



Micromeritics Instrument Corp. and Micromeritics Analytical Services

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Surface Area - Porosity - Density - Particle Size, Shape & Count - Catalytic Activity - Surface Energy - Analytical Services

# MSDS Cover Sheet



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## MSDS, Polymer Micro-sphere Suspension

						DWN BY	J. Pittman
						ENGR	J. Mocny
C	Consolidated latex msds's	MA	08/11/06		060277	ENGR SIG	P. Hendrix
B	Revision	JP	08/03/04	JM	040309	HR SIG	J. Mocny
A	Revision	MD	05/12/03	JM	030328	QA SIG	A. Dovin
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SIZE	NUMBER	PAGE
A	004/16840/00MSDS	X of 6

# Micromeritics Material Safety Data Sheet

Title : MSDS, Polymer Micro-sphere Suspension  
Date of Preparation : 08/11/2006

MSDS No. : 004/16840/00MSDS  
Revision : C

## Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** Polymer Microsphere Suspension

**Chemical Formula:** (C<sub>8</sub>H<sub>8</sub>)<sub>x</sub> + H<sub>2</sub>O + Proprietary

**CAS Number:** Not Applicable

**Other Designations:** Not Applicable

**General Use:** Standard Particles

**Supplier:** Micromeritics Instrument Corp.  
1 Micromeritics Dr.  
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1-800-334-3883 or 1-650-424-1177, Fax 1-650-424-1158, www.dukescientific.com, e-mail: info@dukesci.com

## Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	%
polystyrene or	9003-53-6	<0.1-10 (varies depending on product)
polystyrene divinylbenzene	9003-70-7	
water	7732-18-5	90-99.9+
dispersant/surfactant	Proprietary	<0.5 (if any)
preservative	Proprietary	<0.1 (if any)

**Contents:** Solid polymer microspheres suspended in water. Polymers include polystyrene, polystyrene divinylbenzene (PSDVB), or other styrene copolymers.

**NOTE:** This MSDS addresses potential worker health and safety issues associated with the handling of the final product (i.e., during its transportation, distribution, and use).

**Trace Impurities:** Not Applicable

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

See Section 3 for Occupational Exposure Limit

### Section 3 - Hazards Identification

☆☆☆☆☆ **Emergency Overview** ☆☆☆☆☆

<b>H</b>	1
<b>F</b>	0
<b>R</b>	0
<b>PPE†</b>	
†Sec. 8	

#### Potential Health Effects

**Primary Entry Routes:** Inhalation, accidental ingestion, skin or eye contact.

**Target Organs:** Not Applicable

**Acute Effects**

**Inhalation: CAUTION:** May cause lung irritation if inhaled. **SYSTEMIC:** If inhaled in large quantities, may cause reversible lung irritation.

**Eye:** No data available. If suspension contacts eye, may cause reversible irritation.

**Skin:** No data available. If suspension contacts skin, may cause reversible irritation.

**Ingestion:** Not Applicable

**Carcinogenicity:** Ingredients are not listed by NTP, IARC or OSHA as carcinogens.

**Medical Conditions Aggravated by Long-Term Exposure:** None known.

**Chronic Effects:** **SYSTEMIC:** If inhaled in large quantities, may cause reversible lung irritation.

**Reproductive And Developmental Toxicity:** Ingredients are not considered reproductive or developmental toxicants.

**Occupational Exposure Limit:** None established by OSHA, ACGIH or Duke Scientific Corporation.

### Section 4 - First Aid Measures

**Inhalation:** Remove to fresh air and seek medical advice.

**Eye Contact:** Wash thoroughly with water. If an irritation develops, seek medical advice.

**Skin Contact:** Wash thoroughly with soap and water. If an irritation develops, seek medical advice.

**Ingestion:** Give one to two glasses of water and seek medical advice.

**Note to Physicians:** Not Applicable

**Special Precautions/Procedures:** Not Applicable

### Section 5 - Fire-Fighting Measures

**Flash Point:** Not Applicable

**Flash Point Method:** Not Applicable

**Burning Rate:** Not Applicable

**Autoignition Temperature:** Not Applicable

**LEL:** Not Applicable

**UEL:** Not Applicable

**Flammability Classification:** Not considered flammable or explosive.

**Extinguishing Media:** Not Applicable

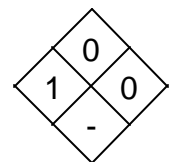
**Unusual Fire or Explosion Hazards:** Not considered flammable or explosive.

**Hazardous Combustion Products:** Not Applicable

**Fire-Fighting Instructions:** Use extinguishing media appropriate for surrounding fire (water, foam, vaporizing liquid, or multipurpose dry chemical).

**Fire-Fighting Equipment:** Not Applicable

**NFPA**



### Section 6 - Accidental Release Measures

**Spill /Leak Procedures:** Areas covered with spilled microspheres may be slippery. If material is spilled or released, cordon off the area. Collect material by wiping the spill area with a paper towel or disposable wipe, and place materials into an appropriate container. Avoid inhaling fine particle dust. Discard collected material in containers suitable for proper disposal.

**Small Spills:** Not Applicable

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**Large Spills**

**Containment:** Not Applicable

**Cleanup:** Not Applicable

**Regulatory Requirements:** Not Applicable

**Section 7 - Handling and Storage**

**Handling Precautions:** When creating aerosols of fine particles, use minimal and directional (away from the user) airflow.

**Storage Requirements:** Keep tightly sealed to prevent contamination. Store at room temperature in a dry area. Avoid damaging or puncturing containers.

**Regulatory Requirements:** Not Applicable

**Section 8 - Exposure Controls / Personal Protection**

**Engineering Controls:** Use minimal and directional (away from the user) airflow to minimize worker exposure.

**Ventilation:** Not Applicable

**Administrative Controls:** Not Applicable

**Respiratory Protection:** Respiratory protection for dust and aerosol generation is recommended (e.g. NIOSH approved filtering dust mask).

**Protective Clothing/Equipment:** **EYE PROTECTION:** Safety glasses with side shields are suggested. **SKIN PROTECTION:** Powder-free latex or vinyl gloves are suggested.

**Safety Stations:** Not Applicable

**Contaminated Equipment:** Not Applicable

**Comments:** Not Applicable

**Section 9 - Physical and Chemical Properties**

**Physical State:** Not Applicable

**Appearance and Odor:** White or colorless liquid, odorless.

**Odor Threshold:** Not Applicable

**Vapor Pressure:** Negligible

**Vapor Density (Air=1):** Negligible

**Formula Weight:** Not applicable/mixture

**Density:** (polymer) 1.05g/cm<sup>3</sup>  
(suspension) 1.0-1.05g/cm<sup>3</sup>

**Specific Gravity (H<sub>2</sub>O=1, at 4 °C):** Not Applicable

**pH:** Not Applicable

**Water Solubility:** Microspheres are insoluble

**Other Solubilities:** Not Applicable

**Boiling Point:** 100 degrees C (as water)

**Freezing/Melting Point:** 0 degrees C (as water)

**Viscosity:** Not Applicable

**Refractive Index:** Not Applicable

**Surface Tension:** Not Applicable

**% Volatile:** Negligible

**Evaporation Rate:** Not Applicable

**Section 10 - Stability and Reactivity**

**Stability:** Stable.

**Polymerization:** Will not occur.

**Chemical Incompatibilities:** None known.

**Conditions to Avoid:** Not Applicable

**Hazardous Decomposition Products:** Not known

## Section 11- Toxicological Information

### Toxicity Data:

See Section 3. Health Hazards

**Eye Effects:** Not Applicable

**Skin Effects:** Not Applicable

**Acute Inhalation Effects:** Not Applicable

**Acute Oral Effects:** Not Applicable

**Chronic Effects:** Not Applicable

**Carcinogenicity:** Not Applicable

**Mutagenicity:** Not Applicable

**Teratogenicity:** Not Applicable

### Section 12 - Ecological Information

No data available

**Ecotoxicity:** Not Applicable

**Environmental Fate:** Not Applicable

**Environmental Degradation:** Not Applicable

**Soil Absorption/Mobility:** Not Applicable

### Section 13 - Disposal Considerations

**Disposal:** All wastes containing the product should be specially contained, properly labeled, and stored separately from other facility waste discharges. Dispose of any waste residues according to prescribed federal, state, and local guidelines (e.g., to an appropriately permitted chemical waste incinerator). Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner (e.g. appropriately permitted municipal or on-site wastewater treatment facility or be collected for disposal to prescribed federal, state and local guidelines.

**Disposal Regulatory Requirements:** Not Applicable

**Container Cleaning and Disposal:** Not Applicable

### Section 14 - Transport Information

#### DOT Transportation Data (49 CFR 172.101):

**Shipping Name:** Not Applicable

**Shipping Symbols:** Not Applicable

**Hazard Class:** Not classified per U.S. DOT or IATA.

**UN Number:** Not assigned per U.S. DOT or IATA.

**ID No.:** Not Applicable

**Packing Group:** Not Applicable

**Label:** Not Applicable

**Special Provisions (172.102):** Not Applicable

#### Packaging Authorizations

**a) Exceptions:** Not Applicable

**b) Non-bulk Packaging:** Not Applicable

**c) Bulk Packaging:** Not Applicable

#### Quantity Limitations

**a) Passenger, Aircraft, or Railcar:** Not Applicable

**b) Cargo Aircraft Only:** Not Applicable

**Vessel Stowage Requirements**  
**a) Vessel Stowage:** Not Applicable  
**b) Other:** Not Applicable

### Section 15 - Regulatory Information

**Hazard Labeling:** None

**EU Risk and Safety Phrases:** None required.

**EPA Regulations:** Not Applicable

**OSHA Regulations:** Not Applicable

**State Regulations:**

California Proposition 65: Not regulated

**Section 16 - Other Information**

**Prepared By:** J. Pittman

**Revision Notes:** REV C – consolidated all of the MIC polymer micro-sphere suspension MSDS's into one document. MIC part numbers included are:

004/16840/00 – 1um.....	004/16840/04 – 10um	004/16840/07 – 60um
004/16840/01 – 2um.....	004/16840/05 – 20um	004/16840/08 – 100um
004/16840/02 – 3um.....	004/16840/10 – 30um	004/16840/09 – 160um
004/16840/03 – 5um.....	004/16840/06 – 40um	
004/16840/11 – 10um concentration standard		

**Additional Hazard Rating Systems:** Not Applicable

**Abbreviations:**

ACGIH: American Conference of Governmental Industrial Hygienists

DOT: Department of Transportation

EU: European Union

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

**Disclaimer:** *The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however the original manufacturer, Duke Scientific Corporation, makes no warranty with respect to accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.*