Section 1. Product and Company Identification

Product Name: Sodium Formaldehyde Sulfoxylate
CAS Number: 149-44-0

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
(914) 654-6800 (914) 654-6899
parchem.com info@parchem.com

Section 2. Hazards Identification

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Germ cell mutagenicity (Category 2), H341

GHS Label Elements

Pictograms:

Signal word: Warning

Hazard and precautionary statements
Hazard statement(s)
H341 Suspected of causing genetic defects.
Precautionary statement(s)
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

Skin Contact: Not expected to be irritating; prolonged or repeated contact may cause irritation.
Eye Contact: Dusts may cause mechanical irritation of the eye.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting, diarrhea.
Inhalation: May cause moderate respiratory tract irritation.
Section 3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Sodium Formaldehyde Sulfoxylate</th>
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<tbody>
<tr>
<td>Synonym(s)</td>
<td>Sodium hydroxymethanesulfinate</td>
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<tr>
<td>Formula</td>
<td>CH$_3$NaO$_3$S</td>
</tr>
<tr>
<td>CAS Number</td>
<td>149-44-0</td>
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</tbody>
</table>

Section 4. First Aid Measures

**Skin Contact:** Wash immediately with plenty of soap and water for at least 15 minutes; get medical attention if irritation occurs.

**Eye Contact:** Flush eyes immediately with plenty of water for at least 15 minutes; get medical attention if irritation persists.

**Ingestion:** Do not induce vomiting; give several glasses of water or milk to drink immediately. Get medical attention.

**Inhalation:** Move person to fresh air. Get medical attention if respiration irritation develops or if breathing becomes difficult.

Section 5. Firefighting Measures

**Flammability Classification:** Not flammable; combustible if involved in a fire.

**Flash Point:** >100°C (>212°F)

**Flammability Limits in Air:** Not applicable

**Autoignition Temperature:** No data available

**Extinguishing Media:** Carbon dioxide, foam, dry chemical, water fog

**Unusual Fire and Explosion Hazards:** Larger amounts of contained, molten material may violently decompose above 70°C. Combustion products may include but are not limited to carbon monoxide, carbondioxide, sulfur dioxide, some metallic oxides. The product may contain fine dusts capable of forming explosive dust/air mixtures.

**Special Fire Fighting Procedures:** Use protective fire fighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. If containers cannot be cooled, break open to spill material out. Do not use high pressure water jet as this may create dusting. Prevent fire runoff water from entering sewer drains; collect for appropriate disposal.

Section 6. Accidental Release Measures

**Personal Precautions:** Isolate area; keep unnecessary and unprotected personnel from entering the involved area. Use appropriate personal protection equipment.

**Environmental Precautions:** Prevent contamination of soil and waterways.

**Methods for Cleaning Up:** Mix waste material together with some soda ash and collect into appropriate disposal container; dispose of in accordance with applicable local and federal environmental control regulations.
Section 7. Handling and Storage

**Handling:** Avoid contact with eyes, skin, and clothing; wash thoroughly after handling. Use with adequate ventilation. Do not breathe dust. Do not expose to excessive heat; avoid processing temperatures in excess of 45°C (113°F).

**Storage:** Store in a cool dry place with adequate ventilation. Keep container tightly closed; protect from moisture. Store separate from acids and oxidizers. Rotate stock, using oldest material first. If material gets moist by accident, use immediately. Recommended storage temperature: 15-30°C (59-86°F)

Section 8. Exposure Controls / Personal Protection

**Exposure Guidelines:** None established; treat as nuisance dust/particles not otherwise regulated (PNOR): OSHA PEL: 15 mg/m3 (total dust); 5 mg/m3 (respirable fraction). Note: Dusts may register as formaldehyde on some formaldehyde detector badges.

**Engineering Controls:** Ventilation through local exhaust.

**Respiratory Protection:** In operations where ventilation is inadequate use NIOSH approved respirator or dust mask. Any operation requiring the use of respiratory protection program in compliance with 20CFR1910.1200.0.134.

**Eye Protection:** Wear chemical safety goggles with side shields or chemical safety goggles.

**Hand Protection:** Wear appropriate protective clothing to prevent skin exposure.

**Other Protective Equipment:** Eye wash stations and emergency showers should be available. The type and degree of personal protective equipment appropriate will depend on the specific work operation.

Section 9. Physical and Chemical Properties

**Appearance:** Off-white particles

**Type of Odor:** Mild

**Vapor Pressure:** Not available

**Vapor Density:** Not available

**Evaporation Rate:** Not available

**Boiling Point:** Not applicable

**Melting Point:** 123-140°C (253-284°F)

**Decomposition Temperature:** >50°C (>158°F)

**Octanol/Water Partition Coefficient:** -6.17 at 25°C

**Specific Gravity:** 1.57

**Water Solubility:** 500-600 g/L at 20°C

**pH:** 9-11 (11g/L at 20°C)
Section 10. Stability and Reactivity

**Stability:** Stable under recommended storage conditions (unstable in bulk liquid form >70°C)
**Conditions to Avoid:** Avoid exposure to air or moisture over prolonged periods. In the presence of strong caustics, material may release some formaldehyde. Moist SFS, in the absence of air, will form strong odorous by-products.

**Materials to Avoid:** Strong oxidizing agents, acids, strong caustics, low flashpoint materials. SFS reacts with acids to release sulfur dioxide.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, sulfur dioxide, metallic oxides.

**Hazardous Polymerization:** Will not occur.

Section 11. Toxicological Information

**Acute Oral Toxicity:** LD50(rat): >5000mg/kg
Acute Toxicity (intraperitoneal): LD50(rat): >2000mg/kg
SFS is not classified as a primary skin irritant, primary eye irritant, or sensitizer. SFS has been tested as part of the US HPV Program (testing on certain high production volume chemicals); it was concluded from the data that SFS is clastogenic in the Micronucleus Test (an in vivo cytogenic test to evaluate the genotoxic effects on erythrocytes in bone marrow in mice). In a 28-day rat feeding study the parental NOAEL (no observed adverse effect level) for SFS was established at 300mg/kg body weight per day; the definitive reproduction, breeding, and developmental NOAEL was established as being 1000mg/kg body weight per day.

Section 12. Ecological Information

**Ecotoxicity Data:** LC50(Leuciscus idus)(96 hr): >500mg/L
**Microorganisms/Effect on activated sludge:** DEV-L2 > 1000mg/L; Inhibition in degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

**Persistence and Degradability:** the product is not readily biodegradable; it is inherently biodegradable (OECD 302B). Degree of elimination: >70% (readily eliminated from the water).

**COD:** 490mg/g; **BOD:** 14mg/g

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT:** Not regulated
**IMDG:** Not regulated
**IATA:** Not regulated
Section 15. Regulatory Information

**SARA Title III Section 311/312 (40CFR370):** Chronic health hazard  
**SARA Title III Section 313 (40CFRR372):** No reportable components  
**CERCLA status (40CFR302):** Not a listed hazardous waste  
**TSCA Inventory Status:** Reported/included  
**Canadian DSL Status:** Reported/included  
**Canadian WHMIS Classification:** D2A  
**OSHA/NTP/IARC Carcinogenic Status:** Not listed  
SFS is classified as a category 3 mutagen. (Category 3 is assigned to substance where there is some evidence from animal studies but insufficient to regard the substance as possible mutagenic to humans.)  
**FDA Status:** SFS is not approved as a direct food additive; it is approved in the indirect food additive regulations at: 21CFR175.105 (adhesives), 21CFR176.170 and 176.180 (paper and paperboard) and 21CFR177.1210 and 177.2600 (sealing gaskets and rubber articles); consult current regulations for limitations and restrictions of the approval. SFS is listed in the US Pharmacopeia, National Formulary/1990  
**Chemicals Known to the State of California to Cause Cancer or Reproductive Toxicity:** None known to be in the product at levels requiring a warning.  
**Risk Phases:**  
R31 Contact with acids liberates toxic gas  
R52/54 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
R68 Possible risk of irreversible effects  
**Safety Phase**  
S36/37 Wear suitable protective clothing and gloves  
S61 Avoid release to the environment. Refer to special instructions/safety data sheet  
**Hazard Symbols:** Xn harmful

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

**REVISION DATE:** 6/16/2015