Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

Product name: Floquat TS 45 SH

Company: SNF Inc.
1 Chemical Plant Road
Riceboro, GA 31323
United States

Telephone: 912-884-3366
Telefax: 912-880-2330
E-mail: info@snfhc.com

Emergency telephone number: 800-424-9300 (CHEMTREC), Outside U.S. 703-527-3887

Product Use: Processing aid for industrial applications.

2. HAZARDS IDENTIFICATION

Hazard Identification
Aqueous solutions or powders that become wet render surfaces extremely slippery. Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Identification: Cationic polymer in solution.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Classification</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polydiallyldimethylammonium Chloride (PolyDADMAC)</td>
<td>26062-79-3</td>
<td>Polymer</td>
<td>R52/53</td>
<td>&gt;85</td>
</tr>
</tbody>
</table>

The wording of the hazard symbols and Risk phrases is specified in section 16 if dangerous ingredients are mentioned.
4. FIRST AID MEASURES

Inhalation: No hazards which require special first aid measures.

Skin contact: No hazards which require special first aid measures. Wash with water and soap as a precaution. In case of persistent skin irritation, consult a physician.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids. In case of persistent eye irritation, consult a physician.

Ingestion: No hazards which require special first aid measures. The product is not considered toxic based on studies on laboratory animals.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, Water spray, Foam, Dry powder, Carbon dioxide (CO2).

Precautions: Aqueous solutions or powders that become wet render surfaces extremely slippery.

Special protective equipment for firefighters: No special protective equipment required.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Environmental precautions: As with all chemical products, do not flush into surface water.

Methods for cleaning up: Do not flush with water. Clean up promptly by scoop or vacuum. Keep in suitable, closed containers for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling

Safe handling advice: Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Wash hands before breaks and at the end of workday.

Storage

Keep in a dry, cool place (0 - 35 °C).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits
None.

Engineering measures
Use local exhaust if dusting occurs. Natural ventilation is adequate in absence of dusts.

Personal protective equipment
Respiratory protection: Dust safety masks recommended where working powder concentration is more than 10 mg/m³.

Hand protection: Rubber gloves.

Eye protection: Safety glasses with side-shields. Do not wear contact lenses where this product is used.

Skin and body protection: Chemical resistant apron or protective suit if spashing or repeated contact with solution is likely.

Hygiene measures
Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Powder
Color: White
Odor: Slight
pH: 2.5 - 4.5 @ 5 g/l
Melting point/range: Not applicable
Autoignition temperature: Not applicable
Approx. bulk density: 0.3 - 0.5
Water solubility: See Technical Bulletin
Viscosity (mPa.s): See Technical Bulletin
LogPow: 0

10. STABILITY AND REACTIVITY

Stability: Stable. Hazardous polymerisation does not occur.

Materials to avoid: Oxidizing agents may cause exothermic reactions.


11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: Based on studies on similar products, this material is not expected to be toxic.

Skin: Based on studies on similar products, this material is not expected to be toxic.

Inhalation: Based on studies on similar products, this material is not expected to be toxic.

Irritation
Skin: By analogy with similar products, this product is not expected to be irritating.

Eyes: By analogy with similar products tested according to the Draize technique this material should produce no corneal or iridial effects and only slight transitory conjunctival effects similar to those which all granular materials have on conjunctivae.

Sensitization: By analogy with similar products, this product is not expected to be sensitizing.

Chronic toxicity: By analogy with similar products, this product is not expected to demonstrate chronic toxic effects.

12. ECLOGICAL INFORMATION

Aquatic toxicity

Toxicity to fish: LC50/Danio rerio/96 hours > 10 mg/l (OECD 203). (Based on results obtained from tests on analogous products.).

Toxicity to daphnia: EC50/Daphnia magna/48 hours > 10 mg/l (OECD 202). (Based on results obtained from tests on analogous products.).

Toxicity to algae: Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test.

Environmental fate

Persistence and degradability: Not readily biodegradable.

Hydrolysis: Does not hydrolyse.

LogPow: 0

Bioaccumulation: Does not bioaccumulate.

Other ecological information:
The effects of this product on aquatic organisms are rapidly and significantly mitigated by the presence of dissolved organic carbon in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Dispose of in accordance with local regulations.

Contaminated packaging: Rinse empty containers with water and use the rinse-water to prepare the working solution. Can be landfilled or incinerated, when in compliance with local regulations.

14. TRANSPORT INFORMATION

Remarks: Not classified as dangerous in the meaning of transport regulations.
15. REGULATORY INFORMATION

Classification and Labelling

The product is classified and labelled in accordance with EC directives or respective national laws.

Risk-phrase(s):
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety-phrase(s):
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

International Inventories

European Union (EINECS/ELINCS): All components of this product are either listed on the inventory or are exempt from listing.

USA (TSCA): All components of this product are either listed on the inventory or are exempt from listing.

Australia (AICS): All components of this product are either listed on the inventory or are exempt from listing.

Japan (ENCS): All components of this product are either listed on the inventory or are exempt from listing.

Korea (ECL): All components of this product are either listed on the inventory or are exempt from listing.

16. OTHER INFORMATION

Further information

Not licensed for dry addition in mineral separation processes in accordance with U.S. Patent Nos. 5,178,774 and 5,698,109 and foreign counterparts thereof such as Australien Patent 654,135; Canadian Patent 2,076,011; European Patent 536,194; and South African Patent 91/5025

Full text of hazard symbols and R-phrases if mentioned as hazardous components in chapter 2:

   R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

This MSDS was prepared in accordance with the following:
ISO 11014-1: Material Safety Data Sheet for Chemical Products
RegCE N° 1907/2006

Contact person: Product Information & Regulatory Affairs (+33.477.368.689)

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.