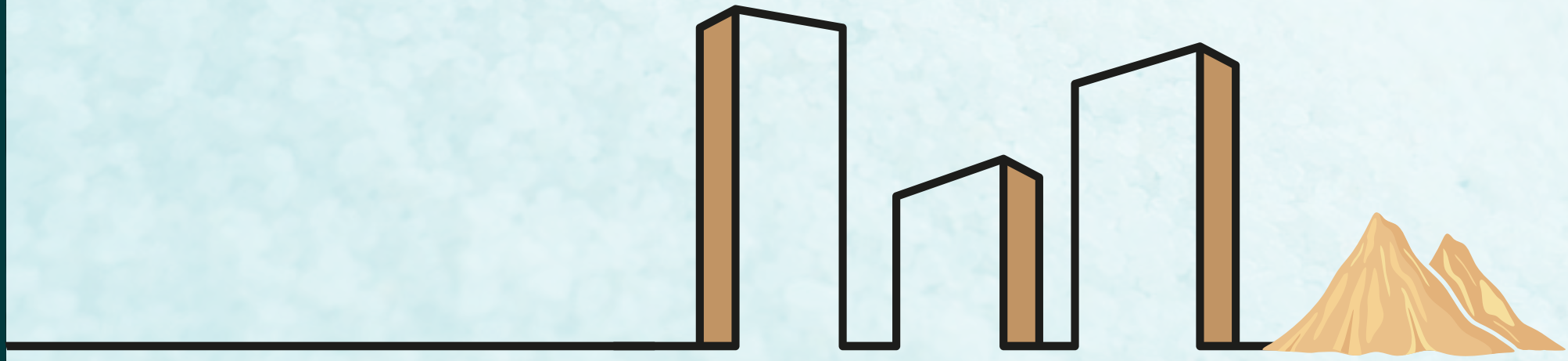

WATAD SILICA

THE FOUNDATION OF QUALITY

WATAD GROUP

2019 ››

AL WATAD AL ARABI
الوتـــــد العربـــــي

Specialized company founded for the exploration of basalt ores in the Al-Halabat Al-Azraq region.

WATAD SHIPPING

Specialized logistics company for air, sea, and land freight to support the activities and expansion of the group.

WATAD
BASALT . SILICA . STONES

Company specialized in marketing basalt, silica, and stones and processing them to cater to various industries.

WATAD REAL ESTATE

A real estate development company that manages real estate portfolios for both global and local companies, as well as investors.

2020

WATAD AGRO

The largest and the most modern volcanic soil company in Jordan and Middle East, which has the latest production line equipment factory in Al-Mafraq area in Jordan.

2023

WATAD
FOR TRANSPORT

WATAD Transport. Specializing in a spectrum of transport services in Jordan.

2024

WATAD SILICA

Leading producer and supplier of the highest quality of silica products.

OUR BRANCHES :

WATAD MINING.TCL.LLC-F2

WATAD
INTERNATIONAL - QATAR

Opening of 3 branches in the Middle East:

- WATAD INTERNATIONAL – Doha, Qatar
- WATAD GREEN – Riyadh, KSA
- WATAD MINNING – Dubai, UAE

WATAD GREEN

ABOUT US

Since our founding in 2019, we have evolved from a family business operating in Mining to one of Jordan's largest companies.
Today, the group owns multiple companies, quarries, and factories. With covering all aspects from mining, agriculture, transporting, manufacturing and trading, real estate, and shipping. WATAD Group is producing and exporting high quality to almost 20 different countries. Our Greatest aim always has been to maximize and maintain esteemed clients' 100% satisfaction.

OUR GOAL

To maximize and maintain satisfaction of our respectable customers.

AMBITION 2030

To become the world benchmark for the sectors and services we provide.

With advanced organizational structure and high-level of technology,
WATAD supplies high-quality and unique services to its clients all over the world.
Our customers benefit from our export quality record that meets global standards.

April 16th, 2024

WATAD was honored by His Majesty King Abdullah II bin Al-Hussein with the Silver Jubilee Medal in view of what we offer to our beloved country, Jordan.

“Our Society deserves the best services and the highest quality products”

King Abdullah II Awarding
Chairman "Mohannad Al Manaseer"
Silver Jubilee for Agricultural Development

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INTRODUCTION

Silica, also known as silicon dioxide, is a naturally occurring mineral that is abundant in the earth's crust. It is found in rocks, sand, and soil, and is the main component of glass and quartz. Silica has a wide range of uses in industry, construction, and medicine, and is also an important nutrient for the human body

Properties of Silica

Silica is a crystalline material that is hard, brittle, and transparent. It has a high melting point, around 1713°C, and is insoluble in water and most organic solvents. Silica is chemically inert, meaning it does not react with other substances under normal conditions. It is also an excellent electrical insulator, making it useful in electronic devices.

Silica is a versatile mineral with many industrial, commercial, and health-related applications. It is used in the production of glass, ceramics, electronics, and many other products. Silica is also an essential nutrient for the human body, with benefits for bone, skin, and connective tissues, as well as antioxidant and other health-promoting properties.

Mission Statement

At **WATAD Silica**, we are committed to providing high-quality silica products that meet the needs of our customers while promoting sustainability and environmental responsibility.

WATAD Silica, is a leading producer and supplier of silica products for a wide range of industries, including construction, manufacturing, and electronics. Our products are designed to meet the highest quality standards and are used in a variety of applications, such as concrete, glass, ceramics, and semiconductors.

Where Strength and Versatility Meet for Endless Possibilities

Sustainability

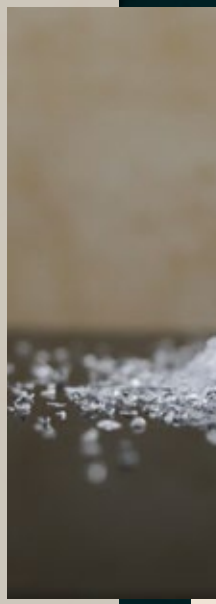
At WATAD Silica, we are committed to promoting sustainability and environmental responsibility in everything we do. We work to minimize our environmental impact by using renewable energy sources, reducing waste, and promoting responsible resource management. Our products are designed to meet the highest sustainability standards and help our customers achieve their sustainability goals.


WATAD
SILICA PRODUCTS

Products

Products

WATAD Silica offers a wide range of silica products to meet the needs of our customers.



Our products include

- **Silica sand (Raw Material)**
  A high-purity sand used in construction and manufacturing applications.

- 0-200 Micron
- 100-300 Micron
- 200-400 Micron
- 200-500 Micron
- 500-1000 Micron
- 1000 Micron
- 1000-2000 Micron
- 2000-3000 Micron
- 3000-5000 Micron
- 5000-8000 Micron
- 8000-12000 Micron
- 30-45 Micron
- 53-75 Micron
- 75-150 Micron

• Fused silica

A high-purity silica glass used in optics and other high-tech applications.

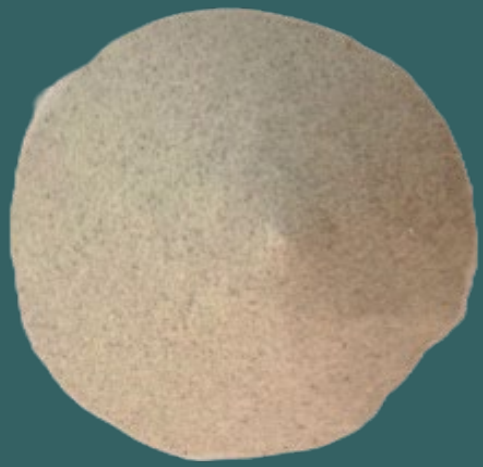
• Silica flour

A finely ground silica used in a variety of applications, including ceramics and semiconductors.

SILICA SAND SIZES

0-30 MICRON

- **Foundry Industry:** For casting metal parts, providing smooth surface finishes.
- **Glass Manufacturing:** Essential component for clarity and smoothness in glass products.
- **Ceramics Industry:** Helps form dense and uniform ceramic structures.
- **Construction Materials:** Improves workability and strength of concrete, mortar, and grout.
- **Paints and Coatings:** Acts as a filler and extender, improving rheological properties and durability.
- **Water Filtration:** Traps impurities and enhances water clarity in filtration systems.
- **Oil and Gas Industry:** Used in hydraulic fracturing operations for propping open fractures in rock formations.
- **Chemical Manufacturing:** Supports catalysts, used in chromatography, and as a raw material for silicon compounds.
- **Sports and Recreation:** Provides cushioning and stability as infill material in artificial turf systems.
- **Cosmetics and Personal Care Products:** Gentle abrasive in toothpaste, skincare products, and exfoliating scrubs.



0-45 MICRON

- **Foundry Industry:** Utilized for casting metal parts to achieve smooth surface finishes.
- **Glass Manufacturing:** Essential for clarity and smoothness in glass products.
- **Ceramics Industry:** Aids in forming dense and uniform ceramic structures.
- **Construction Materials:** Improves workability and strength of concrete, mortar, and grout.
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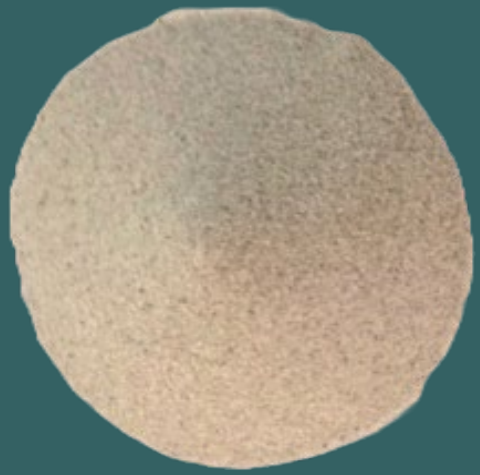


250-600 MICRON

- **Sandblasting:** For surface cleaning, etching, and finishing in industrial applications.
- **Water Filtration:** Removes impurities from water in swimming pools, aquariums, and industrial processes.
- **Construction Aggregates:** Enhances strength and durability in concrete, mortar, and asphalt mixtures.
- **Landscaping and Hardscaping:** Used decoratively in pathways, driveways, and playgrounds.
- **Epoxy Flooring Systems:** Improves wear resistance and traction in commercial and industrial flooring.
- **Sports Turf Infill:** Provides cushioning and stability in synthetic turf systems for sports fields.
- **Oil and Gas Well Stimulation:** Holds open fractures in rock formations during hydraulic fracturing.
- **Roofing Granules:** Enhances weather resistance in roofing shingles and tiles.
- Industrial Fillers: Improves strength and viscosity in adhesives, sealants, and coatings.
- **Abrasive Blasting:** Used for surface preparation and paint removal in industrial maintenance.

500-850 MICRON

- **Sandblasting:** For surface cleaning and finishing in industrial settings.
- **Water Filtration:** Removing impurities from water in pools, aquariums, and treatment plants.
- **Construction:** Enhancing strength and durability in concrete and mortar mixtures.
- **Landscaping:** Decorative element in pathways, driveways, and gardens.
- **Epoxy Flooring:** Filler material for improved wear resistance in commercial and industrial flooring.
- **Sports Fields:** Infill material for cushioning and stability in synthetic turf systems.
- **Roofing Granules:** Added to roofing materials for weather resistance and UV protection.
- **Oil and Gas:** Proppant material in hydraulic fracturing for maintaining fractures in rock formations.
- **Foundry:** Molding material for casting metal parts.
- **Industrial Applications:** Filler in adhesives, sealants, and coatings for improved properties

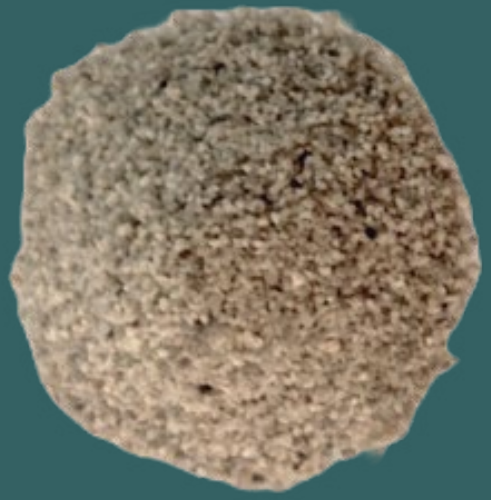
0.6–1 mm

Silica sand in the 0.6-1 mm size range is commonly used in:

- **Sandblasting:** For surface cleaning and finishing in industrial settings.
- **Water Filtration:** Removing impurities from water in pools, aquariums, and treatment plants.
- **Construction:** Enhancing strength and durability in concrete and mortar mixtures.
- **Landscaping:** Decorative element in pathways, driveways, and gardens.
- **Epoxy Flooring:** Filler material for improved wear resistance in commercial and industrial flooring.
- **Sports Fields:** Infill material for cushioning and stability in synthetic turf systems.
- **Roofing Granules:** Added to roofing materials for weather resistance and UV protection.
- **Oil and Gas:** Proppant material in hydraulic fracturing for maintaining fractures in rock formations.
- **Foundry:** Molding material for casting metal parts.
- **Industrial Applications:** Filler in adhesives, sealants, and coatings for improved properties.

1–2.5 mm

- **Construction:** Aggregate in concrete for buildings and bridges.
- **Landscaping:** Decorative element in gardens and pathways.
- **Sports Fields:** Infill material for synthetic turf systems.
- **Erosion Control:** Beach nourishment and shoreline stabilization.
- **Aquariums:** Substrate for freshwater and marine tanks.
- **Industrial Filtration:** Water treatment and filtration systems.
- **Foundry:** Molding material for large castings.
- **Railway Ballast:** Stabilizing material for railway tracks.
- **Manufacturing:** Raw material for glass, ceramics, and silicon compounds.
- **Abrasive Blasting:** Surface preparation and cleaning in industrial applications.



2.35-3.5 mm

- **Construction:** Aggregate in concrete for various construction projects.
- **Landscaping:** Decorative element in gardens, pathways, and outdoor areas.
- **Sports Fields:** Infill material for synthetic turf systems used in sports fields.
- **Erosion Control:** Used in erosion control applications such as beach nourishment and stabilization.
- **Aquariums:** Substrate for larger freshwater and marine aquariums.
- **Industrial Filtration:** Water treatment and filtration systems.
- **Foundry Industry:** Molding material for medium to large castings.
- **Railway Ballast:** Stabilizing material for railway tracks to support rails and distribute load.
- **Manufacturing:** Used as a raw material in the production of glass and ceramics.
- **Abrasive Blasting:** Surface preparation and cleaning in industrial applications.

3.3-4.7 mm

- **Construction:** Aggregate in concrete for various construction projects.
- **Landscaping:** Decorative element in gardens, pathways, and outdoor areas.
- **Erosion Control:** Used in erosion control applications such as beach nourishment and stabilization.
- **Sports Fields:** Infill material for synthetic turf systems used in sports fields.
- **Industrial Filtration:** Water treatment and filtration systems.
- **Foundry Industry:** Molding material for large castings.
- **Railway Ballast:** Stabilizing material for railway tracks to support rails and distribute load.
- **Manufacturing:** Used as a raw material in the production of glass and ceramics.
- **Aquariums:** Substrate for larger freshwater and marine aquariums.
- **Abrasive Blasting:** Surface preparation and cleaning in industrial applications.

FUSED SILICA

Fused silica is a pure form of silicon dioxide (SiO_2) created by melting silica sand at high temperatures and rapidly cooling it. Known for its outstanding optical transparency and resistance to thermal shock, fused silica is crucial in high-tech applications like optics and semiconductor manufacturing. Its unique properties make it indispensable for industries prioritizing precision and reliability. A high-purity silica glass used in optics and other high-tech applications.

SILICA FLOUR

Fused silica is a pure form of silicon dioxide (SiO_2) created by melting silica sand at high temperatures and rapidly cooling it. Known for its outstanding optical transparency and resistance to thermal shock, fused silica is crucial in high-tech applications like optics and semiconductor manufacturing. Its unique properties make it indispensable for industries prioritizing precision and reliability. A high-purity silica glass used in optics and other high-tech applications.

SILICA FUME

Silica fume, also known as microsilica, is a byproduct of the production of silicon metal and ferrosilicon alloys. It is a highly reactive pozzolan, meaning it reacts with calcium hydroxide and water to form compounds that contribute to the strength and durability of concrete. Silica fume is a fine, powdery material that consists of spherical particles with an average diameter of 0.1 micrometers, which is about 100 times smaller than the diameter of a typical cement particle. Because of its small particle size, silica fume can fill the spaces between cement particles, making the concrete more dense and less porous, which improves its strength, durability, and resistance to chemical attack. Silica fume is often used as a partial replacement for Portland cement in concrete mixes, and can also be used in shotcrete, precast concrete, and other construction applications.

WATAD Silica Fume Specifications

	Results	Unit
Compressive Strength At 7 days / Test Mix	33	N/mm
Compressive Strength At 7 days / Control Mix	30	N/mm
Compressive Strength Activity Index At 7 (day	110	%
Moisture content	0	%
Percent retained on 45-gm	8	%
Density	2.62	Mg/m³
CaO	0.40	%
TO_2	0.15	%
Fe_2O_3	0.90	%
SiO_2	98.5	%
SO_3	0.05	%
Na O	0.48	%
K O	0.63	%
Total Alkalis	0.89	%
Loss on Ignition	0.84	%

Usage of Silica

Silica is a versatile mineral that finds application in a wide range of industries due to its unique properties. Some of the most common uses of silica are:

Construction Industry

Silica is widely used in the construction industry as a cement, concrete, and mortar component.
It provides strength, durability, and resistance to cracking, making it an essential ingredient in building materials.

Glass Industry

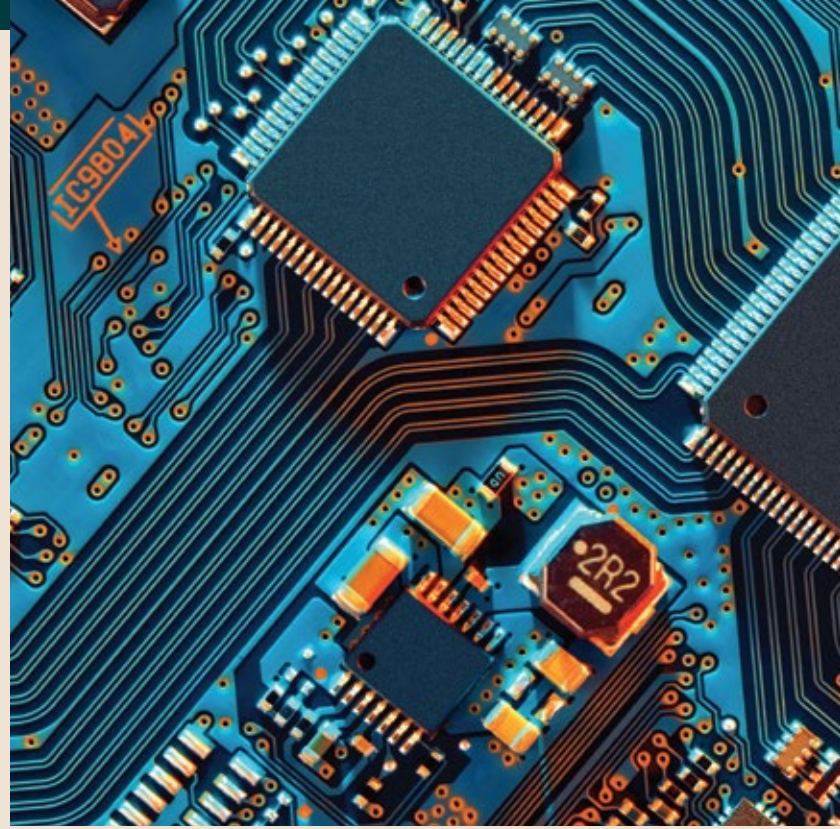
Silica is the primary component of glass, and it is used to manufacture a wide range of glass products, including windows, mirrors, and lenses.

Ceramics Industry

Silica is used in the ceramics industry to manufacture ceramic products such as tiles, tableware, and sanitaryware. It provides strength, hardness, and heat resistance to ceramic products.

Electronics Industry

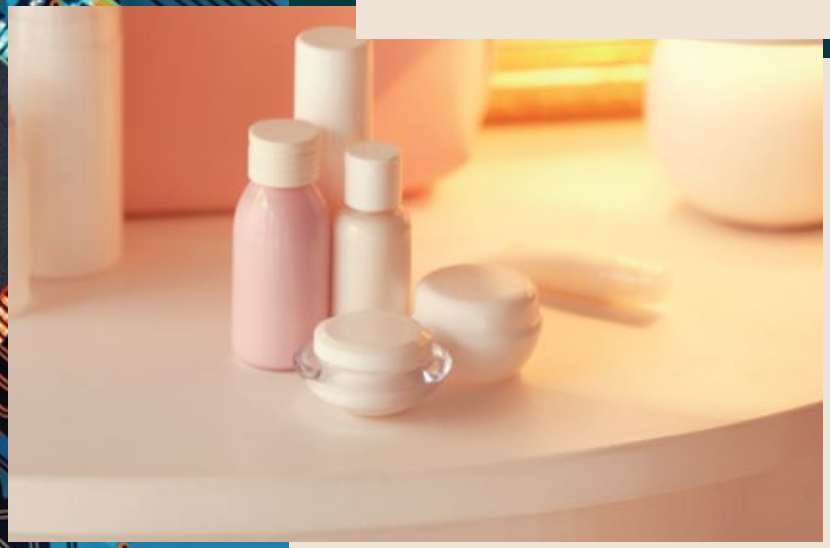
Silica is widely used in the electronics industry as a component of semiconductors, computer chips, and other electronic devices. It provides high electrical insulation, thermal stability, and chemical resistance, making it an ideal material for electronic applications.



Agriculture Industry

Silica is used in agriculture as a soil conditioner and as a natural pesticide. It helps plants to absorb nutrients and resist pests and diseases.

Personal Care Industry



Silica is used in personal care products such as toothpaste, sunscreen, and cosmetics. It provides a smooth texture, enhances skin and hair health, and helps to absorb moisture and oil.

Oil and Gas Industry

Silica is used as a proppant in hydraulic fracturing, a process used to extract oil and gas from shale formations. It helps to hold open the fractures and allows the oil and gas to flow more freely.

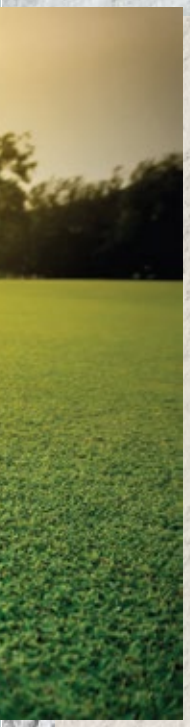
Sports Fields and Golf Courses

On synthetic sports fields and golf courses, silica sand is used for bunkers and greens. Because of its ability to support and natural plant growth, it is also used to maintain greens and fairways. The natural grained shape provides the required permeability and helps to facilitate day to day maintenance like root aeration and fertilization.

Water Filtration

Silica sand is an effective filtration bed in the removal of contaminants in both processing of wastewater and in the filtration of the drinking water. Silica sand neutralizes the acidic elements to maintain optimal pH balance in water filters. As it is chemically inert, it will not react when exposed to acids, contaminants, volatile organics or solvents.

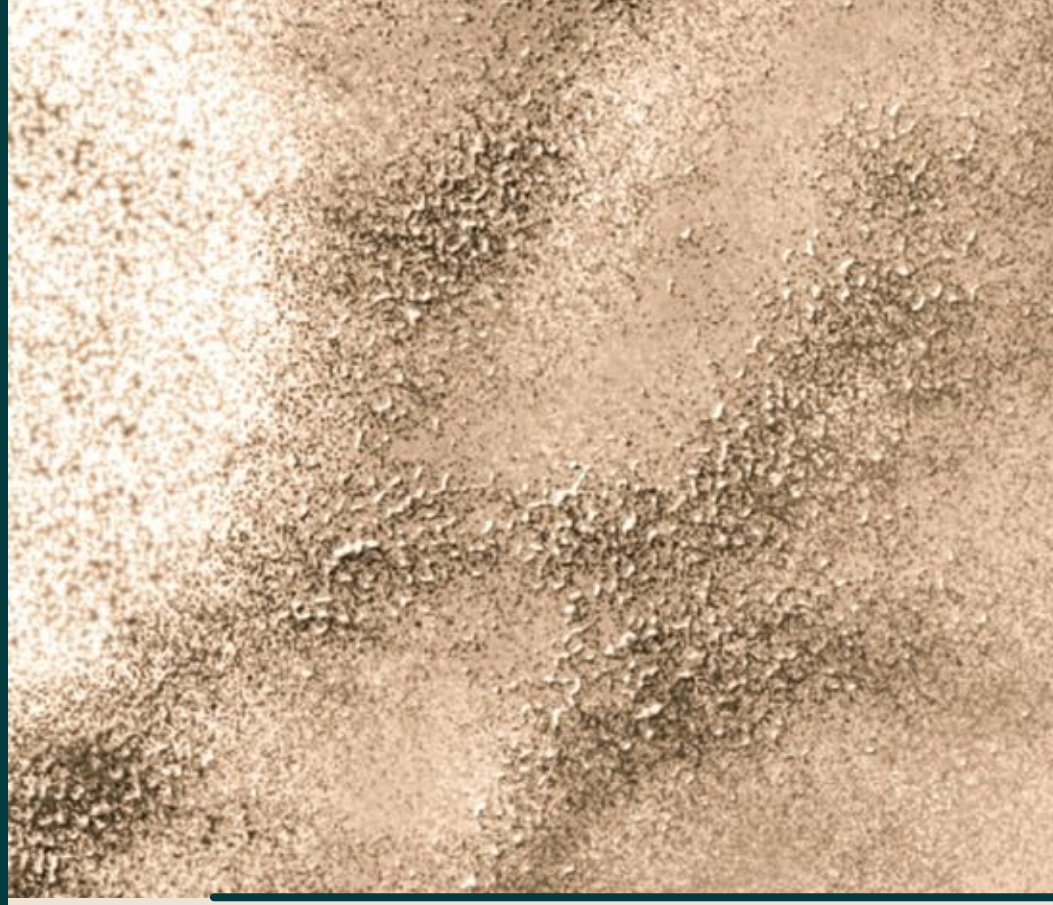
These are just some of the many uses of silica in various industries. Its versatility, unique properties, and abundance make it a valuable mineral for many applications



WATAD Silica Specifications

Characteristic (% by mass)	Specification			
	Special Grade	Grade1	Grade2	Grade3
LOI Max	0.5	0.5	0.5	0.5
SiO_2 (Min)	99.0	98.5	98.0	97.0
Fe_2O_3 (Max)	0.02	0.04	0.06	0.10
Al_2O_3 (Max)	*	*	*	1.5
TiO_2 (Max)	0.1	0.1	0.1	*
MnO_2, CuO_2, Cr_2O_3	To pass the test			

TYPES OF SILICA



There are several types of silica, each with different properties and uses. Here are some of the most common types of silica:

• QUARTZ

Quartz is the most common form of silica and is found in many rocks and soils.
It is a hard, crystalline mineral with high resistance to heat and chemical weathering.
Quartz is commonly used in the manufacture of glass, ceramics, and electronics.

• CRISTOBALITE

Cristobalite is a high-temperature silica form at temperatures above 1470°C. It is used in the production of refractory materials, ceramics, and abrasives.

• TRIDYMITE

Tridymite is another high-temperature silica form at temperatures above 870°C. It is used in the production of refractory materials, ceramics, and abrasives.

• SILICA GEL

Silica gel is a synthetic form of silica that is produced by reacting sodium silicate with sulfuric acid. It is a porous, granular material that is commonly used as a desiccant to absorb moisture in various applications.

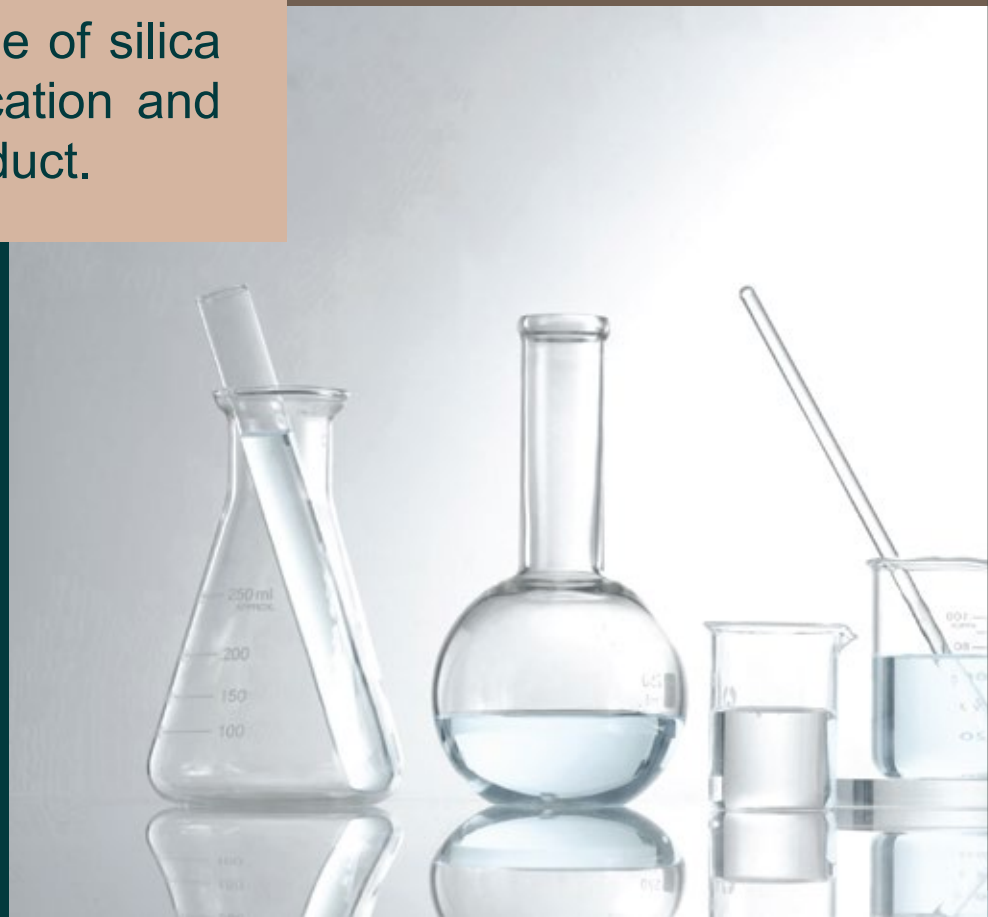
• DIATOMACEOUS EARTH

Diatomaceous earth is a naturally occurring form of silica that is composed of the fossilized remains of diatoms, a type of algae. It is used in various industrial applications, including filtration, pest control, and abrasives.

• COLLOIDAL SILICA

Colloidal silica is a stable suspension of silica particles in a liquid medium. It is used in a wide range of applications, including coatings, catalysts, and polishing agents.

These are just some of the most common types of silica, and there are many other varieties with specific properties and uses. The type of silica used depends on the specific application and the desired properties of the final product.



WATAD

SILICA PRODUCTS

Safety

At WATAD Group, our safety slogan is the best performance at a zero-accident rate. The safety and integrity of our manpower assets are our highest concerns. We are dedicated to elevating the standards of safety and achieving an accident-free working environment for our workforce in all our projects. We follow a wide variety of methods from zero-tolerance safety exceptions to our aggressive full-protection program that includes collaborating with the leaders in the insurance industry, all through innovative training and education programs. We also provide our employees and subcontractors with the tools, knowledge, and resources they need to increase safety, reduce risk and improve loss control in every project we manage. Our Group has a well-built reputation of compliance with all the safety regulations for all our designs and projects, following local Jordanian acts and all international regulations applicable in these fields.

WATAD

SILICA PRODUCTS

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SILICA

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WATAD SILICA