



Material Safety Data sheet

1 Identification of substance:

Product details:

Trade name:KCB series

Documents number: JS-CA-000021

Chemical Name: getter

Manufacturer/supplier:

NANJING HUADONG ELECTRONICS VACUUM MATERIAL COMPANY LIMITED

No.1 Jiulongshan road, Nanjing, PRC

Other information:

The getter material have four components: calcium oxide, transition metal oxides, Barium and Lithium. The getter material is filled into Spunbond Polyethylene bag or SUS304 cup, which depends on different type. Polyethylene and SUS304 have no known adverse effects on human health. Additives these packing materials do not present a respiration hazard unless it is ground to a powder of respirable size and the dust is inhaled. All dusts are potentially injurious to the respiratory tract if respirable particles are generated and inhaled. Dust may form explosive mixture in air

2 Hazards identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive).

The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe overexposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: The transition metal oxides are suspected of causing cancer.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

3 Composition/information on ingredients

Composition

Name	CAS #	% by Weight
Calcium oxide	1305-78-8	85
transition metal oxides		10
Barium	7440-39-3	4
Lithium	7439-93-2	1

4 First aid measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with vegetable or mineral oil first and then with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give



oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

5 Fire fighting measures

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

severe reactions can occur with acid substances. With strong corrosion resistance.

Dry sand covering for fire extinguishing, prohibit to use water, foam or halide extinguishing agent. With dry powder by carbon dioxide is invalid

6 Accidental release measures

Emergency personnel shall wear full dust mask, wear acid and alkali resistant overalls.

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material.

Cover it with yellow sand, Call for assistance on disposal.

7 Handling and storage

Precautions: Operator should be special training, strictly abide by the operation procedures. Once the vacuum packaging is opened, product should be placed in air time not more than 15 minutes. Beware of the dust ifrom the product. Suggest to wear self-priming filter type dust mask, wearing chemical safety protective glasses, wear acid and alkali resistant work clothes, wear rubber gloves. Keep container dry.

Do not breathe dust. Never add water to this product. In case of insufficient

ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as organic materials, acids, moisture.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Humidity is not more than 85%, Do not store above 24°C (75.2°F). Packaging must be complete sealing. Stored apart from combustible and acid.

8 Exposure controls and personal protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

10 Stability and reactivity Stability:

The product is stable. Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Reactive with organic materials, acids, moisture. Corrosivity: Not available.

Special Remarks on Reactivity:

Absorbs CO₂ from air. Reacts with fluorine to evolve much heat and some light. Reacts with water.

Addition of water to Quicklime has generated temperatures as high as 800 °C. Some reports describe the reaction as violent. In water, calcium oxide forms calcium hydroxide generating a large quantity of heat. Ignition of sulfur, gunpowder, wood, and straw by heat of Quicklime-water reaction has been reported. Liquid hydrofluoric acid and calcium oxide react very violently. Calcium reacts with phosphorous pentoxide extremely violently when initiated by local heating.

Lime becomes incandescent when heated to near its melting point (2500 °C).

Special Remarks on Corrosivity: Not available. Polymerization: Will not occur.

11 Toxicological information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion. Toxicity to Animals:

LD50: Not available. LC50: Not available.

contact with the skin.

12 Disposal considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

13 Transport information

DOT Classification: Class 8: Corrosive material

Identification: : Calcium Oxide UNNA: 1910 & 3077 PG: III

UN proper shipping name Environmentally hazardous substance solid n.o.s

Special Provisions for Transport: Not available.

Packing method: The effective components are encapsulation in stainless steel disc, and then put into the vacuum aluminum foil bag. The outer packing should be Cardboard boxes.

14 Regulatory information

Specific hazard: Protective Equipment:

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

15 Other information:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages.