

Safety Data Sheet

RESIN COATED SAND

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Name: Resin Coated Sand
Synonyms: Resin Sand / Coated Sand
Recommended Use and Restrictions on Use: Mold Material for Foundry
Supplier: Chin Ching Silica Sand Co., Ltd.
Address: No.12, Chung Lung 3rd Rd., Chung Hsing Industrial Park, Tunglo, Miaoli County, Taiwan (R.O.C.)
Telephone: +886-37-236023
Emergency Contact Info: **TEL: +886-37-236023 FAX: +886-37-236033**

SECTION 2 - HAZARDS IDENTIFICATION

Hazard Classification: Category 1 carcinogen ingredients, a specific target organ toxicity – repeated exposure to the system level 2

Pictogram: Health Hazard



Signal Word: Hazard

Hazard Statement: May cause cancer. Long term or repeated exposure may cause organ damage

Precautionary Statements: Set the container in a well-ventilated place. Do not breathe dust. Wear protection goggles and protective dust masks. Use only in a well-ventilated place.

SECTION 3 – THE INGREDIENTS IDENTIFICATION DATA

Pure substances

Material Name: Resin Coated Sand

Synonyms: Coated Sand

CAS Registry Number (CAS No.): -

Ingredients of Hazardous Substances (percentage): 85 – 99%

Mixtures

Ingredients of hazardous substances: Phenolic Resin (C₆H₃OH.CH₂) n
(Percentage): 1 – 4%

SECTION 4 - FIRST AID MEASURES

First Aid of Different Routes of Exposure :

Inhalation:

1. Remove sources of pollution or the affected person to fresh air.
2. Wipe with clean water. Get medical advice/attention immediately if feeling uncomfortable or nauseated.

Skin Contact:

Wash and rinse with soap and water thoroughly. If pain or significant changes in appearance, get medical advice/attention immediately.

Eye Contact:

1. Rubbing eyes by the affected person is prohibited. Make the eyes weep naturally for a few minutes.
2. Ask the affected person to look from up to down and from left to right. If dust is not yet removed, maintain the eyelids open and rinse gently with slow water for 5 minutes till dust is removed.
3. If a sense of irritation persists after rinsing and washing, get medical advice/attention immediately.
4. Do not remove dust by hands.

Ingestion:

Immediately rinse your mouth, drink large amounts of water, and immediately get medical advice/attention.

The Most Important Symptoms and Damage Effect:

When the solid material in the eyes gets wet by tears, it may cause tears, blurred vision and mild temporary pain.

Personnel Protection Equipments for First Aid Responder:

Wear level-c protective equipments when doing first aid in the safe area.

Doctor Tips:-

SECTION 5 - FIRE FIGHTING MEASURES

Extinguishing Media: water, foam, dry chemical, and CO₂.

Specific Hazards Arising from the Chemical upon Fire Fighting:-

Special Fire Fighting Procedure: the material itself is incombustible, but after heating it will produce phenol, formaldehyde and ammonia gas. When the fire breaks out around it, move the container to a safe place. If it cannot be moved, spray water around it to cool.

Special Protective Equipments for Fire Fighters:-

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Notice: Operators or users should wear protective equipments and avoid inhalation of dust.

Environmental Notice: Spray water if there is a large amount of leakage to avoid the dust flying. Never release it into rivers, sewers or drainage pipes.

Cleaning Methods:

1. Do not dryly sweep.
2. Collect the spilled sand by a vacuum cleaner and replace it into empty bulk containers for retrieving.

SECTION 7 - HANDLING AND STORAGE

Disposal: Respirators, protective goggles and gloves must be worn during operation. Do not directly contact with the skin if possible.

Storage:

1. Pay attention not to damage the containers. Prevent dust from flying with careful operation.
2. When a space bag is used as a loading container, in the process of hoisting operators must not stand under it.
3. An exhaust or appropriate ventilation device is required in the place to keep the operators or users from excessive inhalation of dust and the resulting gas.
4. Notice for Safe Operation: No specific prohibition of mixing or being exposed to any substances
5. Stocks in the warehouse should be properly settled, stack height within 2 meters.
6. Take notice of avoiding abnormal phenomenon such as tilt and leakage when preservation.
7. Stocks should be stored in a dry and well-ventilated warehouse and be blocked up with wooden pallets more than 10cm from the floor. No being splashed by water. Pay attention to humidity control. Avoid direct sunlight and keep the temperature of preservation below 50 ° c.
8. It is best to use space or paper bags, but there are no special limits of materials to use.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control: When indoor, use the material in an enclosed/confined device or machine if possible to avoid dust flying around the room. If not, exhaust ventilation devices are required to make the working environment under control in management concentration.

E: management concentration (mg/m³) = $2.9/0.22 \times Q$ (free silicate containing rate (%)) + 1

If Q=85%, E=0.147mg/m³

Control Parameter:

Time Weighted Average (8 hours/ day):TWA

Short Term Exposure Limit: STEL

Ceiling: CEILING

Biological Exposure Indices: BEIs

Personal Protective Equipments:

Respiratory Protection: Must be worn (dust masks qualified by international inspection)

Protection Gloves: Must be worn (no specific material limited)

Protection Goggles: Must be worn (no specific material limited)

Protection Clothing: be worn if possible (no specific material limited)

Health Measures: Be sure to wash and wipe hands after operation or use of the material.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Appearance: Yellow white or tea brown odorless crystal-shaped solid

Odor: Odorless

Odor threshold: Odorless

Melting Point: 1703 °C

PH value:-

Boiling Point/Boiling Range: 2,230 °C

Flammability (solid, gas):-

Flash Point: Noncombustible

Test Method: decomposition temperature:

At about 90°C, phenolic resin on the surface of sand grain begins melting and sand grain itself becomes anastomosis.

At about 200 °C, macromolecule of phenolic resin starts hardening response, and simultaneously trace amounts of phenol, formaldehyde, ammonia, etc. are produced.

At about 400°C, thermal decomposition of phenolic resin begins, and at the same time CO, CO₂, aldehydes (formaldehyde), phenols, ammonia, toluene, etc. are produced.

At about 1750°C, silica sand begins to melt.

Autoignition Temperature:/

Explosive Limits:/

Vapor Pressure: ~0 mmHg @20°C

Vapor Density: /

Density: 2.6~2.7 (density of water=1)

Bulk Density: 1.4~1.6

Solubility: insoluble in water, but ethanol and acetone can dissolve phenolic resin on the surface of sand.

Partition Coefficient of Octanol/water (log Kow):/

Volatility Rate:/

SECTION 10 - STABILITY AND REACTIVITY

Stability: The material preserved under the conditions according to this data sheet will be very stable, but if preserved under conditions of over 50°C or high humidity in a long term, it may be agglomerate.

Possible Hazardous Reaction under Specific Circumstances:

1. **Strong oxidant (such as fluorine, chlorine trifluoride, fluoride oxide):** fierce reaction may take place, and cause an explosion and fire.
2. **Hydrofluoric acid:** erosion of Quartz.
3. **Magnesium:** Heating the mixture of moist quartz and magnesium powder causes fierce explosions.
4. **Manganese Trifluoride:** may cause intense reaction.
5. **Sodium:** silica sand reacts with burning sodium.
6. **Xenon fluoride (XeF₆):** may form explosive properties, oxidizing Xenon (XeO₃)

Conditions should be avoided: producing dust

Substances should be avoided: strong oxidant (such as fluorine, chlorine trifluoride, and fluoride oxide), hydrofluoric acid, magnesium, manganese trifluoride, sodium, Xenon fluoride (XeF₆): may form explosive properties, oxidizing Xenon (XeO₃).

Hazardous decomposition: none

SECTION 11 - TOXICOLOGICAL INFORMATION

Routes of Exposure: skin contact, inhalation, ingestion, and eye contact.

Symptoms: cough and mild respiratory tract irritation.

Acute toxicity: currently not found.

Skin Contact: the crumpled pieces may irritate eyes, and a sense of invasion from foreign

bodies is accompanied. Long term contact with the skin may be one of the reasons of dermatitis

Inhalation: high concentrations of dust may cause coughing and mild temporary stimulus. Continuous and chronic inhalation of great amounts of dust causes risk of pneumoconiosis.

Ingestion: not toxic.

Eye Contact: generally dust does not stimulate eyes except the effect of "foreign body" in the eyes.. When the solid material in the eyes gets wet by tears, it may cause tears, blurred vision and mild temporary pain.

LD50 (test animals, the way of absorption):-

LC50 (test animals, the way of absorption):-

Chronic or Long-term Toxicity: 1. Inhalation: Formaldehyde, produced during the hardening and decomposing of silica (crystalline) and resin, is classified into the 2nd category of carcinogenic substances defined by Japan Society for Occupational Health.

SECTION 12 - ECOLOGICAL INFORMATION

Ecological toxicity: LC50 (fish):-

EC50 (aquatic invertebrates): -

Bio-Concentration Factor (BCF):-

The Persistence and Degradability:

half-life (air):-

half-life (surface water):-

half-life (groundwater):-

half-life (soil):-

Bioaccumulation:-

The Mobility in Soil:-

Other Adverse Effects:-

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Putting the material into rivers, oceans, the sewers and drainage pipes is prohibited. Industrial waste should be disposed by qualified and designated manufacturers of industrial waste disposal in accordance with national and local laws and rules.

Containers and Packaging: Empty space bags are recycled by our company, and empty paper bags are disposed to be burn out in accordance with local environmental regulations.

SECTION 14 - TRANSPORT INFORMATION

UN Number:-

UN Shipping Name:-

Transport Hazard class(es):-

Packing Group Number:-

Marine Pollutant (yes/no):-

Special Delivery Methods and Points for Attention: Confirm that the containers have no breakage or leakage. Note the correct shipment, flip, fall, damage and prevention of accidents caused by dumping.

SECTION 15 - REGULATORY INFORMATION

Applicable Laws and Regulations:

1. Regulation of Labeling and Hazard Communication of Dangerous and Harmful Materials
2. Road traffic safety regulations
3. Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste.

SECTION 16 - OTHER INFORMATION

References:

1. CHEMINFO database, CCINFO CD, 2005-3
2. RTECS database, TOMES PLUS CD, Vol.65, 2005
3. ChemWatch database, 2005-1
4. Chinese database of hazardous chemical substances of Environmental Protection Administration Executive Yuan, R.O.C. (Taiwan).

The MSDS is issued by:

Chin Ching Silica Sand Co., Ltd.

Add: No.12, Chung Lung 3rd Rd., Chung Hsing Industrial Park, Tunglo, Miaoli County, Taiwan (R.O.C.)

Tel: +886-37-236023

The MSDS is made by:

Name: Fan, Cheng Ming

Title: Plant Manager

Date: Jul. 19, 2012

*Note: in the above data sheet, the symbol "-" represents at present no relevant data is available, and the symbol "/" represents the field does not apply to the material.

1. The information contained in this data sheet is based on the resources of our company and various technical publications. The user or operator has the right to decide whether to adopt this Material Safety Data Sheet for safe use and operation.
2. This data sheet is based on the stage of the investigation made on the basis of current data, and if there is any modification of laws and regulations or new release of toxicity experiment results, we will update the data sheet as soon as possible.
3. This data does not fully cover all possible test items. Other unknown hazards may still exist and users and operators should pay attention when using or operating.
4. The notes stated in this data sheet are applicable to general users and operators, and the corresponding safe countermeasures against practical occasions and in connection with applications and usage are enacted and implemented.
5. The property values and quantity content of this data sheet are for general specification values. The quality specifications and quality guarantee are in accordance with the company specifications.

---END OF MSDS---