SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

1.1 Product identifiers
Identification of substance: Sodium Polystyrene Sulfonate
Trade name: ALDEX C-800, ALDEX C-800F
EC Number: Not applicable
REACH Registration No.: This mixture is exempted from registration according to the provisions of Title II and VI and Article 2(9) of REACH

1.2 Identified uses of the product
Identified uses: Ion Exchange, Adsorbent, and/or Catalyst

1.3 Details of the supplier of the safety data sheet
Company: Aldex Chemical Ltd
630 Laurent, Granby
Québec, J2G 8V1, Canada

Telephone: +1 450-372-8844
Fax: +1 450-372-2566
E-mail address: info@aldexchemical.com

1.4 Emergency telephone number
CHEMTREC: US/Canada 1 800-424-9300
International 1 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

Emergency Overview
- Physical state: Dark brown, black (beads)
- Odor: Odorless
- Contact with eyes: May cause temporary eyes irritation
- Contact with skin: May be slightly irritating to skin

Low hazard for unusual industrial or commercial handling by trained personnel
OSHA regulatory Status
- This product is not hazardous according to OSHA 29CFR 1910.1200

Potential health effects
- Inhalation: No effect at normal work temperatures
- Eye contact: May cause temporary eye irritation
- Skin contact: May be slightly irritating to skin
- Ingestion: Ingestion may cause irritation and malaise although this product does not pose a risk to health
- Chronic Health Effects: No other specific acute or chronic health impact noted
- Target Organ(s): Eye / Skin
- Potential Physical / Chemical Effects: This product is a combustible per NFPA

Environmental Effects
- The environmental hazard of the mixture is considered limited.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>%w/w</th>
<th>CAS No.</th>
<th>Hazard Statement</th>
<th>R Phrases</th>
<th>Hazard Pictogram</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Polystyrene Sulfonate</td>
<td>45-50</td>
<td>069011-22-9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Water</td>
<td>45-50</td>
<td>007732-18-5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures
Eye contact: Flush with water while holding eyelids open for at least 15 minutes. Get medical attention if any discomfort
Skin contact: Wash skin with soap and water.
Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.
Inhalation: Remove to fresh air, and keep patient at rest. Seek medical attention immediately.

4.2 Most important symptoms and effect, both acute and delayed
The most important know symptoms and effects are described in the section 2-Hazards Identification and or Section 11-Toxicological information.
4.3 Indication of any immediate attention and special treatment needed
No data available

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media: Use foam, water spray, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Styrene compounds, Carbon oxides, Sulfur oxides.

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Flammable Properties
- NFPA Rating Fire = 1

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Personnel involved in clean-up should wear appropriate personal protective equipment (See section 8).

6.2 Environmental precautions
Place waste in an appropriately labeled sealed container for disposal. Care should be taken to avoid environmental release.

6.3 Methods and materials for containment and cleaning up
Cleaning/Collecting measures: Contain the source of spill if it is safe to do so.
Sweep up as much as possible and transfer to plastic containers for recovery or disposal.

6.4 Additional consideration for large spills
Non-essential personnel should be removed from affected area.
Clean up operators should be undertaken by trained personnel.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with eyes and prolonged skin contact.
See section 8 of the MSDS for personal protective equipment.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool room (between 0 °C and 40 °C).
Keep container tightly closed in a dry and well-ventilated place.
Store away from incompatible material.
7.3 Specific end use(s)  

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limits  

No exposure limits noted for mixture.

8.2 Exposure controls  

Provide adequate ventilation.

Personal protective equipment

Eye/ Face protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hand protection: Handle with impervious gloves to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and/or good laboratory practices.

Skin Protection: Impervious protective clothing is recommended for bulk processing operations.

Respiratory protection: Not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environment exposure controls

Environmental manager must be informed of all major spillages.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance:</td>
<td>Dark brown to black spherical beads</td>
</tr>
<tr>
<td>Odor:</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH Range:</td>
<td>Neutral aqueous slurry</td>
</tr>
<tr>
<td>Melting/Freezing point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper/lower explosive limits:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density:</td>
<td>1.28</td>
</tr>
<tr>
<td>Vapor density (air = 1):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Water solubility:</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>500°C</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Oxidizing properties:</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2 Other safety information

Due to the physical properties of the beads, a spill can make a flat floor very slippery. It is strongly recommended to clean the floor to prevent any risk of fall.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No hazardous reactivity.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Not available.

10.4 Conditions to avoid

Considered stable under normal conditions.
Avoid Heat, and contact with incompatible materials.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents.
Contact with strong oxidizers, especially nitric acid, may produce low molecular weight organics that may form explosive mixtures.

10.6 Hazardous decomposition products
Thermal decomposition will yield oxides of carbon, and other toxic gases or vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>No evidence of acute toxicity</td>
</tr>
<tr>
<td>Skin Corrosion/irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Serious eye damage/irritiation</td>
<td>No data available</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>No data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No evidence of mutagenic effects</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No evidence of reproductive effects</td>
</tr>
<tr>
<td>Reproduction toxicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td>Single exposure: No data available</td>
</tr>
<tr>
<td></td>
<td>Repeated exposure: No data available</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>No data available</td>
</tr>
</tbody>
</table>

11.2 Additional information
Handle using good occupational and environmental health practices.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity
No data available

12.2 Persistence and degradability
The product is not readily biodegradable.

12.3 Bioaccumulative potential
Potential to bioaccumulate is low.

12.4 Mobility in soil
The product is insoluble in water and will sediment in water systems.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
No data available
SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

**General Information:** The generation of waste should be avoided or minimized wherever possible. Dispose of waste and residues in accordance with local authority requirements.

**Disposal Methods:** No specific disposal method required. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

**Containers:** Since emptied containers retain product residue, follow label warning even after container is emptied.

SECTION 14: TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>US DOT Information:</th>
<th>Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDG Information:</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ADR/RID Information:</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IATA Information:</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IMDG Information:</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

Environmental Hazard

ADR/RID: No | IMDG Marine pollutant: No | IATA: No

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation

**Canadian Controlled Product Regulations**

This mixture has been classified according to the hazard criteria of the Canadian Controlled Product Regulations, Section 33, and the SDS contains all required information.

**WHMIS Classification**

This is not a WHMIS controlled mixture

**Applicable international laws and regulations**

This mixture meets the OECD polymer definition, and is therefore exempt from REACH registration

**Inventory Status**

This mixture or all components are listed or exempt from listing on the following inventory: TSCA, DSL
US Regulations
CERCLA Hazardous Substance List (40 CFR 302.4): Not regulated

SARA Title III
- Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A): Not regulated
- Section 311/312 (40 CFR 370):
  Acute (immediate) Chronic (Delayed) Fire Reactive Pressure Generating
- Section 313 Toxic Release Inventory (40 CFR 372): Not regulated

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

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): Not regulated

Drug Enforcement Act: Not regulated

TSCA
- TSCA Section 4(a) Final Test Rules & Testing Consent Orders: Not regulated
- TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs) (40CFR 721, Subpt. E): Not regulated
- TSCA Section 5(e) PMN-Substance Consent Orders: Not regulated
- TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated

State Regulations
- California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): Not regulated
- Massachusetts Right – To – Know list: Not regulated
- Minnesota Hazardous Substances List: Not regulated
- Pennsylvania Right – To –know List: Not regulated
- Rhode Island Right – To- Know List: Not regulated

15.2 Chemical Safety Assessment
Aldex Chemical has not conducted a chemical safety assessment for this product.
SECTION 16: OTHER INFORMATION

Further Information

Hazard rating (NFPA)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Instability</th>
<th>Special Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Hazard rating: 0 – minimal; 1 – Slight; 2 – moderate; 3 – Serious; 4 – Severe

Hazard rating (HMIS)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>--</td>
</tr>
</tbody>
</table>

Hazard rating: 0 – minimal; 1 – Slight; 2 – moderate; 3 – Serious; 4 – Severe

- Relevant Hazard Statements: None
- Relevant R phrases: None

The data and recommendations presented herein are based upon our research and are believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

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