SAFETY DATA SHEET

Anion Exchange Resin, Bio grade (methanol) SDS - Column Revision Date: 01-Feb-18

Section 1: Chemical Product and Company Identification

Product Name Anion Exchange Resin, Bio grade (methanol)

Product Number(s):

Product Synonym(s): Tritium Column

Identified Uses: Laboratory chemicals, manufacture of substances

Manufacturer: Eichrom Technologies LLC
1955 University Lane
Lisle, Illinois 60532

General Information: (8-5 CST M-F)
800-422-6693 (in USA)
630-963-0320

24 Hour Emergency Number (US/Canada): 1-800-255-3924 CHEMTEL Contract #:MIS9554039

24 Hour International Access Number: 1-813-248-0585

Country Specific Emergency Numbers:

Australia: 1-300-954-583
India: 000-800-100-4086
Brazil: 0-800-591-6042
Mexico: 1-800-99-731

Section 2: Hazard(s) Identification

2.1 Classification of the substance or mixture

GHS Classification of substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

Flammable Liquid, Flash point > 60°C and <= 93°C

Acute toxicity (Category 3)

Skin Irritant

Eye Irritant

Specific target organ systemic toxicity following single exposure

2.2 GHS Label elements, including precautionary statements

Pictogram:

Signal Word Danger

Hazard Statement(s):

H227	Combustible liquid
H301+H311+H331	Toxic if swallowed, in contact with skin, or if inhaled.
H315	Causes skin irritation
H319	Causes serious eye irritation
H370	Causes damage to organs.

Precautionary Statement(s):

Prevention	P210	Keep away from heat, sparks, and open flames. - No smoking
	P233	Keep container tightly closed.
	P240	Ground container and receiving equipment
	P241	Use explosion-proof electrical equipment, ventilation, lighting, and other equipment.
	P242	Use only non-sparking tools.
	P243	Take precautionary measures against static discharge.
	P261	Avoid breathing dust and vapors.
	P264	Wash hands thoroughly after handling.
	P271	Use only outdoors or in a well-ventilated area.
	P280	Wear protective gloves, clothing, and eye protection.
Response	P303+P361+P353	IF ON SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin (or hair) with water.
	P304+P312	IF INHALED: Call a POISON CONTROL CENTER or doctor if you feel unwell.
	P304+P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

		present and easy to do. Continue rinsing.
	P332+P313	If skin irritation occurs, seek medical attention.
	P337+P313	If eye irritation persists, get medical attention.
	P362+P364	Take off contaminated clothing and wash before reuse.
	P370+P378	In case of fire: Use foam, CO2, or dry chemical for extinction.
Storage	P403+P235	Store in a well-ventilated place. Keep cool.
Disposal	P501	Dispose of contents/container in accordance with federal, state, and local regulations.

2.3 Hazards Not Otherwise Classified (HNOC) or not covered by GHS:

Section 3: Composition / Information on Ingredients

Component	CAS_Number	Percentage Range
De-ionized water	007732-18-5	55-64%
Phosphonic acid, ethenylidene bis-, tetrakis (1-methylethyl) ester, polymer with ethenyl benzene, 2-propenenitrile, and diethenylbenzene, dibenzoyl peroxide initiated, sulfonated and hydrolyzed	174851-91-3	14-20%
Styrene, divinylbenzene and ethylstyrene copolymer, chloromethyl trimethylamine functionalized in the chloride form	69011-19-4	13-17%
Methanol		5-6%
Nonionic Acrylic Ester Polymer	Trade Secret	2-4%

Section 4: First-aid Measures

Ingestion	IF SWALLOWED: IMMEDIATELY call a POISON CONTROL CENTER or doctor.
Skin Contact	Wash immediately with soap and copious amounts of water. Remove and wash contaminated clothing promptly. If irritation develops, seek medical attention.
Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	If eye irritation persists, get medical attention.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Most important symptoms and effects, both acute and delayed	Eye contact: Redness of eye tissue. Lacrimation.
	Ingestion/Inhalation/Skin Contact: Nauseau. Vomiting. Symptoms that may appear later (after absorption of high quantities): change in haemogramme/blood composition, headache, feeling of weakness, abdominal pain, muscular pain, central nervous system
	depression, dizziness, mental confusion, drunkeness, coordination disorders, disturbed motor response, disturbances of consciousness, visual disturbances, blindness, respiratory difficulties, and cramps/uncontrolled muscular contractions.
	Chronic symptoms: Red skin, dry skin, skin rash/inflammation, headache, disturbed tactile sensibility, visual disturbances, sleeplessnes, gastointestinal complaints, cardiac and blood circulation effects.
Indication of any immediate medical attention and special treatment needed	Treat as methanol exposure - quantity less than 10% of liquid volume.

Section 5: Firefighting Measures

Extinguishing Media	Foam, CO2, Dry Chemical
Fire and Explosion Hazards	Highly toxic and irritating fumes may be released and extinguishing water runoff may be toxic.
Protective Equipment	Wear positive pressure self-contained breathing apparatus and full personal protective equipment.

Special Hazards	Possible combustion products include carbon oxides, nitrogen oxides, chlorine.
	Possible combustion products include, but are not limited to: alkylbenzenes, vinylbenzenes, phenol, phosphoric acid, carbon dioxide, sulfur oxides, water, organic sulfonates.

Section 6: Accidental Release Measures

Personal precautions	Avoid breathing vapors, mist, or gas. See section 8.
	Surface may be slippery.
	Use proper personal protect equipment (specified in section 8)
Methods and materials for containment and clean-up	Use adsorbent material to collect liquid component
	Sweep up material and transfer to a suitable container for disposal.
	Ventilate area and wash spill site after material pickup is complete.
Reference to other sections	For disposal see section 13.

Section 8: Exposure Controls / Personal Protection

Control Parameters	Per ACGIH, TLV-TWA for Methanol is 200 ppm.
	Per ACGIH, TLV-STEL for Methanol is 250 ppm.
	Per OSHA, PEL-TWA for Methanol is 200 ppm.
	Per OSHA, PEL-TWA for Methanol is 260mg/m3.
Exposure Controls	Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product.
	Do not eat, drink or smoke when using this product.
Body protection	Wear protective gloves, clothing, and eye protection.
Respiratory protection	Do not breathe dust or mist.

Section 9: Physical Properties

Information on basic physical and chemical properties

Appearance:	Powder-Liquid Mixture Layers of off-white/amber/ brown, spherical beads in a colorless liquid	Explosion Limits (Upper/Lower):	Methanol: Upper explosion limit: 36%(v). Lower explosion limit: 6% (v). No data for other components.
Odor:	low to none	Flash Point:	62 °C (methanol-water)
Odor Threshold:	Not Established	Flammability:	Not Established
pH:	Not established	AutoIgnition Temperature:	425 °C
Melting Point:	-6 °C (methanol-water); Not established for beads	Decomposition Temperature	Not Established
Boiling Point:	92 °C (approximate for methanol-water); Not established for beads	VaporPressure:	130 hPa at 20°C (methanol only); not established for mixture
Relative Density:	Not established	VaporDensity:	1.11 (for methanol only)
Solubility:	(in water) Beads are insoluble	Evaporation Rate:	Not Established
Partition Coefficient:	-0.77 (log Pow for methanol only)		
Viscosity:	Not Established		

Section 10: Stability and Reactivity

Reactivity	No hazardous reactions if stored and handled as indicated.
Chemical Stability	Stable under normal handling and storage conditions.
Hazardous reactions	Reacts with strong oxidizing agents.
	Toxic fumes may be released if heated above the decomposition point.
	No hazardous reactions are expected in normal laboratory use. Hazardous polymerization will not occur.
Conditions to Avoid	Avoid all sources of ignition; heat, sparks, open flame. Avoid electro-static discharge.
Materials to Avoid	Contact with strong oxidizers will degrade material.

Hazardous decomposition Products	Decomposition products depend upon temperature, air supply, and the presence of other materials. Decomposition products can include and are not limited to: Chlorinated hydrocarbons, aromatic compounds, hydrocarbons, hydrogen chloride, and organic amines
	Possible combustion products include phosphorous oxides, phosphoric acid, carbon dioxide, and carbon monoxide; additional unidentified organic compounds may also be produced.

Section 11: Toxicology Information

	The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.
Other	
	The amount of methanol that can cause severe methanol poisoning is very small: Assuming that 100% methanol fuel is swallowed, the poisonous dose is less than two tablespoons (28 ml) for a typical adult.
Acute Toxicity	
Oral Effects	Acute toxicity via the oral route of administration due to powders is expected to be low.
	Liquid Solution: Estimated Oral LD50 is >55,000 mg/kg(rat). Toxicity classification based upon OSHA rules for >1% mixture component. [Oral LD50 for Methanol is >5000 mg/kg (rat).]
	Methanol: 143 mg/kg LDLo in humans. Eye/Optic nerve neuropathy. Gastrointestinal nausea or vomiting. Dyspnea of lungs, thorax, or respiration.
	Methanol: 7,000 mg/kg LD50 in monkeys. Muscle weakness, ataxia, coma.
Inhalation Effects	No data available for acute inhalation effects of this product. Toxicity classification based upon >1% Methanol. [LC50 inhalation for Methanol is 85 mg/l/4h (rat) or 64,000 ppm/4h (rat).]
	Methanol: 300 ppm LDLo in humans. Headache. Other changes to lungs, thorax, or respiration. Eye visual field changes.
Dermal Effects	Liquid Solution: Estimated Dermal LD50 is >175,000 (rabbit) mg/kg. Toxicity classification based upon >1% Methanol. [Dermal LD50 for Methanol is 15,800 mg/kg (rabbit).]
	Dermal LD50 > 5,000 mg/kg (rabbit) - Acrylic Polymer. Dermal LD50 for other powder components has not been determined.
Skin corrosion/irritation	
	Prolonged exposure to powder not likely to cause significant skin irritation. May cause more severe response if skin is abraded (scratched or cut).
	Liquid Solution: Repeated direct skin contact with methanol can cause dermatitis with dryness and cracking.
Serious eye damage/irritation	
	Powder: May cause slight temporary eye irritation or corneal injury due to mechanical action.
	Liquid Solution: Repeated exposure will cause eye irritation.
Respiratory or skin sensitization	
	No data available regarding respiratory or skin sensitization effects of this product.
Germ Cell Mutagenicity	
	No data available regarding mutagenic effects of this product.
Carcinogenicity	
	No data available regarding carcinogenic effects of this product.
Reproductive Toxicity	
	Powder: No data available regarding reproductive effects of this product.
	Liquid Solution: There is concern of adverse developmental effects in fetuses if pregnant women are exposed to methanol at levels that result in blood methanol concentrations greater than 10 mg/l.
	Liquid Solution (continued): It is possible that substantially higher blood levels will NOT result in developmental toxicity.
Specific Target Organ Toxicity	
Single Exposure	Liquid Solution: Contains methanol. Methanol causes damage to organs (liver, kidneys, central nervous system, optic nerve).
	No data available regarding specific target organ toxicity single exposure for powder.

Repeated Exposure	No data available regarding specific target organ toxicity repeated exposure for powder or liquid.
Aspiration Hazard	
	No data available regarding aspiration hazards associated with this product.

Section 12: Ecological Information

	No data are available on the adverse effects of this material as a whole on the environment.
Aquatic Toxicity	
Acute Toxicity to fish	Methanol: 96-hr LC50 (fathead minnow, 28-29 days old): 29,400 mg/L, 25°C, 7.3 mg/L dissolved water, water hardness 43.5 mg/L (CaCO3) alkalinity 46.6 CaCO3, pH 7.66
	Methanol: 96-hr LC50 (rainbow trout fingerling): 13,680 mg/L, 12°C
	Methanol: 96-hr LC0 (rainbow trout fingerling): 10,800 mg/L, 12°C
Persistance and degradability	
	No other data are available for persistance and degradability. Surface photodegradation is expected with exposure to sunlight.
Biodegradability	Methanol: Will biodegrade rapidly in soil, water, and air.
	No other data are available regarding the biodegradability of this material. No appreciable biodegradation is expected.
Bioaccumulative potential	No data are available for bioaccumulative potential.
Mobility in Soil	No data are available for mobility in soil.
PBT/vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
Other	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

Section 13: Disposal Considerations

General	Avoid disposal to sewers and local waterways.
	Dispose of contents/container in accordance with federal, state, and local regulations.
Unused:	Bury resin in licensed landfill or burn in approved incinerator equipped with an afterburner and scrubber according to local, state, and federal regulations.
	Burn liquid in a chemical incinerator equipped with an afterburner and scrubber.
Used:	For resin contaminated with hazardous materials, dispose of mixture as hazardous material according to local, state, and federal regulations.

Section 14: Transport Information

Ground Transport:	Not D.O.T. Hazardous

Section 15: Regulatory Information

Canada - DSL/NDSL	A component, Methanol [CAS 67-56-1], is listed on the Canadian Domestic Substances List.
US Federal Regulations	
	Toxic Substances Control Act (TSCA): This material is provided to you under the research and development (R&D) exemption.
US State Regulations	
	A component, Methanol [CAS 67-56-1], is listed on the following state right to know lists: CA, MA, NJ

Section 16: Other Information

Revision	Updated to GHS SDS format, including classification
	1-Feb-2018: Update Emergency Phone Numbers
SDS Prepared By:	Eichrom Technologies LLC