
<td>Lauryl Alcohol 112-53-8</td>
<td>EC50 (96h) = 0.62 mg/L Desmodesmus subspicatus</td>
<td>LC50 (96h) = 0.1855 mg/L Pimephales promelas LC50 (96h) flow-through = 1.01 mg/L Pimephales promelas</td>
<td>EC50 (48h) = 320 mg/L Daphnia magna</td>
</tr>
</tbody>
</table>

12.2. Persistence and Degradability

No information available.

12.3. Bioaccumulation

No information available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lauryl Alcohol 112-53-8</td>
<td>5.36</td>
</tr>
</tbody>
</table>

Revision date 20-Oct-2017
Version 26
12.4. Other Adverse Effects
No information available

13. Disposal Considerations

13.1. Waste Treatment Methods
Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging
Do not reuse container.

14. Transport Information

DOT
NOT REGULATED

TDG
NOT REGULATED

MEX
NOT REGULATED

ICAO (air)
NOT REGULATED

IATA
NOT REGULATED

IMDG
NOT REGULATED

15. Regulatory Information

15.1. International Inventories
TSCA
Complies

DSL/NDSL
Complies

ENCS
Does not comply

IECSC
Complies

KECL
Complies

PICCS
Complies

AICS
Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
Acute Health Hazard
Yes
Chronic health hazard  No
Fire Hazard  No
Sudden Release of Pressure Hazard  No
Reactive Hazard  No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.3. US State Regulations

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Propanediol 57-55-6</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

16. Other information, including date of preparation of the last revision

NFPA  Health Hazards 1  Flammability 1  Instability 0  Physical and chemical properties -
HMIS  Health Hazards 1  Flammability 1  Physical Hazards 0  Personal Protection X

Revision date  20-Oct-2017
Revision note  No information available.
Disclaimer
The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet