

ARPAK® EXPANDED POLYETHYLENE (EPE) BEADS

MSDS No G000692-1-OSHA-AE
 MSDS CLASS H
 Ver. No. 4
 Ver. Date January 7 2011

JSP Resins LLC
 1285 Drummers Lane
 Wayne, PA 19087

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to the employees, customers, and users of this product.
 This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord with the MSDS requirements of this rule.

| 1. General | | | |
|---|--|---|---|
| Trade Name | ARPAK® EXPANDED POLYETHYLENE (EPE) BEADS | | Telephone Numbers: |
| Other Company Names | This document covers all members of the series of products identified as ARPAK® Expanded Polyethylene (EPE) Beads G000692-001 through G000692-025 | | EMERGENCY 800-424-9300 CHEMTREC 610-651-8600 JSP Resins LLC |
| Synonyms | ARPAK® EPE Beads | | CUSTOMER SERVICE 610-651-8616 Information Only |
| Other Industry Names | None | | |
| Chemical Family | Organic polymers | DOT Hazardous Material Proper Shipping Name Not regulated | |
| Generic Name | Ethylene Homopolymer | DOT Hazard Class Not regulated | DOT Reportable Quantity N/AP |
| CAS No. | (See Sec. 9 Components) | JSP Material I.D. EPE | UN/NA ID No. N/AP |
| 2. Summary of Hazards | | | |
| Signal Word | CAUTION | | |
| Physical Hazards | Slipping hazard if spilled on hard smooth walking surface | | |
| Acute Health Effects (Short Term) | Slight inhalation hazard - particulates/dust Dust may be an eye irritant No data found; no expected ingestion hazard No data found; no expected skin irritation hazard No data found; no expected skin absorption hazard (See Section 4 - Health Hazards) | | |
| Chronic Health Effects (Long-Term) | No appropriate human or animal data are known to exist on adverse chronic health effects from repeated or prolonged exposure to this material Repeated or prolonged breathing of dust should be avoided | | |
| 3. Fire and Explosion | | | |
| Flash Point | Autoignition Temperature | Flammable Limits | |
| N/AP | GT >600 °F | Lower: N/AP Upper: N/AP | |
| Fire and Explosion Hazard | Heat from fire may melt, decompose, and generate flammable vapors. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. Melting alone may cause steam explosion on contact with water. | | |
| Extinguishing Media | Water CO2 Dry chemical Foam | | |
| Extinguishing Media Use Comment | No additional information available | | |
| Special Firefighting Procedures | Do not enter fire area without proper protection. (See Section 12 - Physical and Chemical Data - Hazardous Decomposition Products). Fight fire from a safe distance/protected location. Walking surface contact results in slipping/falling hazard. For large fire, use lots of water as straight stream to "dig" into hot molten mass from outside to open up. Cool interior/prevent reignition; spray/fog for surface cooling. Keep above burning material. Molten material forms flaming drops after igniting. Notify authorities if liquid enters sewer/public waters. | | |

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ARPLANK® SALES
 Expanded bead foam packaging materials

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| 4. Health Hazards | | | | | | |
|---|---|-------------|-------------|--------------------|-------------------------|-------------|
| Summary of Acute Hazards | Dust, if generated from this material, may cause respiratory irritation following an excessive inhalation exposure. Some eye irritation is also possible following exposure to the dust. | | | | | |
| ROUTE OF EXPOSURE | SIGNS AND SYMPTOMS | | | | PRIMARY ROUTE(S) | |
| Inhalation | Dust from this product may cause respiratory irritation following an excessive inhalation exposure. Follow exposure limits given on this material safety data sheet. | | | | Yes | |
| Eye Contact | Dust from this product may cause eye irritation. | | | | Yes | |
| Skin Absorption | Although no appropriate human or animal health effects data are known to exist, this material is not expected to be a health hazard by skin absorption. | | | | No | |
| Skin Irritation | Although no appropriate human or animal health effects data are known to exist, this material is not expected to be a skin irritant. | | | | No | |
| Ingestion | Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an ingestion hazard. | | | | No | |
| Summary of Chronic Hazards | No appropriate human or animal data are available on the chronic health effects from prolonged or repeated exposure to this material. Repeated or prolonged inhalation exposure to dusts and particulates of this material should be avoided. This material contains trace amounts of polynuclear aromatics which are known animal carcinogens. | | | | | |
| Special Health Effects | This material or its emissions may aggravate pulmonary/bronchial disease and/or cause breathing difficulty. | | | | | |
| 5. Protective Equipment and Other Controls | | | | | | |
| Respiratory | NIOSH/MSHA approved dust or mist respirator should be used if airborne particulate is generated when handling this material. | | | | | |
| Eye | Dust service goggles should be worn to prevent mechanical injury or other irritation to eyes due to airborne particles which may result from handling this product. | | | | | |
| Skin | Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking, and when leaving work. | | | | | |
| Engineering Controls | No special ventilation is usually required to meet exposure standard(s) beyond that needed for normal comfort control. | | | | | |
| Other Hygienic Practices | Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water. | | | | | |
| Other Work Practices | No special work practices are needed beyond the above recommendations under anticipated conditions of normal use. | | | | | |
| 6. Occupational Exposure Limits | | | | | | |
| Substance | Source | Date | Type | Value/Units | Time | Skin |
| Nuisance Particulates | ACGIH | 1992 | TWA | 10MG/M3 | 8 HRS | No |
| Particulates Not Otherwise Regulated (Total Dust) | OSHA | 1989 | TWA | 15MG/M3 | 8 HRS | No |
| Particulates Not Otherwise Regulated (Respirable Fraction) | OSHA | 1989 | TWA | 5 MG/M3 | 8 HRS | No |
| Carbon Black | ACGIH | 1992 | TWA | 3.5MG/M3 | 8 HRS | No |
| | OSHA | 1989 | TWA | 3.5MG/M3 | 8 HRS | No |
| #There may be OSHA PELs and/or ACGIH TLVs for one or more components which are trade secrets. Chemical identities will be revealed to treating physicians in an emergency, or to purchasers after execution of a secrecy agreement. | | | | | | |
| Industrial Hygiene | No additional Occupational Exposure Limit information available | | | | | |
| Comments | | | | | | |
| 7. Emergency and First Aid | | | | | | |
| Inhalation | Remove victim to fresh air immediately. Obtain emergency medical attention if breathing difficulty persists beyond 15 minutes. | | | | | |
| Eye Contact | In case of eye contact with this solid material, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persist. | | | | | |
| Skin Contact | Not expected to present a significant skin hazard under anticipated conditions of normal use. | | | | | |
| Ingestion | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. | | | | | |
| Emergency Medical Treatment Procedures | If large quantity swallowed, give lukewarm water (pint) if victim completely conscious, alert. Do not induce vomiting/risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. | | | | | |
| Detoxification Procedures | Treat symptomatically. | | | | | |

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| 8. Spill and Disposal | | | |
|---|---|--|-----------------------|
| Precautions if Material is Spilled or Released | | | |
| Creates dangerous slipping hazard on any hard surface. Material is similar to ball bearings on walking surface, making it difficult to keep steady footing. Spread granular cover on walkways or provide open grating flooring (or equivalent). Limit access to essential cleanup personnel. Stop release. On land, sweep or shovel into suitable disposal containers. On water, material is insoluble. Collect and contain as any solid. Report per regulatory requirements. | | | |
| Waste Disposal Methods | | | |
| Landfill solids at permitted sites. Use registered transporters. Comply with federal/state/local regulations for solid waste disposal. Solids may be burned, if fired with supplemental fuel. Avoid flameouts. Assure emissions comply with applicable regulations. Contaminated product, soil or water should not be designated RCRA hazardous waste. | | | |
| 9. Components | | | |
| (This may not be a complete list of components) | | Compositions are typical values, not specifications | |
| Component Name | CAS No. | Composition Amount | Carcinogen ### |
| Polyethylene Homopolymer | 25213-02-9 | 95 to 99 % | N/P |
| Carbon Black | 1333-86-4 | 0.0 to 5.0 % | N/P |
| ###1=National Toxicology Program 2=International Agency for research and cancer 3=Occupational Health and Safety Administration 4= Other | | | |
| 10. Component Health Hazards | | | |
| Component | Component Health Hazards | | |
| Polyethylene Homopolymer | No significant hazards | | |
| Carbon Black | Slight health hazard | | |
| 11. Additional Toxicological Information | | | |
| Component Name / Comments | | | |
| Carbon Black Some sources identify carbon black as a suspected human carcinogen. IARC concludes that the data are insufficient to classify carbon black as a human carcinogen. | | | |
| Material | | | |
| No additional toxicology information is available for this material. | | | |
| 12. Physical and Chemical Data | | | |
| Boiling Point | Viscosity | Dry Point | |
| N/AP | N/AP | N/AP | |
| Freezing Point | Vapor Pressure | Volatile Characteristics | |
| N/AP | N/DA | Negligible | |
| Specific Gravity | Vapor Specific Gravity | Solubility in Water | |
| AP .02 to .15 (H2O = 1.0 at 39.2° F) | N/AP | Negligible (Less than .1 Percent) | |
| pH | Hazardous Polymerization | Stability | |
| N/AP | Not expected to occur | Stable | |
| Other Chemical | No additional information available | | |
| Reactivity | No additional information available | | |
| Other Physical and Chemical Properties | No additional information available | | |
| Appearance and Odor | White, Black (or Colored) expanded plastic pellets with little or no odor | | |
| Conditions to avoid | High temperatures, oxidizing conditions | | |
| Materials to avoid | Strong oxidizing agents | | |
| Hazardous | Incomplete combustion may produce carbon monoxide and other toxic gases | | |
| Decomposition Products | | | |

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| 13. Hazards Rating Information | |
|--|--|
| National Fire Protection Association | No hazards rating information is available for this system |
| National Paint and Coatings Association | |
| Hazardous Materials Information System (HMIS) | No hazards rating information is available for this system |
| 14. Additional Precautions | |
| Handling and Storage Procedures | Due to the extremely slippery nature of this material, more care than usual must be exercised in material handling practices to keep off all walking surfaces. The hazard of any unavoidable spillage can be reduced by using as walking surface an open grating which will permit this material to fall into the open spaces between grating bars for later recovery. |
| Decontamination Procedures | No special decontamination procedures needed. |

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15. Regulatory Information

FEDERAL:

Toxic Substance Control Act (TSCA)

The following is the TSCA Chemical Substance Inventory Status of the components of this material with CAS numbers listed in Section 9 - Components:

| CHEMICAL | CAS NO. | STATUS |
|--------------------------|------------|------------------------------|
| Polyethylene Homopolymer | 25213-02-9 | 1. Listed - Non Confidential |
| Carbon Black | 1333-86-4 | 1. Listed - Non Confidential |

Superfund Amendments and Reauthorization Act of 1988 (SARA), Title III

- Section 302/304

Requires emergency planning based on "Threshold Planning Quantities" (TPQs), and release reporting based on Reportable Quantities (RQs) of "Extremely Hazardous Substances" (EHS) listed in Appendix A of 40 CFR 355. There are no components of this material with known CAS numbers which are on the EHS list.

- Section 311 & 312

Based upon available information, this material and/or components are classified as the following health and/or physical hazards according to Section 311 & 312:

Immediate (Acute) Health Hazard

- Section 313

The material does not contain any chemical components with known CAS numbers that exceed the De Minimis reporting levels established by SARA Title III, Section 313 and 40 CFR 372.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

OSHA Regulation

"Chemical-specific" OSHA regulations presented under 29 CFR 1910 do not apply to this material or its components.

Other EPA Regulations

No additional information is available.

Department of transportation (DOT)

Other than the normal shipping instructions and information given in this MSDS, there are no other specific DOT regulations governing the shipment of this material.

STATE REGULATIONS:

California Safe Drinking Water and Toxic Enforcement Act of 1988 - Proposition 65

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to the proposition.

California South Coast Air Quality Management District (SCAQMD) Rule 443.1 (VOC's)

A Volatile Organic Compound (VOC) is any volatile compound of carbon excluding methane, carbon monoxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, 1,1,1-trichloroethane, methylene chloride, (FC-23), (CFC-113), (CFC-12), (CFC-11), (CFC-22), (CFC-114), and (CFC-115). By this definition, this is not a VOC material.

Massachusetts Right-to-Know Substance List (MSL) [105 CMR670.000]

Hazardous Substances (MSL-HS) on the MSL must be identified when present in materials at levels greater than state specified criterion. The criterion is $\geq 1\%$. Components with CAS numbers present in this material at a level which could require reporting under the statute are:

| CHEMICAL | CAS NO. |
|--------------|-----------|
| Carbon Black | 1333-86-4 |

Extraordinarily Hazardous Substances (MSL-EHS) must be identified when present in materials at levels greater than state specified criterion. The criterion is $\geq 0.0001\%$. Components with CAS numbers present in this material, at levels specified in Section 9 - Components, do not require reporting under the statute.

New Jersey Registration

None of the trade secrets listed in Section 9 - Components have been registered with the State of New Jersey.

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15. Regulatory Information (Cont'd)

Pennsylvania Right-to-Know Hazardous Substance Lists

Hazardous Substances (PA-HS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 1\%$. Components with CAS numbers in this material at a level which could require reporting under the statute are:

| CHEMICAL | CAS NO. |
|--------------|-----------|
| Carbon Black | 1333-86-4 |

Special Hazardous Substances (PA-SHS) must be identified when present in materials at levels greater than the state criterion. The criterion is $\geq 0.01\%$. Environmental Hazards (PA-EH) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 0.01\%$. Components with CAS numbers present in this material, at levels specified in Section 9 - Components, do not require reporting under the statute.

Regulatory Advisory

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in Section 9, based on the final composition of your product.

One or more of the trade secret components of this material, listed in Section 9 - Components, may be on states' regulatory lists. Chemical identities will be revealed to treating physicians in an emergency, or to purchasers after execution of a secrecy agreement.

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| 16. Label Information | | | | | | | | | | |
|---|--|---------|--------------------------|----|------------|------------|------|-----------|--------------|------|
| Manufacturer: <i>JSP Resins LLC</i> <i>1285 Drummers Lane</i> <i>Wayne, PA 19087</i> | Telephone Numbers: EMERGENCY 800-424-9300 CHEMTREC 610-651-8600 <i>JSP Resins LLC</i> CUSTOMER SERVICE 610-651-8616 Information Only Signal Word CAUTION | | | | | | | | | |
| Other JSP Names This document covers all members of the series of products identified as ARPAK® Expanded Polyethylene Beads G000692-001 through G000692-025 | | | | | | | | | | |
| Use Statement Keep out of the reach of children | | | | | | | | | | |
| Physical Hazards Slipping hazard on smooth, hard walking surface | Health Hazards Inhalation hazard - particulates/dust Eye irritant-particulates/dust | | | | | | | | | |
| Precautionary Measures Avoid contact with eyes Avoid prolonged or repeated breathing of dust Use with adequate ventilation Remove spillage immediately from hard, smooth walking areas | | | | | | | | | | |
| DOT Information: UN/NA ID No. N/AP DOT Hazardous Class Not regulated DOT Reportable Quantity N/AP | | | | | | | | | | |
| DOT Hazardous Material Shipping Name Not regulated | | | | | | | | | | |
| Component Name Polyethylene Homopolymer Carbon Black | <table border="0"> <thead> <tr> <th>CAS No.</th> <th>Composition Amount (Wt.)</th> <th>RQ</th> </tr> </thead> <tbody> <tr> <td>25213-02-9</td> <td>95 to 99 %</td> <td>N/AP</td> </tr> <tr> <td>1333-86-4</td> <td>0.0 to 5.0 %</td> <td>N/AP</td> </tr> </tbody> </table> | CAS No. | Composition Amount (Wt.) | RQ | 25213-02-9 | 95 to 99 % | N/AP | 1333-86-4 | 0.0 to 5.0 % | N/AP |
| CAS No. | Composition Amount (Wt.) | RQ | | | | | | | | |
| 25213-02-9 | 95 to 99 % | N/AP | | | | | | | | |
| 1333-86-4 | 0.0 to 5.0 % | N/AP | | | | | | | | |
| Instructions: In case of fire use: Water; CO2; Dry chemical; Foam | | | | | | | | | | |
| First Aid: Inhalation Remove victim to fresh air immediately. Obtain emergency medical attention if breathing difficulty persists beyond 15 minutes. | | | | | | | | | | |
| Eye Contact In case of eye contact with this solid material, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persist. | | | | | | | | | | |
| Skin Contact Not expected to present a significant skin hazard under anticipated conditions of normal use. | | | | | | | | | | |
| Ingestion Not expected to present a significant ingestion hazard under anticipated conditions of normal use. | | | | | | | | | | |
| In case of Spill, Material creates dangerous slipping hazard on hard surfaces. Spread granular cover or provide open grating flooring. Limit access to essential personnel. On land, sweep/shovel into disposal containers. On water, material is insoluble; collect and contain as any solid. Report per regulatory requirements. | | | | | | | | | | |
| Protective Equipment Respiratory Use NIOSH/MSHA approved dust or mist respirator where excessive dust or mist may result from use. | | | | | | | | | | |
| Eye Dust service goggles should be worn to prevent mechanical injury to eyes due to airborne particles when handling. | | | | | | | | | | |
| Skin No special clothing normally required. Where use can result in skin contact, wash thoroughly before eating , drinking, smoking, or leaving work. | | | | | | | | | | |

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| 17. General Comments | | | |
|--|-----------------|------------------|-------------------------------------|
| General Comments No additional information available. | | | |
| Other Comments Some of the information presented and conclusions drawn herein are from sources other than direct test data on the material itself. | | | |
| Note | EQ=Equal | AP=Approximately | N/P=No applicable information found |
| Qualifications: | LT=Less Than | UK=Unknown | N/AP=Not Applicable |
| | GT=Greater Than | TR=Trace | N/DA=No Data Available |
| Disclaimer of liability | | | |
| The information in the MSDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. | | | |
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