



## MATERIAL SAFETY DATA SHEET

**SDS number:** MTL/2806  
**Issue Date:** 26/11/2009  
**Version:** 1.0  
**Product name:** PHOTOSPHERES

### 1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY / UNDERTAKING

**Product name** PHOTOSPHERES  
**Product Code:** MTL/PHOTO  
**Company Identification** Microsphere Technology Limited, Ballinakill, Kilfinny, Adare, Co. Limerick, Ireland  
**Fax Number:** +44 (0)131 448 0962  
**E-mail:** info@microspheretechnology.com  
**Emergency Telephone:** +44 (0)131 440 1884

### 2. HAZARDS IDENTIFICATION

**INDICATION OF DANGER:** Xn  
 Harmful  
  
**RISK PHRASES:** R20-36/37/38  
 Harmful by inhalation. Irritating to eyes, respiratory system and skin.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Chemical Characterisation:** Hollow glass microspheres coated with titanium dioxide.

	Percentage	CAS number	EU number	Hazard	Risk Phrase
Glass, oxide, chemicals	>50	65997-17-3	266-046-0	None	S22, S24, S24/25, S26, S28, S39, S51
Titanium dioxide	< 50	1317-80-02	215-280-1	Xn	R 20-36/37/38 S26-36

### 4. FIRST AID MEASURES

Inhalation:	Remove person to fresh air. If signs/symptoms develop, get medical attention. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
Skin contact:	Immediately flush skin with plenty of soap and water. If signs/symptoms develop, get medical attention.
Eye contact:	Immediately flush eye(s) with copious amounts of water. If signs/symptoms persist seek medical attention.
Ingestion:	Do not induce vomiting unless instructed to do so by medical personnel. Wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.

## 5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.
Special risk(s):	Emits toxic fumes under fire conditions.
Protective equipment:	Fire-fighters exposed to combustion/decomposition products should use a respiratory protective device and protective clothing to prevent contact with skin and eyes.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Exercise appropriate precautions to minimise direct contact with skin or eyes and prevent inhalation of dust.
Methods for cleaning up:	Evacuate unprotected or untrained personnel from the hazard area. Approved personal protective equipment should be used: respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Vacuum or wet sweeping may be used to avoid dust. Ventilate and wash spill area when clean up is complete.

## 7. HANDLING AND STORAGE

Advice on safe handling:	This product should only be handled by personnel trained in the handling of potentially hazardous materials. Do not breathe dust. Care should be taken to prevent the material coming into contact with skin, eyes, mouth and personal clothing. Avoid prolonged or repeated exposure. Wash exposed areas thoroughly with soap and water.
Storage conditions:	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	Safety shower and eye bath. Mechanical exhaust required.
Respiratory protection:	Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with type P2 particulate filters.
Eye protection:	Chemical safety goggles
Skin Protection:	Compatible chemical-resistant gloves
Other protection:	General hygiene measures: Wash thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form:	Powder
Colour:	White
Odour:	None
Boiling point:	Not determined
Melting point:	Not determined
Flash point:	Not applicable
pH:	Not applicable
Specific gravity	<1.0g/cm <sup>3</sup>
Viscosity:	Not applicable
Water solubility:	Insoluble

## 10. STABILITY AND REACTIVITY

Stability:	Stable. Hazardous Polymerization will not occur
Conditions to avoid:	For Titanium Dioxide: A violent reaction with lithium occurs around 200°C (392°F) with a flash of light; the temperature can reach 900°C. Violent or incandescent reaction may also occur with other metals such as aluminium, calcium, magnesium, potassium, sodium, and zinc.
Materials to avoid:	Strong oxidizing agents.
Hazardous decomposition:	Nature of decomposition products not known.

**11. TOXICOLOGICAL INFORMATION**

Titanium dioxide:

RTECS NUMBER: BV6550000

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Route of Exposure: Skin Contact: Causes skin irritation.  
 Skin Absorption: May be harmful if absorbed through the skin.  
 Eye Contact: Causes eye irritation.  
 Inhalation: Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.  
 Ingestion: May be harmful if swallowed.

Chronic Exposure – Carcinogen: Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC Carcinogen List: Rating: Group 3

**12. ECOLOGICAL INFORMATION**

Ecotoxicity: No data available.

Mobility: No data available.

Bioaccumulative potential: No data available.

Persistence and degradability: No data available.

**13. DISPOSAL CONSIDERATIONS**

Advice on disposal Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Contaminated packaging Rinse with water and dispose of as waste.

**14. TRANSPORT REGULATIONS**

RID/ADR Non-hazardous for rail/road transport.

ICAO/IATA Non-hazardous for air transport.

IMDG Non-hazardous for sea transport.

## 15. REGULATORY INFORMATION

### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER:	Xn. Harmful.
Risk Phrases:	R20-36/37/38 Harmful by inhalation. Irritating to eyes, respiratory system and skin.
Safety Phrases:	S22 Do not breathe dust. S24/25 Avoid contact with the skin and eyes. S26-36 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. S39 Wear eye protection. S51 Use only in well ventilated areas.
Country Specific Information:	Germany WGK: No hazard to waters. ID-Number: 1345 KBwS-Decision

## 16. OTHER INFORMATION

Limitations of Use of Product: For industrial or professional use only.

The information contained in this document is correct to the best of our knowledge at the date of publication. It should not be viewed as all inclusive, but as a guide only. It does not represent any guarantee of the properties of the product. Microsphere Technology Ltd. shall not be held liable for any damage resulting from handling of, or from contact with, the above product. For these reasons, it is important that product users carry out their own tests to satisfy themselves as to the suitability of the safety precautions for their own intended applications. Copyright 2009 Microsphere Technology Ltd. License granted to make unlimited paper copies for internal use only.