


## VP-17-4205

(Layered High Purity Organics Removal Cartridge)

Effective date 1 January 2021

SECTION 1: Identification	
<b>1A: Product Names</b>	VP-17-4205
<b>1B: Common Name</b>	Layered High Purity Organics Removal Cartridge
<b>1C: Intended use</b>	All applications where deionized water is needed.
<b>1D: Manufacturer Address</b>	ResinTech, Inc. 1801 Federal Street, Camden, NJ 08105 USA
<b>Contact Information:</b>	856-626-1550 info@resintech.com

SECTION 2: Hazard Identification	
<b>2A: OSHA Hazard classification</b> 0 = Negligible 1 = Slight 2 = Moderate 3 = High 4 = Extreme	Not hazardous or dangerous Health - 1 (1 = Slight) Fire - 1 (1 = Slight) Reactivity - 0 (0 = Negligible) Special - N/A
 <b>WARNING</b>	(contains chloride form strong base anion resin and granular carbon) H315: Causes skin irritation (Category 2) H316: Causes mild skin irritation (Category 3) H319: Causes serious eye irritation (Category 2A) H320: Causes eye irritation (Category 2B)

Revision 1.0

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<b>SECTION 2: Hazard Identification Continued</b>	
<b>Precautionary Statements</b>	<p>P264: Wash hands thoroughly after handling.</p> <p>P280: Wear protective gloves/protective clothing/eye protection/face protection</p> <p>P284: In case of inadequate ventilation wear respiratory protection.</p> <p>P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</p> <p>P333+313: If skin irritation or a rash occurs: Get medical advice/attention.</p> <p>P337+313: If eye irritation persists get medical advice/attention.</p> <p>P403+233: Store in a well ventilated place. Keep container tightly closed.</p> <p>P411: Store at temperatures not exceeding 50 °C/ 122 °F.</p>
<b>2B: Product description</b>	<p>MBD-10 Amber, tan, dark brown, or black cation beads blended with white, yellow, orange, or red anion beads, all approx. 0.6 mm diameter. MBD-90 - White to light cream colored solid beads mixed with black carbon granules and with little or no odor.</p>
<b>2C: Precautions for use</b>	<p>Safety glasses and gloves recommended. Slipping hazard if spilled.</p>
<b>Potential health effects</b>	<p>Will cause eye irritation. May cause mild skin irritation. Ingestion is not likely to pose a health risk.</p>
<b>2D: Environmental effects</b>	<p>This product may alter the pH of any water that contacts it.</p>

<b>SECTION 3: Composition/ Information on Ingredients</b>	
<b>3A: Chemical name</b>	<p>Combination of mixture of polystyrene sulfonate in the hydrogen form and trimethylamine functionalized chloromethylated copolymer of polystyrene in the hydroxide form and mixture of chloride form strong base anion resin and granular activated carbon</p>
<b>3B: Ingredients: Water</b>	<p>MBD-10: CAS# 7732-18-5 (40 – 70%)            MBD-90: CAS# 7732-18-5 (25-40%)</p>
<b>Polystyrene sulfonate in the hydrogen form</b>	<p>CAS# 69011-20-7 (10 - 30%)</p>

<b>SECTION 3: Composition/ Information on Ingredients</b>	
<b>Trimethylamine functionalize chloromethylated copolymer of polystyrene in the hydroxide form</b>	CAS# 69011-18-3 (20 - 50%)
<b>Polyacrylic copolymer functionalized, with trimethylamine</b>	CAS# 65997-24-2 (10 - 15%)
<b>Granular activated carbon</b>	CAS# 7440-44-0 (50 – 60%)

<b>SECTION 4: First Aid Measures</b>	
<b>4A: Inhalation</b>	No adverse effects expected - normal use of product does not produce odors or vapors.
<b>4B: Skin</b>	Wash with soap and water - seek medical attention if a rash develops.
<b>4C: Eye contact</b>	Wash immediately with water - seek attention if discomfort continues.
<b>4D: Ingestion</b>	No adverse effects expected for small amounts, larger amounts can cause stomach irritation. Seek medical attention if discomfort occurs.

<b>SECTION 5: Fire Fighting Measures</b>	
<b>5A: Flammability</b>	NFPA Fire rating = 1
<b>5B: Extinguishing media</b>	Water, CO <sub>2</sub> , foam, dry powder
<b>5C: Fire fighting Procedures</b>	Follow general fire fighting procedures indicated in the work place. Seek medical attention if discomfort continues.
<b>5D: Protective Equipment</b>	MSHA/NIOSH approved self-contained breathing gear, full protective clothing.
<b>5E: Combustion Products</b>	Carbon oxides and other toxic gasses and vapors.
<b>5F: Unusual Hazards</b>	Product is not combustible until moisture is removed. Resin begins to burn at approximately 230° C. Auto ignition can occur above 500° C.

<b>SECTION 6: Accidental Release Measures</b>	
<b>6A: Personal Precautions</b>	Keep people away, spilled resin can be a slipping hazard, wear gloves and safety glasses to minimize skin or eye contact.

<b>SECTION 6: Accidental Release Measures</b>	
<b>6B: Incompatible Chemicals</b>	Strong oxidants can create risk of combustion products similar to burning, exposure to strong bases can cause a rapid temperature increase.
<b>6C: Environmental Precautions</b>	Keep out of public sewers and waterways.
<b>6D: Containment Materials</b>	Use plastic or paper containers, unlined metal containers not recommended.
<b>6E: Methods of Clean-up</b>	Sweep up material and transfer to containers.

<b>SECTION 7: Handling and Storage</b>	
<b>7A: Handling</b>	Avoid prolonged skin contact. Avoid contact with salts or with salty water to prevent premature exhaustion of the resin. Keep resin moist and avoid allowing resin to completely dry.
<b>7B: Storage</b>	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 45°C. Although freezing does not usually damage ion exchange resins, avoid repeated freeze thaw cycles.
<b>7A: TSCA considerations</b>	Ion exchange resins should be listed on the TSCA Inventory in compliance with State and Federal Regulations.

<b>SECTION 8: Exposure Controls/Personal Protection</b>	
<b>8A: Personal Precautions</b>	None noted.
<b>8B: Incompatible Chemicals</b>	Provide adequate ventilation.
<b>8C: Personal Protection Measures</b>	Eye Protection- Safety glasses or goggles. Respiratory Protection - Not required for normal use. Protective Gloves - Not required for limited exposure but recommended for extended contact.

## SECTION 9: Physical and Chemical Properties

<b>Appearance</b>	MBD-10: Solid beads approx 0.6 mm diameter MBD-90: White or cream colored beads approx. 0.6 mm diameter mixed with irregularly shaped black carbon granules.
<b>Flammability or explosive limits</b>	Flammable above 500° C
<b>Odor</b>	None
<b>Physical State</b>	Solid
<b>Vapor pressure</b>	N/A
<b>Odor threshold</b>	N/A
<b>Vapor density</b>	N/A
<b>pH</b>	MBD-10: Acidic or basic when mixed with water MBD-90: Near neutral (6 to 8 typical)
<b>Relative density</b>	MBD-10: Approx 700 grams/Liter MBD-90: Approx 600 grams/Lite
<b>Melting point/freezing point</b>	Does not melt, freezes at approx. 0 C
<b>Solubility</b>	Insoluble in water and most solvents
<b>Boiling point</b>	Does not boil
<b>Flash point</b>	Approx 500° C
<b>Evaporation rate</b>	Does not evaporate
<b>Partition Coefficient (n-octanol/water)</b>	N/A
<b>Auto-ignition temperature</b>	Approx 500° C
<b>Decomposition temperature</b>	Above 230° C
<b>Viscosity</b>	N/A

## SECTION 10: Stability and Reactivity

<b>10A: Stability</b>	Stable under normal conditions.
<b>10B: Conditions to Avoid</b>	Heat, exposure to strong oxidants.
<b>10C: Hazardous by-products</b>	Organic sulfonates, amines, charred polystyrene, aromatic acids and hydrocarbons, organic amines, nitrogen oxides, carbon oxides, chlorinated hydrocarbons.
<b>10D: Incompatible materials</b>	Strong oxidizing agents (such as HNO <sub>3</sub> ) strong bases (such as NaOH), strong acids (such as HCl and H <sub>2</sub> SO <sub>4</sub> )
<b>10E: Combustion Products</b>	Does not occur

<b>SECTION 11: Toxicological Information</b>	
<b>11A: Likely Routes of Exposure</b>	Oral, skin or eye contact.
<b>11B: Effects of exposure</b>	Delayed - None known. Immediate (acute) - Rash or burn caused by acidity or causticity. Chronic - None known.
<b>11C: Toxicity Measures</b>	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).
<b>11D: Toxicity Symptoms</b>	Skin Adsorption - Rash or burn. Ingestion - Indigestion or general malaise. Inhalation - Unknown.
<b>11E: Carcinogenicity</b>	None known

<b>SECTION 12: Ecological information</b>	
<b>12A: Eco toxicity</b>	Not harmful to plant or animal life.
<b>12B: Mobility</b>	Insoluble, acidity or causticity may escape if wet.
<b>12C: Biodegradability</b>	Not biodegradable.
<b>12D: Bioaccumulation</b>	Insignificant.
<b>12E: Other adverse effects</b>	Not Harmful to the environment.

<b>SECTION 13: Disposal Considerations</b>	
<b>13A: General considerations</b>	Material is non-hazardous.
<b>13B: Disposal Containers</b>	Most plastic and paper containers are suitable. Avoid use of unlined metal containers.
<b>13C: Disposal methods</b>	No specific method necessary.
<b>13D: Sewage Disposal</b>	Not recommended
<b>13E: Precautions for incineration</b>	May release acids and toxic vapors when burned.
<b>13F: Precautions for landfills</b>	pH of spent resin may be high or low. Resins used to remove hazardous materials may then become hazardous mixtures.

## SECTION 14: Transportation Information

<b>14A: Transportation Class</b>	Not classified as a dangerous good for transport by land, sea, or air.
<b>14B: TDG</b>	Not regulated.
<b>14C: IATA</b>	Not regulated.
<b>14D: DOT (49 CFR 172.101)</b>	Not regulated.

## SECTION 15: Regulatory Information

<b>15A: CERCLA</b>	Not regulated
<b>15B: SARA Title III</b>	Not regulated
<b>15C: Clean Air act</b>	Not regulated
<b>15D: Clean Water Act</b>	Not regulated
<b>15E: TSCA</b>	Not regulated
<b>15F: Canadian Regulations</b>	WHMIS - Not a controlled product TDG - Not regulated
<b>15G: Mexican Regulations</b>	Not Dangerous

## SECTION 16: Other Information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features. 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.

<b>16A: Date of Revision</b>	1 January 2021
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