

**MATERIAL SAFETY DATA SHEET**  
**GLASS BEADS: 1.9 INDEX OF REFRACTION**



**Viz Reflectives Ltd**

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**SECTION I CHEMICAL IDENTITY**

| <b>NAME</b>                             | <b>Product Reference</b>   | <b>% By Weight</b> |
|---|--|--------------------|
| M-Beads Aluminum Semi-Coated Glass Bead | MBE1.93-MET  | > 99               |
| Chemical Formula: $TiO_2$ -BaO- $SiO_2$ | Titanium dioxide& Barium Carborate&Silica $TiO_2$ 30-33% BaO 45-55% $SiO_2$ 12-15% Al >1%                      |                    |
|   | CAS number: <u><math>TiO_2</math>: 13463-67-7 BaO: 1304-28-5; <math>SiO_2</math>: 112945-52-5 ; Al 7429-90</u> |                    |

**SECTION II HAZARDOUS INGREDIENTS**

| <b>NAME</b>   | <b>OSHA PEL</b>        | <b>ACGIHTLV</b>        |
|---|------------------------|------------------------|
| Nuisance Dust<br>(particles not otherwise classified) | 15 mg / m <sup>3</sup> | 10 mg / m <sup>3</sup> |
| Nuisance Dust<br>(respirable fraction)                | 5 mg / m <sup>3</sup>  | N/AP                   |

*Contains no free silica. All components are amorphous and non crystalline. No components of this product are SARA Title III reportable substances.*

**SECTION III PHYSICAL AND CHEMICAL PROPERTIES**

|                  |                    |
|------------------|--------------------|
| Appearance       | Light Grey         |
| Odo              | Odorless           |
| Specific Gravity | 4.2                |
| Flash Point      | N/AP               |
| Solubility       | Insoluble in Water |
| Boiling Point    | N/AP               |
| Vapor Pressure   | N/AP               |
| Vapor Density    | N/AP               |
| Evaporation Rate | N/AP               |

**SECTION IV FIRE AND EXPLOSION DATA**

|                                  |      |
|----------------------------------|------|
| Flammable Limits                 | N/AP |
| Extinguishing Media              | N/AP |
| Special Fire-fighting Procedures | N/AP |

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**SECTION V REACTIVITY INFORMATION**

|                 |  |
|-----------------|--|
| Stability       | Stable   |
| Incompatibility | Hydrofluoric, fluorosilicic and phosphoric acids and hot strong alkaline solutions<br>Insoluble in water and solvent |

**SECTION VI HEALTH HAZARD INFORMATION**

|                                 |  |
|---------------------------------|--|
| Routes of Entry                 | Inhalation   |
| Health Hazard (Acute & Chronic) | Repeated or prolonged inhalation of dust in excess of permissible exposure limits may result in irritation to the respiratory tract. |
| Carcinogenic Potential          | Not Listed by OSHA, NTP or IARC  |
| Signs and Symptoms of Exposure  | Irritation of eyes and respiratory tract   |
| Other Health Effects            | Chronic respiratory conditions may be aggravated by exposure to high concentrations of dust.   |

**FIRST AID PROCEDURE**

|              |                                     |
|--------------|-------------------------------------|
| Eye Exposure | Flush with copious amounts of water |
| Inhalation   | Move to fresh air                   |

**SECTION VII HANDLING AND USE PRECAUTIONS**

|   |  |
|---|--|
| Steps to be taken in accidental spill           | Avoid excess dusting. Sweep or vacuum spilled material   |
| Waste disposal method                           | May be disposed of in approved landfill in accordance with federal, state and local regulations. |
| Precautions to be taken in handling and storage | Avoid excessive dusting  |

**SECTION VIII CONTROL MEASURES**

|                        |  |
|------------------------|--|
| Respiratory Protection | NIOSH / OSHA approved dust mask if permissible exposure levels are exceeded. |
|------------------------|--|

**HEALTH 0                      FLAMMABILITY 0                      REACTIVITY 0**

The information within this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties and handling of this product under the recommended conditions of use. Any modifications of product use or method of application is the responsibility of the user. Seller makes no other warranty or representation of any kind, expressed or implied, concerning this product. The Material Safety Data Sheet was prepared in compliance with the OSHA Hazard Communication Standard.