Material Safety Data Sheet

ION-EXCHANGE RESIN

- Strong Acid Cation Exchange Resin

Section 1 - Chemical Product and Company Information

1) Product Name: Ion Exchange Resin 001x7

Section 2 - Composition, Information on Ingredients

Ingredient	CAS#	EINECS#	Conc.%
Sodium polystyrene sulfonate	69011-22-9	No data available from ECHA	40 - 65
Water	7732-18-5	231-791-2	35 - 60

Section 3 - Hazards Identification

1) Globally Harmonized System of Classification and Labeling of Chemicals(GHS)
   - Physical hazard: Not applicable
   - Health hazard: Not applicable
   - Environment hazard: Not applicable
2) Label elements including precautionary statements
   - Symbol: Not applicable
   - Signal word: Not applicable
   - Hazard statements: Not applicable -
   - Precautionary statements: Not applicable
3) US NFPA
   - Health: 0, Flammability: 1, Reactivity: 0, Water reactivity: 0

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Section 4 - First Aid Measures

1) in case of eye contact
   - Rinse thoroughly with plenty of water far at least 15 minutes and consult a physician.
2) in case of skin contact
   - Wash off with soap and plenty of water.
3} If inhaled
   - If breathed in, move person into fresh air.
   - If not breathing, give artificial respiration.
   - Consult a physician.
4) If swallowed
   - Never give anything by mouth to an unconscious person.
   - Rinse mouth with water.
5) Other medical attention
   - Medical personnel should be aware of the protective measures of the substance.
6} Potential health effect
   - May be harmful if swallowed

Section 5 - Fire, Fighting Measures

1) Flammable properties
   - Flash point : No flash occurred under 93°C (Rapid equilibrium method)
   - Autoignition temperature: No spontaneous combustion under 200 °C
   - Burning rate: Did not ignite (UN TDG test & criteria - Test Nl)
2) Suitable extinguishing media
   - Water spray, alcohol-resistant faam, dry chemical, carbon dioxide
3} Specific hazards arising from the chemical
   - No data available
4) Special protective equipment far fire-fighters
   - Wear self-contained breathing apparatus far firefighting if necessary.

Section 6 - Accidental Release Measures

1) Personal precautions
   - Ensure adequate ventilation
2) Environmental precautions
   - No data available
3} Methods and materials far containment and cleaning
   - Keep in suitable, closed containers far disposal.

Section 7 - Handling and Storage

1) Precautions far safe handling
   - Avoid breathing dust.
   - Provide appropriate exhaust ventilation at places where dust is farmed.
2) Conditions far safe storage
   - Store in a closed container.

- Avoid direct sunlight, heat sources, and strong oxidizing agents.

Section 8 - Exposure Controls, Personal Protection

1) Components with workplace control parameter
- US ACGIH: No data available
2) Biological exposure limits: No data available
3) Appropriate engineering controls: No data available
4) Personal protective equipment
- Respiratory protection: Dust mask for chemicals
- Eye protection: Protective goggles for chemicals
- Hand protection: Protective gloves
- Skin and body protection: Working clothes for chemicals

Section 9 - Physical and Chemical Properties

1) State: Solid(Granular) at 20 °C
2) Odour and Odour threshold: No data available
3) PH: Neutral
4)Maximum service temperature : Na type 120 °C
5) Boiling point: No data available
6) Flash point : No flash occurred under 93°C (Rapid equilibrium method)
7) Evaporation rate: No data available
8) Flammable properties *
- Burning rate: Did not ignite UN TDG test & criteria - Test Nl
9) Lower explosion limit, Upper explosion limit: No data available
10) Vapour pressure: No data available
11) Water solubility: Insoluble at 20 °C
12) Vapor density: No data available
13) Partition coefficient (n-octanol, water): No data available
14) Autoignition temperature: No spontaneous combustion under 200 °C
15) Decomposition temperature: No data available
16) Viscosity: No data available
17) Explosive properties: No self-reaction hazard * UN TDG test & criteria - Test E3
18) Oxidizing properties: No data available
19) Molecular weight: No data available

Section 10 - Stability and Reactivity

1) Chemical stability
- Stable under general condition.
2) Conditions to avoid
- Avoid breathing dust.
3) Materials to avoid
- Strong oxidizing agents
4) Hazardous decomposition products
- Carbon oxides, Sulfur oxides

Section 11 - Toxicological Information

1) Information on the likely route of exposure
2) Information on health harmfulness
3} Acute toxicity
   - Oral rat LD50 : No data available * from US NLM/ECHA
   - Skin rabbit LD50: No data available
   - Inhalation rat LC50(dust, 4h): No data available
4) Skin irritation: No data available
5) Eye irrit at io n: No data available
6} Respiratory sensit izat ion: No data available
7) Skin sensitization: No data available
8} Germ celi mutagenicity: No data available
9} Carcinogenicity: Not classifiable * from CCRIS/IARC
10} Reproductive toxicity: No data available
11) Specific target organ toxicity - single exposure (GHS): No data available
12) Specific target organ toxicity - repeated exposure (GHS): No data available
13} spiration hazar d: No data available

Section 12 - Ecological Information

1) Toxicity
   - Fish LC50 : No data available * from US NLM/ECHA
   - Crustacean EC50: No data available
   - Algae EC50: No data available
2) Persistence and degradability: No data available
3} Bio accumulative pot ent ial: No data available
4) Mobility in soil: No data available
5) Other adverse effects: No data available

Section 13 - Disposal Considerations

1) Disposal consideration
   - Observe all environmental regulat ions.
2) Disposal precaution(including contaminated container and packaging method)
   - Keep in suitable, closed containers for disposal.

Section 14 - Transport Information

1) UN TDG: Not dangerous goods
2) UN proper shipping name: Not dangerous goods
3} Dangerousness class: Not dangerous goods
4) Packing group (if possible): Not dangerous goods
5) Marine pollution(applicable or not applicable): Not applicable
6) Special precaution
   - Fire EmS Gui de: F-A (Recommendation)
   - Spillage EmS Guide: Not dangerous goods

Section 15 - Regulatory Information

1) European/International Regulations
2) European Labeling in Accordance with EC Directives
3) Hazard Symbols: Not available
4) Risk Phrases:
5) Safety Phrases:
6) S 24/25 Avoid contact with skin and eyes.
7) WGK (Water Danger/Protection)
   Canada
   US Federal
   TSCA

Section 16 - Other Information

1) Revision: 15/03/2019
2) Acronyms and Websites
   -ECHA: European chemical agency, http://echa.europa.eu/
   -US NLM: U.S. National Library of Medicine, http://chem.sis.nlm.nih.gov/chemidplus/
   -HSDB: U.S. Hazardous Substances Data Bank, http://toxnet.nlm.nih.gov/
   -CCRIS: U.S. Chemical Carcinogenesis Research Information System,
   htt p://toxnet.nlm.nih.gov/
   -IARC: International Agency for Research on Cancer, http://monographs.iarc.fr/

The information provided in this safety data sheet is based on current knowledge about the product and current legal requirements and standards. it relates specifically to health, safety and environmental requirements and standards, may not identify all hazards associated with the product or its uses or misuses, does not signify any warranty with regard to the properties of the product, and only applies when the product is used for the purposes indicated above. This product is not sold as suitable for other purposes and such other usage may cause risks not mentioned in this safety data sheet.