

SAFETY DATA SHEET



QUARTZO®

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.11.2024	50001089	Date of first issue: 19.11.2024

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : QUARTZO®

Other means of identification : SURFACE®

Manufacturer or supplier's details

Company : FMC QUÍMICA DO BRASIL LTDA.

Address : AVENIDA DR. JOSÉ BONIFÁCIO
COUTINHO NOGUEIRA 150 - 1º
ANDAR - JARDIM MADALENA,
CAMPINAS SP BRASIL
TELEFONE: (19) 2042-4500

Emergency telephone : Brazil: (34) 3319 3019 or 0800 34 35 450 (24 hours)
+55-2139581449 (CHEMTREC)

Recommended use of the chemical and restrictions on use

Recommended use : nematicide

Restrictions on use : Use as recommended by the label.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard

Acute toxicity (Oral) : Category 5

Acute toxicity (Inhalation) : Category 5

Acute toxicity (Dermal) : Category 5

GHS label elements in accordance with ABNT NBR 14725 Standard

Signal Word : WARNING

Hazard Statements : H303 + H313 + H333 May be harmful if swallowed, in contact with skin or if inhaled.

Precautionary Statements : **Response:**
P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P302 + P312 IF ON SKIN: Call a POISON CENTER/ doctor if you feel unwell.
P304 + P312 IF INHALED: Call a POISON CENTER/ doctor if you feel unwell.

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Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Bacillus Paralicheniformis strain FMCH001	Not Assigned	Not Classified	20
Bacillus subtilis strain FMCH002	Not Assigned	Not Classified	20

Contains no hazardous ingredients according to GHS

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

- General advice : Do not leave the victim unattended.
Show this material safety data sheet to the doctor in attendance.
- If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : Wash off with soap and water.
If symptoms persist, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : May be harmful if swallowed, in contact with skin or if inhaled.
- Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.
- Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical, CO₂, water spray or regular foam.

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| Unsuitable extinguishing media | : Do not spread spilled material with high-pressure water streams. |
| Hazardous combustion products | : Fire may produce irritating, corrosive and/or toxic gases. |
| Specific extinguishing methods | :
Use a water spray to cool fully closed containers.
Remove undamaged containers from fire area if it is safe to do so.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for fire-fighters | : Firefighters should wear protective clothing and self-contained breathing apparatus. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | :
If it can be safely done, stop the leak.
Do not touch or walk through the spilled material.
Use personal protective equipment.
Evacuate personnel to safe areas.
Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation. |
| Environmental precautions | :
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | :
Never return spills in original containers for re-use. Pick up and transfer the spilled material to a properly labeled container without creating dust. For spills on concrete or other non-porous surfaces, the area can be cleaned using a small quantity of soap and water. Do not allow the cleaning solution to enter drains. Use an inert absorbent material to soak up the cleaning solution and transfer it to the properly labeled container. When the spill occurs on soil, the only effective way to decontaminate the area is to remove the top 5 to 7 centimeters of soil. |

SECTION 7. HANDLING AND STORAGE

- | | |
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| Advice on protection against fire and explosion | : Provide appropriate exhaust ventilation at places where dust is formed. |
| Advice on safe handling | : Individuals who are immunosuppressed or have a recent history of immunosuppression should not handle or apply this |

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product.

Product potentially irritating to the eyes. People with intraocular lens implants or contact lens wearers should not handle or apply the product. People who have undergone eye surgeries such as trabeculectomy, iridectomy, Ahmed valve implant or similar procedures should not handle or apply the product. Smoking, eating and drinking should be prohibited in the application area.

Dispose of rinse water in accordance with local and national regulations.

Avoid formation of respirable particles.

For personal protection see section 8.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Do not breathe dust.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : Keep in a dry place.
No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Particulates type

Hand protection
Material : Protective gloves

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective measures : Plan first aid action before beginning work with this product.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	solid
Form	:	powder
Color	:	brown
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	7,47 (25 °C) Concentration: 10 g/l
Melting point/ range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density	:	Not applicable
Relative density	:	No data available
Density	:	0,52 - 0,64 g/cm ³
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available

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Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Non-oxidizing
Surface tension	: Not applicable
Molecular weight	: Not applicable
Metal corrosion rate	: Not corrosive to metals.
Particle size	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Dust may form explosive mixture in air. No decomposition if stored and applied as directed.
Conditions to avoid	: Avoid extreme temperatures. Avoid dust formation.
Incompatible materials	: Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

May be harmful if swallowed, in contact with skin or if inhaled.

Product:

Acute oral toxicity	: Symptoms: haemorrhagic foci in lungs Assessment: The component/mixture is minimally toxic after single ingestion. Remarks: no mortality
Acute inhalation toxicity	: Symptoms: haemorrhagic foci in lungs Assessment: The component/mixture is minimally toxic after short term inhalation. Remarks: no mortality

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Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Symptoms: haemorrhagic foci in lungs
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

Components:

Bacillus Paralicheniformis strain FMCH001:

Acute oral toxicity : LD50 (Rat, female): > 5.000 mg/kg
Method: OECD Test Guideline 425

Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 402

Acute toxicity (other routes of administration) : LC50 (Rat, male and female): >3.63 x 10⁸ CFU
Application Route: Intratracheal instillation
Method: OPPTS 885.3150

LD50 (Rat, male and female): >1.04 x 10⁸ cfu/animal
Application Route: Intravenous
Method: OPPTS 885.3200

Bacillus subtilis strain FMCH002:

Acute oral toxicity : LD50 (Rat, female): > 5.000 mg/kg
Method: OECD Test Guideline 425

Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 402

Acute toxicity (other routes of administration) : LD50 (Rat, male and female): >5.67 x 10⁸ cfu/animal
Application Route: Intravenous
Method: OPPTS 885.3200

LC50 (Rat, male and female): >4.61 x 10⁸ CFU
Application Route: Intratracheal instillation
Method: OPPTS 885.3150

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Result : No skin irritation

Components:

Bacillus Paralicheniformis strain FMCH001:

Species : Rabbit
Method : OECD Test Guideline 404

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Result	:	No skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

Bacillus subtilis strain FMCH002:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Result	:	No eye irritation
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405

Components:

Bacillus Paralicheniformis strain FMCH001:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Bacillus subtilis strain FMCH002:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.

Respiratory sensitization

Based on available data, the classification criteria are not met.

Product:

Assessment	:	Not a skin sensitizer.
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

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STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration toxicity

Based on available data, the classification criteria are not met.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Bacillus Paralicheniformis strain FMCH001:

Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): $>1.0 \times 10^{15}$ CFU/hectare
Exposure time: 12 d
End point: Acute oral toxicity
Method: OCSP 885.4380

Bacillus subtilis strain FMCH002:

Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): $>1.0 \times 10^{15}$ CFU/hectare
Exposure time: 17 d
End point: Acute oral toxicity
Method: OCSP 885.4380

Persistence and degradability

Components:

Bacillus Paralicheniformis strain FMCH001:

Biodegradability : Remarks: Expected to be biodegradable

Bacillus subtilis strain FMCH002:

Biodegradability : Remarks: Expected to be biodegradable

Bioaccumulative potential

Components:

Bacillus Paralicheniformis strain FMCH001:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Bacillus subtilis strain FMCH002:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

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Mobility in soil

Components:

Bacillus Paralicheniformis strain FMCH001:

Distribution among environmental compartments	: Medium: Soil
Remarks: The product/substance is insoluble in water and will spread on the water surface.	

Bacillus subtilis strain FMCH002:

Distribution among environmental compartments	: Medium: Soil
Remarks: The product/substance is insoluble in water and will spread on the water surface.	

Other adverse effects

Product:

Additional ecological information	: No data available
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Components:

Bacillus Paralicheniformis strain FMCH001:

Additional ecological information	: The harmful effects of the product in the environment are considered to be limited.
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Bacillus subtilis strain FMCH002:

Additional ecological information	: The harmful effects of the product in the environment are considered to be limited.
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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. The product should not be allowed to enter drains, water courses or the soil.
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Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.
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SECTION 14. TRANSPORT INFORMATION

International Regulations

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UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

ANTT

Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Law No. 14,785 of December 27, 2023. Decree 4,074 of January 4, 2002 and its regulatory standards. ANTT Resolution No. 5,998/22 of November 3, 2022. This MSDS was prepared in accordance with the criteria of ABNT NBR 14725. The user is recommended to pay attention to local regulations.

National List of Carcinogenic Agents for Humans - : Not applicable
(LINACH)

Brazil. List of chemicals controlled by the Federal Police : Not applicable

The ingredients of this product are reported in the following inventories:

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

Bacillus Paralicheniformis strain FMCH001
Bacillus subtilis strain FMCH002
Limestone

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

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KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	19.11.2024
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Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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