

Safety data sheet for

Zircon Flour

This generic SDS is provided by LKAB Minerals to give information to assist with material handling of the products listed which are not classified as hazardous under the GHS and / or the CLP regulations.

SECTION 1: Identification of the substance/mixture of the company/undertaking

1.1 Product identifier

Product name: Zircon Flour
 REACH registration number: Exempt
 CAS number: 14940-68-2
 EC number: 239-019-6

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

Identified uses: Refractory and Foundry material

1.3 Details of the supplier of the safety data sheet

LKAB Minerals Ltd, Flixborough Industrial Estate, Flixborough, North
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1.4 Emergency telephone number of supplier

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 LKAB Minerals Tianjin (China) +86 22 2435 1706

Hours of operation: 09.00 – 16.00 (local business hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (EC 1272/2008): Physical and chemical hazards: not classified
 Human health: not classified
 Environment: not classified

The full text for all R-phrases and hazard statements are displayed in section 16.

2.2 Label elements

Label in accordance with (EC) No. 1272/2008: no pictogram required

2.3 Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: Composition/information on ingredients

3.1 Substances

Product / ingredient name	%	CAS No	EC No	Classification
				Regulation (EC) No. 1272/2008 [CLP]
Zircon	~99	14940-68-2	239-019-6	Not classified
Quartz	<1	14808-60-7	238-878-4-	Not classified
Uranium	<1	7440-61-1	231-170-6	T+;R26-28 R33 R53

The full text for all R phrases and hazard statements are displayed in section 16.

REACH Registration number: Exempt

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation:	Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion:	Rinse mouth thoroughly. Get medical attention if any discomfort continues.
Skin contact:	Wash skin with soap and water. Get medical attention if irritation persists after washing.
Eye contact:	Make sure to remove any contact lenses from the eyes before rinsing. Rinse eye with water immediately. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	No specific symptoms noted.
Ingestion:	No specific symptoms noted.
Skin contact:	No specific symptoms noted.
Eye contact:	No specific symptoms noted.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: Fire fighting measures

5.1 Extinguishing media

This product is not flammable. Use fire extinguishing media appropriate for surrounding materials.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: None under normal conditions

5.3 Advice for firefighters

Special fire fighting procedures: No specific fire fighting procedures given

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Follow precautions for safe handling described in this safety data sheet

6.2 Environmental precautions

The product should not be dumped in nature but collected and delivered according to agreement with the local authorities.

6.3 Methods and material for containment and cleaning up

Avoid dust formation. Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Transfer to a container for disposal.

6.4 Reference to other sections

For personal protection see section 8. For waste disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid handling which leads to dust formation. Avoid inhalation of high concentrations of dust. Observe occupational exposure limits and minimise the risk of inhalation of dust.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.
Keep in original container.

7.3 Specific end use(s)

The identified uses for this product are detailed in section 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Country	Name	STD	TWA -8Hrs		STEL - 15Min	Notes
Austria	Zircon			5.0 mg/m ³		E, berechnet als Zr
	Titanium Dioxide			5.0 mg/m ³	10.0 mg/m ³	A
	Quartz			0.15 mg/m ³		A
Belgium	Zircon	GVB / VLEP / AGW		5.0 mg/m ³	10.0 mg/m ³	
	Titanium Dioxide			10.0 mg/m ³		
	Quartz			0.1 mg/m ³		
China	Zircon			5.0 mg/m ³	10.0 mg/m ³	
	Titanium Dioxide			8.0 mg/m ³		
	Quartz			0.5 mg/m ³		
Czech Republic	Quartz	PEL		0.1 mg/m ³		
Denmark	Zircon	GRV		5.0 mg/m ³		beregnet som Zr
	Titanium Dioxide			6.0 mg/m ³		beregnet som Ti
	Quartz			0.3 mg/m ³		K ⁽¹⁾
Estonia	Titanium Dioxide			5.0 mg/m ³		
	Quartz			0.1 mg/m ³		
Finland	Zircon	HTP		1.0 mg/m ³		
	Quartz			0.2 mg/m ³		
France	Titanium Dioxide	VLEP		10.0 mg/m ³		
	Quartz			0.1 mg/m ³		
Greece	Zircon	OTE		5.0 mg/m ³	10.0 mg/m ³	
	Titanium Dioxide			10.0 mg/m ³		
Hungary	Zircon	MKBS		5.0 mg/m ³	20.0 mg/m ³	ra számítva Zr
	Quartz			0.15 mg/m ³		
Italy	Zircon	ACGIH		5.0 mg/m ³	10.0 mg/m ³	A4 ⁽¹⁾ , come Zr
	Titanium Dioxide			10.0 mg/m ³		A4 ⁽¹⁾
	Quartz			0.025 mg/m ³		A2 ⁽¹⁾
Japan	Quartz			0.03 mg/m ³		1
Netherlands	Quartz	MAC		0.075 mg/m ³		
Poland	Zircon	NDS		5.0 mg/m ³	10.0 mg/m ³	w przeliczeniu na Zr
	Titanium Dioxide			10.0 mg/m ³		
Portugal	Zircon	VLE		5.0 mg/m ³	10.0 mg/m ³	A4 ⁽²⁾
	Titanium Dioxide			10.0 mg/m ³		A4 ⁽²⁾
	Quartz			0.025 mg/m ³		A2 ⁽²⁾
Russia	Zircon	ПДК		6.0 mg/m ³		Φ, 4
	Titanium Dioxide			10.0 mg/m ³		Φ, 4
Spain	Zircon	VLA		5.0 mg/m ³	10.0 mg/m ³	como Zr
	Titanium Dioxide			10.0 mg/m ³		
	Quartz			0.01 mg/m ³		
Sweden	Titanium Dioxide	AFS		5.0 mg/m ³		
	Quartz			0.1 mg/m ³		K ⁽²⁾
UK	Zircon	WEL		5.0 mg/m ³	10.0 mg/m ³	as Zr
	Titanium Dioxide			10.0 mg/m ³		
	Quartz			0.1 mg/m ³		

SECTION 8: Exposure controls / personal protection

A = Aveolengängiger Anteil
 E = Einatembare Fraktion
 GVB = Grenswaarden voor blootstelling aan chemische agentia
 VLEP = Valeurs limites d'exposition professionnelle
 AGW = Arbeitsplatzgrenzwert
 GRV = Grænseværdier for stoffer og materialer
 K⁽¹⁾ = betyder, at stoffet er optaget på listen over stoffer, der anses for at være kræftfremkaldende
 HTP = Haitallisiksi tunnetut pitoisuudet
 OTE = Οριακή Τιμή Έκθεσης
 MKBS = Munkahelyek kémiai biztonságáról szóló
 ACGIH = American Conference of Governmental industrial Hygienists
 A4⁽¹⁾ = Non classifiable come carcinogeno per l'uomo
 A2⁽¹⁾ = Carcinogeno sospetto per l'uomo
 1 = ヒトに対して発がん性のある物質
 MAC = Maximaal Aanvaarde Concentraties
 NDS = Najwyższe Dopuszczalne Stężenie.
 VLE = Valor limite de exposição
 A4⁽²⁾ = Agentes não classificáveis como carcinogénicos no Homem
 A2⁽²⁾ = Agente carcinogénico suspeito no Homem
 П Д К = Величина
 Ф = аэрозоли преимущественно фиброгенного действия
 4 = класс - умеренно опасные.
 VLA = Valor limite Ambiental
 AFS = Arbetsmiljöverkets Författningssamling
 K⁽²⁾ = Ämnet är cancerframkallande
 WEL = Workplace exposure limit

NOTE: To request language / country specific SDS please e-mail minerals.sds@lkab.com

Ingredient comments:

Dust contains respirable crystalline silica. Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable dust should be monitored and controlled. The product should be handled using methods and techniques that minimise or eliminate dust generation. The product contains less than 1% w/w RCS (respirable crystalline silica) as determined by the SWERF method. The respirable crystalline silica content can be measured using the "Size-Weighted Respirable Fraction – SWERF" method. All details about the SWERF method is available at www.crystallinesilica.eu

8.2 Exposure controls

Protective equipment



Engineering measures:

Provide adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

Respiratory equipment:

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit. Wear dust masks in dusty areas.

Hand protection:

No specific hand protection noted, but gloves may still be advisable.

Eye protection:

Wear dust resistant safety goggles where this is a danger of eye contact.

Other protection:

Provide eyewash station.

Hygiene measures:

Wash hands at the end of each work shift and before eating, smoking and using the toilet.

SECTION 9: Physical and chemical properties

9.1 Information on basic and physical and chemical properties

Appearance:	powder, dust
Colour:	Brown
Odour:	Odourless
Solubility:	Insoluble in water
Melting point (°C):	2200
Relative density:	4.6

9.2 Other information Not relevant

SECTION 10: Stability and reactivity

10.1 Reactivity No specific reactivity hazards associated with this product.

10.2 Chemical stability Stable under normal temperature conditions.

10.3 Possibility of hazardous reactions Not relevant

10.4 Conditions to avoid No specific conditions are likely to result in a hazardous situation

10.5 Incompatible materials
Materials to avoid: No specific groups of materials are likely to react to produce a hazardous situation.

10.6 Hazardous decomposition products None under normal circumstances

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Other health effects:	This substance has no evidence of carcinogenic properties.
Acute toxicity	
Acute toxicity (Oral LD50):	Not relevant
Acute toxicity (Dermal LD50):	Not relevant
Acute toxicity (Inhalation LC50):	Not relevant
Inhalation:	Dust in high concentrations may irritate the respiratory system.
Ingestion:	May cause discomfort if swallowed.
Skin contact:	Powder may irritate skin.
Eye contact:	Particles in the eyes may cause irritation and smarting.

SECTION 12: Ecological information

Ecotoxicity: Not regarded as dangerous for the environment.

12.1 Acute fish toxicity: Not considered toxic to fish.

12.2 Persistence and degradability
Degradability: The product is not readily biodegradable.

12.3 Bioaccumulative potential: The product is not bioaccumulating.

12.4 Mobility in soil: Not relevant, due to the form of the product.

12.5 Results of PBT and vPvB assessment: This product does not contain any PBT or vPvB substances.

12.6 Other adverse effects: None known

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods:** Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: Transport considerations

- Road transport notes: Not classified
 Rail transport notes: Not classified
 Sea transport notes: Not classified
 Air transport notes: Not classified
- 14.1 UN Number:** The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
- 14.2 UN proper shipping name:** Not classified for transportation.
- 14.3 Transport and hazard class(es):** Not classified for transportation.
- 14.4 Packing group:** Not classified for transportation.
- 14.5 Environmental hazards**
 Environmentally hazardous substances / marine pollutant: no
- 14.6 Special precautions for user:** Not classified for transportation.
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
 Not applicable

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture**
- Approved code of practice: Classification and labelling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations.
- Guidance notes: Workplace Exposure Limits EH40.
- EU Legislation: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulations (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
- 15.2 Chemical Safety Assessment:** Not applicable. No chemical safety assessment has been carried out.

SECTION 16: Other information

- Revision date: 18/03/2019
 Revision: 3
 Document no: 12-03INT,19-03
 Risk phrases in full: NC – not classified

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