TECHNICAL DATA SHEET – Facial Quartz Crystal

1. QUARTZ MINERAL AND ORGANIC INGREDIENTS

Quartz is the second most abundant mineral in the Earth's continental crust. It is made up of a continuous framework of SiO_4 silicon–oxygen tetrahedra, with each oxygen being shared between two tetrahedra, giving an overall formula SiO_2.

There are many different varieties of quartz, several of which are semi-precious gemstones. Especially in Europe and the Middle East, varieties of quartz have been since antiquity the most used minerals in the making of jewelry and hardstone carvings.

Facial Quartz Crystal Terramater was prepared specially for the cosmetic industry and Spa's. It can be used pure or applied in different cosmetic formulations developed for the face.

2. COMPOSITION

Chemical Analysis

Element	%
SiO_2	48.00
Al_2O_3	32.50
Fe_2O_3	1.82
MgO	0.15

Method: The clay composition was determined by the X-Ray Fluorescence method, in a XRF spectrometer, PHILIPS, model PW400.

2.1 Metals research

All of the products which are traded by TERRAMATER Mineral and Organic Ingredients, present the amount of heavy metals under control, in relation to the pattern established for the cosmetic industry.

3. PRODUCTION PROCESS

TERRAMATER processes the COSMETIC RANGE in an industry built exclusively for this activity, assisting the Good Practices of Production of Mineral and Organic active ingredients for the cosmetic industry:

a) Extraction in appropriate places that are under control of DNPM (National Department of Mineral Production).

b) Drying in the sun to remove the natural humidity.

c) Grinding process without human contact.

d) Special decontamination process. ECOCERT and COSMOS approved. Microbial control is accomplished without the use of gamma radiation, chemical agents or any process that can generate waste compounds. The decontamination technology used is based on the application of controlled pulses of dry heat and was developed specifically for these products. This technique, besides being a Terramater active mineral exclusive, offers a practical and responsible use of microbial agents in cosmetic raw materials, while respecting nature and preserving the natural mineral properties.

e) Rigorous granulometric Control.

4. PROPERTIES

a) It presents excellent profile of safety;

b) Mineral Exfoliation & Scrub;

c) Controlled crystal size and morphology for face;

d) Natural raw material certified by Ecocert;

e) Very stable in cosmetics.

5. APPLICATIONS AS SCRUB

a) Facial Mineral and Organic cosmetics;

b) Cleanser;

c) Liquid soap;

d) Bar soap;

e) Mineral masks;

f) Creams;

g) Facial gel.

6. RECOMMENDED DOSAGE LEVELS AS SCRUB

- Cream: 2-6%
- Facial Mask: 2-8%
- Gel: 2-6%
- Liquid Soap: 2-10%
- Shower Gel: 2-6%
- Bar Soap: 2-12%

7. STABILITY

Facial Quartz Crystal is stable at:

- pH 2.0 – 12.00
- Temperature: 0 – 95ºC (32-203º Fahrenheit)

8. CERTIFICATIONS & ATTESTATIONS

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9. FACIAL QUARTZ CRYSTAL – Terramater Mineral Active Ingredients

Facial Quartz Crystal	
Organoleptic Characteristics	
Aspect	Fine Grains
Natural Color	Beige
Color when it is grinded	Beige
Odor	Characteristic
Physical Characteristics	
Granulometric distribution in suspension (maximum medium diameter)	85.00 – 110.00 µm
Loss for dehydration	Max. 4.00
Organic Material	Max. 1.50
Chemical Analysis	
% SiO_2	45.00 – 52.00
% Fe_2O_3	1.60 – 1.95
% Al_2O_3	30.00 – 35.00
% TiO_2	1.50 – 2.12
% MgO	0.10 – 0.25
INCI	**CAS Number**
Silica	7631-86-9/112945-52-5
Shelf Life	
Expire date	48 months
Microbiological Analysis	
Counting of total bacteria	< 100 UFC/g
Counting of molds and yeasts	< 10 UFC/g
Escherichia coli	Absent
Staphylococcus aureus	Absent
Clostridium sp.	Absent
Pseudomonas aeruginosa	Absent

Storage conditions: Store in a cool, dry, ventilated place, away from light and temperature.

Because it is a raw material of natural origin, there may be variations in color and composition between batches.

Methodology: Brazilian Pharmacopoeia 4ª ed., v. 1, 1998.
ACME Labs, Vancouver – Canada
Aqua regia digestion and ICP MS analysis. SGS GEOSOL Laboratórios Ltda. Brasil
Terramater Methods.
European Pharmacopoeia 8.0 & US Pharmacopoeia Ed. 37
Dosage Labs.