

MATERIAL SAFETY DATA SHEET

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MSDS NUMBER: 003 CALCIUM SILICON
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Section 1-Product Family or Name

Calcium-Silicon Alloys

Formula - CaSi

Products Covered - Calcium-Silicon

Section 2-Physical Data

Appearance and Odor - Grey metallic. Odorless

Melting Pt. - 700 C to 935 C

Specific Gravity - 2.0 - 2.5

Solubility - Insoluble in water

Reactivity in Water - Calcium-Silicon Alloys may react slightly with water

Section 3-TLV Data on Principal Alloy Ingredients

Significant Ingredients	TLV
Calcium - 10 - 32%	No TLV established
Silicon - 38 - 65%	15mg/m3 as Silicon (OSHA)
Aluminum - 1 - 21%	10mg/m3 as Aluminum (ACGIH)

Section 4-Fire and Explosion Hazard Data

Combustibility - Based upon combustibility tests, fine material is considered very active. Concentrations of alloy dust, when suspended in air, can be ignited, propagate flame readily, generate considerable pressure, and/or explode. Lump material is not combustible

Extinguishing Media - Class "D" fires - Use dry chemical, dry sand or Co2 to smother fire. Fire may also be isolated and allowed to burn itself out. Do not disturb burning metal while extinguishing the fire

Section 5-Health Hazard Data

First Aid Procedures - Inhalation - Remove from dusty area to fresh air

Skin Contact - No hazard associated with skin contact

Eye Contact - Flush with water to be sure that no particles remain in the eye

Effects of Overexposure - Acute - Alloys are of low toxicity in lump form and no residual injury is expected. High concentration of metallic dust may cause some irritation to eye, nose and throat

Chronic - Similar to acute. No residual injury is expected

OSHA and ACGIH classify dust of Calcium-Silicon alloys as a nuisance dust

There is no data to indicate that calcium silicon is a carcinogen.

Section 6-Reactivity Hazard Data

Stability - Stable in all sizes

Conditions to avoid - Prolonged contact with moisture during storage. Ventilation should be supplied in areas of extended storage. Avoid generation of airborne dusts.

Materials to avoid - Moisture, acids

Hazardous reaction/decomposition products - Small amounts of arsine, phosphine, and hydrogen may evolve if moisture is present.

Reaction with acids can produce silanes that will spontaneously ignite

Section 7-Spill, Leak or Disposal Information

Steps to be taken in case of spills - Avoid using compressed air to maneuver spills or leaks of fine material. Fine material should be swept up or vacuumed. No problem is associated with spills or leaks of lump material. Keep wet material separated from dry material

Waste disposal or repack information - Avoid repackaging wet material in sealed containers. Dispose of in accordance with applicable federal, state and local regulations.

Section 8-Employee Protection Information

Respiratory protection - In dusty areas, use NIOSH-approved Schedule 21C respirator

Eye protection - Subject to safety rules. Recommend wearing safety goggles

Ventilation - Local for dusty areas. Provide ventilation during storage or handling of moist material

Other clothing & equipment - Protective gloves are recommended during handling. Lump material may have sharp edges. As with other metal dusts avoid contamination of work clothing

Section 9-Additional Information

Handling/Storage - Exclude contact with moisture and acids as much as possible. Calcium-silicon alloys should be kept away from sparks, heat and open flames in a well-ventilated area

Milling - Special precautions, such as the use of inert atmosphere should be used when sizing to minus 8 mesh. Minimize and control dusty operations. Grinding wet material may be hazardous due to the possibility of hydrogen evolution.

Labeling - 30 mesh X down requires no special labeling.

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