Bath Potters' Supplies

MATERIAL SAFETY DATA SHEET

1. Identification of the preparation/Supplier reference

Trade Name	**Zirconium Silicate**
Chemical name	$ZrSiO_4$
Synonyms	Zircon
Supplier	Bath Potters Supplies, Unit 18, Fourth Avenue, Westfield Trading Estate, Radstock, Nr. Bath. BA3 4XE
Emergency numbers	Tel: 01761 411077 Fax: 01761 414115 Internet: coshh@bathpotters.demon.co.uk

2. Composition

Components.	CAS	EINECS	% of composition
Zirconium Silicate	14940-68-2	239-019-6	100%

3. Health Hazard Identification

	Due to the presence of small amounts of Thorium and Uranium there is an internal and external hazard from radiation, see section 11.
Inhalation	Excessive inhalation may give rise to temporary irritation of the respiratory tract.
Ingestion.	Product of low solubility in body fluids, and is likely to be of low acute toxicity.
Eyes	May cause physical irritation and inflammation
Skin	Not a primary irritant, but persistent contact may cause sensitisation by abrasion

4. First Aid Measures

Inhalation	Remove patient to fresh air, loosen tight clothing and seek medical attention if any adverse reaction occurs.
Ingestion	Do not induce vomiting, rinse mouth with water (provided patient is conscious), and seek medical advice.
Eyes	Wash immediately with copious amounts of water for 15 minuets and seek medical attention.
Skin	Remove contaminated clothing. Wash affected areas with soap and water, if any adverse reaction occurs obtain medical advice

5. Fire Fighting Measures

Extinguishing Media	Suitable for surrounding fire conditions. The product is not explosive or combustible. Standard fire fighting techniques only are required, i.e. water, sand, carbon dioxide, chemical foam extinguishers etc.
Special Exposure hazard	Suitable for surrounding fire conditions.
Protective equipment	Suitable for surrounding fire conditions.

6. Accidental Release Measures

Leaks & Spills	Small amounts may be washed into drains with plenty of water, but observe local effluent control limits. Remove dry materials either by a vacuum cleaner fitted with an efficient particulate filter or by damping down and scooping in to a receptacle.
Protective equipment	None required

7. Handling & Storage

Handling Do not eat, drink, or smoke in areas where the material is used. Wash thoroughly after handling the

material. Local exhaust ventilation is recommended to comply with occupational exposure limits (refer to Guidance Note EH40 - latest edition)

Storage Store in dry area

8. Exposure Control/Personal protective Equipment

Engineering controls	Adequate ventilation should be provided so that Occupational Exposure Limits are not exceeded. Local Exhaust Ventilation is normally recommended and preferable to personal protection.
Personal protective equipment	Where L.E.V. is unsuitable and exposure is likely to be prolonged, approved personal protection should be used: mask, goggles and overalls and gloves.

9. Physical & Chemical properties

Appearance & Odour	Cream to white odourless powder.
Flash point (ºC)	Not applicable
Flammability	Not applicable
Explosive properties	Non explosive
Oxidising properties	Non oxidising
Specific gravity	4.6
pH value	Not known
Melting point (ºC)	1700°C

10. Stability & Reactivity

Chemical stability	The material is stable under normal conditions.
Conditions/materials to avoid	None known.
Hazardous decomposition products	None.
Hazardous polymerisation products	None.

11. Toxicology Information

Acute toxicology	LD_{50} Oral	Not known
	LD_{50} Dermal	Not known
	LD_{50} Inhalation	Not known

Health effects

All zirconium silicate sands contain small quantities of thorium and uranium and for this reason are classified as “radioactive substances” as defined in paragraph 1 of the Approved Code of practise to Ionising Radiations Regulations 1985. Due attention must be paid to the Ionising Radiations Regulations 1985 and the associated Code of Practise which require that radiation doses to individuals must be kept as low as reasonably practicable. Radiation will present both an internal and an external hazard. With regard to internal hazard from inhalation and ingestion of dust, a controlled area may need to be established (see schedule 2 of the regulations). This does not preclude the need to keep doses as low as possible by adequate ventilation and enclosure.

At the surface of a bag of sand, 3.0 uSv per hour.

At the surface of a heap of sand, 4.5 uSv per hour.

At the distance of 0.5m from a heap of sand, 2.0 uSv per hour.

At these levels a supervised area should be designated.

12. Ecological information

Ecotoxicity	Not known
Persistence	The product is essentially insoluble in water and is not expected to present a hazard.

13. Disposal

Dispose in accordance with current waste Disposal regulations (for UK - Control of Pollution (Special Waste) Regulations 1996). Landfill is the most appropriate method.

14. Transport Information

UN/SI No.		Not restricted
UN Class		Not restricted
Packing group		Not restricted
Road	UK	Not restricted
	ADR	Not restricted
Sea	IMO	Not restricted
Air	ICAO	Not restricted

15. Regulatory information

EC Supply Labelling	None required by directive 88/379/EEC and subsequent amendments.
R-Phrases	None required
S-Phrases	Optional safety phrases; S20/21 When using do not eat, drink or smoke S22/23 Do not breathe dust or spray S25 Avoid contact with eyes

UK Occupational exposures limits*	Mg/m^3 8 hr TWA	% in product
Zirconium compounds (due to the presence of uranium and thorium).	1.3	100%

* Refer to HSE Guidance note EH40

In accordance with the H.S.E. Approved Code of Practice for CHIP, the recipient is reminded of their obligations under both the Health and Safety at Work Act (HSWA) and the Control of Substances Hazardous to Health Regulations (COSHH), and that the information in any safety data sheet does not constitute the user's assessment of workplace risk.

16. Other information

General industrial hygiene practices are recommended when handling and using this product.

COSHH ACOP:	H.S.C. Approved Code of Practice for the Control of Substances Hazardous to Health Regulations 1994.
CHIP 96:	Chemicals (Hazard Information and Packaging for Supply) Regulations 1996.
CHIP SDS ACOP:	H.S.C. Approved Code of Practice for Safety Data Sheets in accordance with regulation 6 of the CHIP regulations.
HSE EH40:	HSE Guidance note EH40 on Occupational Exposure Limits, to be used in conjunction with the COSHH regulations.
ACIRR	Approved Code of practise to Ionising Radiations Regulations 1985.

The information contained in this safety data sheet has been prepared using the best available information. However, in view of technical developments this may alter.

The material must only be used for its stated purpose and the information contained within this data sheet is offered solely for use in the evaluation of this product in respect of safety, health and environmental hazards.

Due to the many factors outside our control when using this product we cannot accept liability for any injury, accident, loss or damage caused through its use.

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