PRODUCT DATA SHEET

Royal - 45

Refractory brick | Intended for kilns, furnaces and high-temperature process linings

Pack / unit weight	4.5 Kg

TECHNICAL SPECIFICATIONS

Property	Published value
Brand	Royal
PCE	32 / 1717
App Porosity	21%
BDDensity	2.25 g/cm³
CCS	400 Kg/cm²
RUL	1400°C
PLC	+/-0.8% at 1400/3 hrs
Al2O3	45%
Fe2O3	3.5%
Size Tolerance	±1.5% or ±2 mm

SAFETY DATA SHEET - INDUSTRIAL USE

1. IDENTIFICATION

Product identifier	Royal - 45
Product type	Refractory brick
Recommended use	kilns, furnaces and high-temperature process linings
Restrictions	Industrial/professional refractory use only.
Supplier	Royal Refractories, Wankaner, Gujarat, India
Emergency contact	+91-8451999533

2. HAZARD IDENTIFICATION

Classification	Not classified as hazardous in the supplied solid refractory-brick form.
Primary hazard	Cutting, grinding, drilling or demolition can generate airborne and respirable mineral dust.
Health effects	Dust may irritate eyes, skin and airways. Repeated exposure to respirable crystalline silica, if present in generated dust, can cause serious chronic lung disease.
Precautions	Handle intact units to minimize breakage. Use wet cutting or local exhaust for mechanical processing.
Other hazards	Used refractory may retain process contaminants; assess before removal, reuse or disposal.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Material	Proprietary refractory brick formulation.
Composition	Specific chemical identities and concentrations are withheld as confidential business information.
Further information	Contact Royal Refractories. Confidential details may be provided to qualified medical professionals or regulatory authorities where legally required and subject to confidentiality.

4. FIRST-AID MEASURES

Inhalation	Move to fresh air. Obtain medical advice if coughing, breathing difficulty or irritation persists.
Skin	Wash with soap and water. Remove contaminated clothing.
Eyes	Rinse cautiously with clean water for at least 15 minutes. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Obtain medical advice if unwell.

5. FIRE-FIGHTING MEASURES

Flammability	Inorganic refractory material; not expected to burn.
Extinguishing media	Use media suitable for the surrounding fire.
Specific hazards	No hazardous combustion products expected from the refractory itself.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid airborne dust and direct contact. Ventilate the area.
Cleanup	Use HEPA-filtered vacuuming or wet cleanup. Do not dry sweep or use compressed air.
Environment	Prevent bulk material and fine dust from entering drains or waterways.

7. HANDLING AND STORAGE

Handling	Handle intact units to minimize breakage. Use wet cutting or local exhaust for mechanical processing.
Storage	Store dry, covered and stable. Protect packaging from damage and moisture.
Hygiene	Wash after handling. Do not eat, drink or smoke in dusty work areas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls	Use wet methods or local exhaust. Wear a properly selected, fit-tested particulate respirator where dust is not adequately controlled.
Eyes	Safety goggles; use sealed goggles for dusty mixing or machining.
Hands / skin	Work gloves and protective clothing appropriate to the task.
Exposure assessment	Measure workplace respirable dust and identified crystalline silica; comply with applicable occupational limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid shaped refractory brick.
Odour	No characteristic odour expected.
Pack / unit weight	4.5 Kg
Density	2.25 g/cm³
Water solubility	Mineral fraction is expected to be insoluble; binder behavior depends on the product family.
Other properties	Liquid/gas properties such as vapour pressure and flash point are not applicable.

10. STABILITY AND REACTIVITY

Stability	Stable under recommended dry storage and intended refractory use.
Avoid	Moisture before use where applicable, incompatible process contamination and uncontrolled dust generation.
Decomposition	No hazardous decomposition expected from the refractory mineral system under intended use.

11. TOXICOLOGICAL INFORMATION

Routes	Inhalation of processing dust; eye and skin contact.
Acute effects	Mechanical irritation from dust; mixed silicate/cementitious products may irritate skin and eyes.
Chronic effects	Repeated inhalation of respirable crystalline silica, if present, may cause silicosis, lung cancer and other systemic effects.
Product data	No product-specific toxicological test data are available in the stored catalogue data.

ROYAL REFRACTORIES

12. ECOLOGICAL INFORMATION

Ecotoxicity	No product-specific data available; avoid uncontrolled environmental release.
Persistence	Inorganic mineral material is not readily biodegradable.
Bioaccumulation	Not expected for an insoluble mineral refractory.

13. DISPOSAL CONSIDERATIONS

Waste	Reuse or recycle clean refractory where feasible. Dispose under local rules and contamination status.
Used material	Characterize used refractory for absorbed process contaminants before disposal.
Packaging	Recycle clean packaging where permitted.

14. TRANSPORT INFORMATION

UN number / class	Not assigned based on the product data and supplied form.
Packing group	Not assigned.
Precautions	Secure against package damage, breakage and dust generation.

15. REGULATORY INFORMATION

Framework	Prepared in the 16-section UNECE GHS Revision 11 format.
Review	Manufacturer approval and jurisdiction-specific review are required before regulatory issue.

16. OTHER INFORMATION

Issue / revision	07 August 2026 / Revision 01
Technical source	Royal Refractories website catalogue data for this product.
Safety basis	Product-family physical form, intended use, and conservative mineral-dust controls.
References	UNECE GHS Rev. 11 (2025); OSHA respirable crystalline silica guidance.
Status	Industrial safety information must be read with site-specific risk assessment and applicable local requirements.

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