



Safety Data Sheet

Product Name: SIR-110-HP

(Perchlorate selective Strong Base Anion Exchange Resin Chloride Form)

Effective date February 23, 2018

Section 1: Identification

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| 1a | Product Name | ResinTech SIR-110-HP |
| 1b | Common Name | Perchlorate and nitrate Selective strong base anion resin in the chloride form. |
| 1c | Intended use | Removal of perchlorate, iodide, and from water. |
| 1d | Manufacturer Address | ResinTech, Inc. 160 Cooper Road, West Berlin, NJ 08091 USA |
| | Phone | 856-768-9600 |
| | Email | ixresin@resintech.com |

Section 2: Hazard Identification

2a OSHA Hazard classification Not hazardous or dangerous

| Product Hazard Rating | Scale |
|-----------------------|----------------|
| Health = 0 | 0 = Negligible |
| Fire = 1 | 1 = Slight |
| Reactivity = 0 | 2 = Moderate |
| Special – N/A | 3 = High |
| | 4 = Extreme |

2b Product description Light cream to light yellow colored solid beads with little or no odor.

2c Precautions for use Safety glasses and gloves recommended. Slipping hazard if spilled.

2c Potential health effects Will cause eye irritation.
May casue mild skin irritation.
Ingestion is not likely to pose a health risk.

2d Environmental effects Little or none.

Section 2A: Hazard classification UN OSHA globally harmonized system



Warning (contains ion exchange resin)

H320: Causes eye irritation (Category 2B)

Precautionary Statements

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P333+313: If skin irritation or a rash occurs: Get medical advice/attention.

P337+313: If eye irritation persists get medical advice/attention.

P403+233: Store in a well-ventilated place. Keep container tightly closed.

P411: Store at temperatures not exceeding 50 °C/ 122 °F.

Please refer to the safety data sheet for additional information regarding this product

ResinTech, Inc.
160 Cooper Road
West Berlin, NJ 08091-9234
856 768-9600
Ixresin@resintech.com

Section 3: Composition/ Information on Ingredients

| | | |
|----|--|--|
| 3a | Chemical name | Tributylamine functionalized chloromethylated copolymer of polystyrene in the chloride form. |
| 3b | Ingredients | |
| | Tributylamine functionalized chloromethylated copolymer of styrene and divinylbenzene in the chloride form | CAS# 116565-72-1 (55 - 70%) |
| | Water | CAS# 7732-18-5 (30 – 45%) |

Section 4: First Aid Measures

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| 4a | Inhalation | No adverse effects expected- normal use of product does not produce odors or vapors. |
| 4b | Skin | Wash with soap and water- seek medical attention if a rash develops. |
| 4c | Eye contact | Wash immediately with water- seek attention if discomfort continues. |
| 4d | Ingestion | No adverse effects expected for small amounts, larger amounts can cause stomach irritation. Seek medical attention if discomfort occurs. |

Section 5: Fire Fighting Measures

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| 5a | Flammability | NFPA Fire rating = 1 |
| 5b | Extinguishing media | Water, CO2, foam, dry powder |
| 5c | Fire fighting Procedures | Follow general fire fighting procedures indicated in the work place. |
| 5d | Protective Equipment | MSHA/NIOSH approved self-contained breathing gear, full protective clothing. |
| 5e | Combustion Products | Carbon oxides and other toxic gasses and vapors. |
| 5f | Unusual Hazards | Product is not combustible until moisture is removed. Resin begins to burn at approximately 230° C. Auto ignition can occur above 500° C. |

Section 6: Accidental Release Measures

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| 6a | Personal Precautions | Keep people away, spilled resin can be a slipping hazard, wear gloves and safety glasses to minimize skin or eye contact. |
| 6b | Incompatible Chemicals | Strong oxidants can create risk of combustion products similar to burning. |
| 6c | Environmental Precautions | Keep out of public sewers and waterways. |
| 6d | Containment Materials | Use plastic or paper containers. |
| 6e | Methods of Clean-up | Sweep up material and transfer to containers. |

Section 7: Handling and Storage

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| 7a | Handling | Avoid prolonged skin contact. Keep resin moist and avoid allowing resin to completely dry. |
| 7b | Storage | Store in a cool dry place (0° to 45° C) in the original shipping container. This product is thermally sensitive and will have reduced shelf life if subjected to extended periods of time at temperatures exceeding 50° C. Although freezing does not usually damage ion exchange resins, avoid repeated freeze thaw cycles. |

Section 8: Exposure Controls/Personal Protection

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| 8a | OSHA exposure limits | None noted. |
| 8b | Engineering Controls | Provide adequate ventilation. |
| 8c | Personal Protection Measures | |
| | Eye Protection | Safety glasses or goggles. |
| | Respiratory Protection | Not required for normal use. |
| | Protective Gloves | Recommended for extended contact. |

Section 9: Physical and Chemical Properties

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| Appearance | Light cream to light yellow beads approx. 0.6 mm diameter. |
| Flammability or explosive limits | Flammable above 500° C |
| Odor | Little or no odor |
| Physical State | Solid |
| Vapor pressure | Not available |
| Odor threshold | Not available |
| Vapor density | Not available |
| pH | Near neutral |
| Relative density | Approx 680 grams/Liter |
| Melting point/freezing point | Does not melt, freezes at approx. 0 C |
| Solubility | Insoluble in water and most solvents |
| Boiling point | Does not boil |
| Flash point | Approx 500° C |
| Evaporation rate | Does not evaporate |
| Partition Coefficient (n-octanol/water) | Not applicable |
| Auto-ignition temperature | Approx 500° C |
| Decomposition temperature | Above 230° C |
| Viscosity | Not applicable |

Section 10: Stability and Reactivity

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| 10a Stability | Stable under normal conditions. |
| 10b Conditions to Avoid | Heat, exposure to strong oxidants. |
| 10c Hazardous by-products | Tributylamine, charred polystyrene, aromatic acids and hydrocarbons, organic amines, nitrogen oxides, carbon oxides, chlorinated hydrocarbons. |
| 10d Incompatible materials | Strong oxidizing agents (such as HNO ₃). |
| 10e Hazardous Polymerization | Does not occur |

Section 11: Toxicological Information

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| 11a | Likely Routes of Exposure | Oral, skin or eye contact. |
| 11b | Effects of exposure | |
| | Delayed | None known. |
| | Immediate (acute) | None known. |
| | Chronic | None known. |
| 11c | Toxicity Measures | |
| | Skin Adsorption | Unlikely. |
| | Ingestion | Oral toxicity believed to be low but no LD50 has been established. |
| | Inhalation | Unknown, vapors are very unlikely due to physical properties (insoluble solid). |
| 11d | Toxicity Symptoms | |
| | Skin Adsorption | Mild rash. |
| | Ingestion | Indigestion or general malaise. |
| | Inhalation | Unknown. |
| 11e | Carcinogenicity | None known |

Section 12: Ecological information

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| 12a | Eco toxicity | Not harmful to plant or animal life. |
| 12b | Mobility | Insoluble. |
| 12c | Biodegradability | Not biodegradable. |
| 12d | Bioaccumulation | Insignificant. |
| 12e | Other adverse effects | Not Harmful to the environment. |

Section 13: Disposal Considerations

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| 13a | General considerations | Material is non-hazardous. |
| 13b | Disposal Containers | Most plastic and paper containers are suitable. |
| 13c | Disposal methods | No specific method necessary. |
| 13d | Sewage Disposal | Not recommended. |
| 13e | Precautions for incineration | May release tributylamine and toxic vapors when burned. |
| 13f | Precautions for landfills | Resins used to remove hazardous materials may then become hazardous mixtures |

Section 14: Transportation Information

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| 14a | Transportation Class | Not classified as a dangerous good for transport by land, sea, or air. |
| 14b | TDG | Not regulated. |
| 14c | IATA | Not regulated. |
| 14d | DOT (49 CFR 172.101) | Not Regulated. |

Section 15: Regulatory Information

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| 15a | CERCLA | Not regulated |
| 15b | SARA Title III | Not regulated |
| 15c | Clean Air act | Not regulated |
| 15d | Clean Water Act | Not regulated |
| 15e | TSCA | Not regulated |
| 15f | Canadian Regulations WHMIS TDG | Not a controlled product Not regulated |
| 15g | Mexican Regulations | Not Dangerous |

Section 16: Other Information

The information provided in this safety data sheet is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty or guarantee of accuracy, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that their activities comply with federal, state, and local laws.

16a Date of Revision 31 March 2015