



MATERIAL SAFETY DATA SHEET - MSDS

Calcium Silicon

MSDS N# 001

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Review – 28.05.2014

1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Calcium Silicon – CaSi

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2 – COMPOSITION AND INFORMATION ON INGREDIENTS

- CaSi is a product consisted of quartz and limestone
- It has the chemical name of Calcium silicide.
- It has no synonym
- Product Ingredients

ELEMENTS		PERCENTAGE - %
Calcium	Ca	19 to 33
Silicon	Si	48 to 65
Steel	Fe	Balance
Aluminium	Al	1,5 max
Carbon	C	7,0 max
Titanium	Ti	0,10 max
Phosphorus	P	0,10 max
Sulfur	S	0,10 max

3 – HAZARDS IDENTIFICATION

Water contact – It can free small amounts of flammable gases.

Explosion – The fine material is less active, when dust concentrations is in suspension, it can cause ignition, flame spread, forming a flash or even explode if in a confined environment.

Fire – Avoid sparks and other sources of ignition or heat that can heat the product in enclosed spaces.

Environment – The product in stone does not contaminates the flora or fauna, however the powder can pollute the air but is easily dispersed by wind.

Human Health – The inhalation of dusts of this product for long periods can bring harmful effects to the respiratory system due to inhalation of free silica crystallized, derived from quartz, from where the silicon is extracted.

4 – FIRST AID MEASURES

Inhalation – Remove the person to fresh air and ventilated place.

Skin Contact – No risk.

Eye Contact – Rinse with plenty of clean running water and keep your eyes open.

Ingestion – If you feel unwell, seek medical.

Faint – In case of unconsciousness in exposure to high concentrations of dust, remove to fresh air and check vital signs and call the a doctor.

Burning – Rinse with clean, cold water and seek medical assistance.

5 – FIRE FIGHTING MEASURES

Appropriate Extinction – Use dry sand (muffling) with paddle placed on the incandescent product.

Do not use – Extinguishers, because the pressure of the jet will form suspended dust.

Additional Information

The accumulation of powdered product may lead to a fire without flame of difficult extinction, do not wet the product, as there may be release of acetylene gas and hydrogen, increasing the risk of fire and explosion.

Firefighting – Use muffling systems, such as sand or other heavy material, non-flammable, do not use pressurized extinguishers, do not make dust formation in suspension, this may cause the formation of flash. Do not stand fighting the fire in enclosed places, there may be formation of an explosive atmosphere.

6 – CONTROL MEASURES FOR SPILLING OR LEAKING

Spilling – In case of powdered product, protect it with a canvas, preventing dust formation, away from ignition points and water.

Cleaning should be done using a shovel, manual or mechanical work, do not use suction or vacuum systems.



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Leaking – Do not allow the product to leak in cascade, it may combust if in contact with the point of heat or ignition and flash formation.

Leaking of the product in stone poses no hazard.

7 – HANDLING AND STORAGE

Handling – Care not to damage the packaging, use ventilated areas and good practices of hygiene and safety and avoid forming dust concentration.

Storage – In an airy and dry place, without heat or ignition points, a covered and paved to prevent product contamination.

8 – EXPOSURE CONTROL AND PERSONAL PROTECTION

The product in stone is not reactive, however in suspended powder in high concentrations can generate flash and start a fire.

There is no occupational exposure limit for Calcium Silicon, the exposure values should be referenced as the product concentration of free silica crystallized.

The monitoring of occupational exposure to silica crystallized should be appropriate to the time of exposure and concentration value obtained, if confirmed over the limit, periodic exams of *expirometria* and x-rays annually should be taken.

For employees working under concentration above the limit of tolerance, use - face shield filter, the filter is defined as the limit concentration obtained in monitoring.

Respiratory – Use face shield filter

Hands – Wear gloves to protect against cuts when handling

Eyes – Wear safety glasses against projection

Skin and body – It does not require, it is not toxic

Hygiene measures – Do not eat or drink when handling the product, wash hands after handling

9 - PHYSICAL AND CHEMICAL PROPERTIES

Condition – Solid

Colour – Gray with metallic grains

Smell – Odourless

Boiling point – 970 to 1050 °C

Density – 2,8 g/cm³

Bulk density – 1650 to 2150 Kg/m³

Solubility – Insoluble

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Flammability – In contact with water can release H₂ - hydrogen and C₂H₂ - Acetylene

10 – STABILITY AND REACTIVITY

Instability – The product does not become unstable, but when is in powder it can react with water and release flammable gases.

Dangerous reactions – When in powder and wet, can release flammable gases.

Conditions to avoid – Usage of water when in power and proximity to ignition sources

Materials to avoid contact – acids, humidity and water

Decomposition – H₂ - hydrogen and C₂H₂ - Acetylene

11 – TOXICOLOGICAL INFORMATION

This product is not radioactive.

Eye irritation – Dust from the product may cause temporary irritation

Additional Information

The product in stone shows no toxicity, it does not contaminate the flora or fauna, however in powder can pollute the air but is easily dispersed by wind.

Inhalation of dusts of this product for long periods can bring harmful effects to the respiratory system due to inhalation of free silica crystallized, derived from quartz, from where the Silicon is extracted.

12 – ECOLOGICAL INFORMATION

Ecotoxic effects – Insoluble, inert product, non dangerous to the environment, it can be eliminated from water by precipitation

13 – CONSIDERATION ON TREATMENT AND DISPOSAL

Product – Make contact with the supplier, it can be used after refurbishment

Contaminated packaging – packaging can not be reused after cleaning; it must be recycled or disposed of according to environmental legislation.

14 – TRANSPORT INFORMATION

Road – Product not classified as dangerous for transport, proper shipping name - calcium silicon

Maritime – Product not classified as dangerous for transport, proper shipping name - calcium silicon

Air – Product not classified as dangerous for transport, proper shipping name - calcium silicon

15 – REGULATIONS

There is no specific regulation for Calcium Silicon.

For transportation of this product it should be followed standards for road transport.



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16 – OTHER INFORMATION

Users must know the product information contained in this file, spreading with everyone involved in handling / processing of the material, and thus ensuring the safe usage.