

**SAFETY DATA SHEET**  
ZIRCONIUM, LUMP 3-6MM 99.8%

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**Compilation date:** 21/03/2012

**Revision date:** 11/04/2012

**Revision No:** 2

**Section 1: Identification of the substance/mixture and of the company/undertaking**

**1.1. Product identifier**

**Product name:** ZIRCONIUM, LUMP 3-6MM 99.8%

**CAS number:** 7440-67-7

**EINECS number:** 231-176-9

**Index number:** 040-001-00-3

**Product code:** IN3898

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

**1.3. Details of the supplier of the safety data sheet**

**Company name:** Apollo Scientific Ltd

Units 3 & 4

Parkway

Denton

Manchester

M34 3SG

UK

**Tel:** 0161 337 9971

**Fax:** 0161 336 6932

**Email:** david.tideswell@apolloscientific.co.uk

**1.4. Emergency telephone number**

**Section 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification under CHIP:** Xi: R36/37/38; Sens.: R42/43

**Classification under CLP:** Pyr. Sol. 1: H250; Water-react. 1: H260; Acute Tox. 4: H302+312+332; Skin Sens. 1A: H317; Resp. Sens. 1A: H334; Self-heat. 1: H251

**Most important adverse effects:** Irritating to eyes, respiratory system and skin. May cause sensitisation by inhalation and skin contact.

**2.2. Label elements**

**Label elements under CLP:**

**Hazard statements:** H302+312+332: Harmful if swallowed, in contact with skin or if inhaled.

H317: May cause an allergic skin reaction.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H251: Self-heating: may catch fire.

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**Signal words:** Danger

**Hazard pictograms:** GHS02: Flame



**Precautionary statements:** P222: Do not allow contact with air.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Label elements under CHIP:**

**Hazard symbols:** Irritant.



**Risk phrases:** R36/37/38: Irritating to eyes, respiratory system and skin.

R42/43: May cause sensitisation by inhalation and skin contact.

**Safety phrases:** S2: Keep out of the reach of children.

S7/8: Keep container tightly closed and dry.

S43: In case of fire, use.

### 2.3. Other hazards

**Other hazards:** A dry fine dust may spontaneously ignite on exposure to air

**PBT:** This substance is not identified as a PBT substance.

## Section 3: Composition/information on ingredients

### 3.1. Substances

**Chemical identity:** ZIRCONIUM POWDER (PYROPHORIC)

**CAS number:** 7440-67-7

**EINECS number:** 231-176-9

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water.

**Eye contact:** Bathe the eye with running water for 15 minutes. Consult a doctor.

**Ingestion:** Wash out mouth with water. Consult a doctor.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

### 4.2. Most important symptoms and effects, both acute and delayed

**Skin contact:** There may be irritation and redness at the site of contact.

**Eye contact:** There may be irritation and redness. The eyes may water profusely.

**Ingestion:** There may be soreness and redness of the mouth and throat.

[cont...]

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**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

## 4.3. Indication of any immediate medical attention and special treatment needed

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Carbon dioxide, dry chemical powder, foam. Suitable extinguishing media for the surrounding fire should be used.

### 5.2. Special hazards arising from the substance or mixture

**Exposure hazards:** In combustion emits toxic fumes. Metal oxides. A dry fine dust may spontaneously ignite on exposure to air

### 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

## Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not create dust.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers.

### 6.3. Methods and material for containment and cleaning up

**Clean-up procedures:** Transfer to a closable, labelled salvage container for disposal by an appropriate method.

### 6.4. Reference to other sections

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of dust in the air. Only use in fume hood.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in cool, well ventilated area. Keep container tightly closed. Store under Argon.

**Suitable packaging:** Must only be kept in original packaging.

[cont...]

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**7.3. Specific end use(s)**

Specific end use(s): No data available.

**Section 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Hazardous ingredients:**

**ZIRCONIUM POWDER (PYROPHORIC)**

**Workplace exposure limits:**

**Respirable dust**

| State | 8 hour TWA | 15 min. STEL | 8 hour TWA | 15 min. STEL |
|-------|------------|--------------|------------|--------------|
| UK    | 5 mg/m3    | 10 mg/m3     | -          | -            |

**8.2. Exposure controls**

**Engineering measures:** Ensure there is sufficient ventilation of the area.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.

**Hand protection:** Protective gloves.

**Eye protection:** Safety glasses. Ensure eye bath is to hand.

**Skin protection:** Protective clothing.

**Section 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

**State:** Lumps

**Colour:** Grey

**Solubility in water:** Insoluble

**Boiling point/range °C:** 3580

**Melting point/range °C:** 1855

**Relative density:** 6.506 g/cm3

**9.2. Other information**

**Other information:** Not applicable.

**Section 10: Stability and reactivity**

**10.1. Reactivity**

**Reactivity:** Stable under recommended transport or storage conditions.

**10.2. Chemical stability**

**Chemical stability:** Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

**Hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.

[cont...]

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**10.4. Conditions to avoid**

**Conditions to avoid:** Heat.

**10.5. Incompatible materials**

**Materials to avoid:** Strong oxidising agents. Strong acids.

**10.6. Hazardous decomposition products**

**Haz. decomp. products:** In combustion emits toxic fumes. Metal oxides. A dry fine dust may spontaneously ignite on exposure to air

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Toxicity values:** Not applicable.

**Symptoms / routes of exposure**

**Skin contact:** There may be irritation and redness at the site of contact.

**Eye contact:** There may be irritation and redness. The eyes may water profusely.

**Ingestion:** There may be soreness and redness of the mouth and throat.

**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

**Section 12: Ecological information**

**12.1. Toxicity**

**Ecotoxicity values:** Not applicable.

**12.2. Persistence and degradability**

**Persistence and degradability:** No data available.

**12.3. Bioaccumulative potential**

**Bioaccumulative potential:** No data available.

**12.4. Mobility in soil**

**Mobility:** No data available.

**12.5. Results of PBT and vPvB assessment**

**PBT identification:** This substance is not identified as a PBT substance.

**12.6. Other adverse effects**

**Other adverse effects:** No data available.

**Section 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal operations:** MATERIAL SHOULD BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS

[cont...]

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**Disposal of packaging:** Dispose of as special waste in compliance with local and national regulations Observe all federal, state and local environmental regulations.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

### Section 14: Transport information

**Transport class:** This product does not require a classification for transport.

### Section 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

### Section 16: Other information

#### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

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\* Data predicted using computational software. Toxtree - Toxic Hazard Estimation by decision tree approach. <http://ecb.jrc.ec.europa.eu/qsar/qsar-tools/index.php?c=TOXTREE>

~ Data predicted using computational software ACD/ToxSuite v 2.95.1 Copyright 1994-2009 ACD/labs, Copyright 2001-2009 Pharma Algorithms, Inc, Advanced Chemistry Development, Inc (ACD/Labs). [http://www.acdlabs.com/products/pc\\_admet/tox/tox/](http://www.acdlabs.com/products/pc_admet/tox/tox/)

**Phrases used in s.2 and 3:** H251: Self-heating: may catch fire.

H302+312+332: Harmful if swallowed, in contact with skin or if inhaled.

H317: May cause an allergic skin reaction.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

R36/37/38: Irritating to eyes, respiratory system and skin.

R42/43: May cause sensitisation by inhalation and skin contact.

**Legal disclaimer:** The material is intended for research purposes only and should be handled exclusively by those who have been fully trained in safety, laboratory and chemical handling procedures. The above information is believed to be correct to the best of our knowledge. The above information is believed to be correct to the best of our knowledge at the date of its publication, but should not be considered to be all inclusive. It should be used only as a guide for safe handling, storage, transportation and disposal. We cannot guarantee that the hazards detailed in this document are the only hazards that exist for this product. This is not a warranty and Apollo Scientific Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.