



Zhongzhi Chemical Technology

众智化工科技 · Inorganic Silicon



Shandong Zhongzhi Chemical Technology Co., Ltd.

Unity for Progress, Wisdom for New Horizons

众新聚力 · 智拓新局

Sodium Silicate & Metasilicate · Export Product Brochure 2026

100,000+ T

Annual Capacity

30,000 m²

Factory Area

71+

National Patents

ISO / REACH

Certified



01

Company Profile

Inorganic silicon compounds specialist since 2011

Shandong Zhongzhi Chemical Technology Co., Ltd. (Zhongzhi Tech) was founded in 2011 in Changyi, Shandong. We focus on **inorganic silicon compounds** — sodium silicates, metasilicates, potassium / lithium silicates and silicon-based flame retardants. Zhongzhi is a national-level "Little Giant" enterprise, a national high-tech enterprise, and vice-chairman unit of the China Inorganic Silicon Compounds Association.

100,000+ T

Annual Capacity

30,000 m²

Smart Factory

71+ Patents

R&D Strength

15 Platforms

Innovation Hubs

- Main drafter of industry standard HG/T 2568-2021 Industrial Sodium Metasilicate
- Silicon-based flame retardant: National Manufacturing Single Champion Product
- Certifications: ISO 9001:2015 · ISO 14001 · REACH Registered
- Export port: Qingdao · MOQ from 1 MT · Lead time ~2 weeks · 30+ countries served



02

Product Portfolio

Nine core product lines for global partners

01 Anhydrous Sodium Metasilicate $\text{Na}_2\text{O} \geq 51\%$ · STPP alternative	02 Sodium Metasilicate Pentahydrate Na_2O 28.5–30% · Crystalline	03 Instant Powder Sodium Silicate LGS-20 / LGS-30 · Fast dissolve
04 Liquid Sodium Silicate 6 grades · Modulus 1.3–3.4	05 Potassium Silicate 3 grades · Low S/P electronic	06 Lithium Silicate Concrete densifier & hardener
07 Sodium Orthosilicate $\text{Na}_2\text{O} \geq 58.5\%$ · Strongest alkali	08 Sodium Silicate (Water Glass) Solid & liquid · Custom modulus	09 Silicon-Based Flame Retardant LOI $\geq 29\%$ · Single Champion

03 Anhydrous Sodium Metasilicate



Anhydrous Sodium Metasilicate

High-purity Sodium Metasilicate Anhydrous with 51% Na₂O content. Superior detergency, pH buffering, and emulsifying properties.

Detergent Industry Builder and cleaning agent applications Metal Cleaning Degreasing and surface preparation

SPEC	Sodium Metasilicate Anhydrous Beaded		Sodium Metasilicate Anhydrous Powder	
	Superior Grade	First Grade	Spec.1	Spec.2
Na ₂ O %	50.00	50.00	50.00	50.00
SiO ₂ % ≥	45.00	45.00	45.00	45.00
Fe % ≤	0.010	0.015	0.015	0.015
Bulk Density g/cm³	1.00 – 1.35	1.00 – 1.35	1.00 – 1.35	1.00 – 1.35
Particle Size	18-60 mesh ≥ 93%	18-60 mesh ≥ 93%	pass 40mesh≥90.00	pass 60mesh≥90.00
Whiteness ≥	85	80	90	90
Water Insoluble ≤	0.05%	0.10%	0.10%	0.10%
Transparence ≥	85	80	85	85

Key Properties

- **High Purity:** Na₂O ≥ 51% with total alkali + silica exceeding 95%
- **Excellent Solubility:** Readily soluble in water with outstanding pH buffering capacity
- **STPP Replacement:** Effective phosphate-free detergent builder for eco-friendly formulations
- **Stable Performance:** No water of crystallization. Compatible with bleaching agents and peroxides

MOQ	LEAD TIME	PORT	OEM	SAMPLE
1 MT	~2 Weeks	Qingdao	Available	Free

Packing: 25 kg|PP Woven Bag 25 kg|Kraft Paper Bag 500 kg|FIBC Jumbo Bag 1000 kg|FIBC Jumbo Bag

04 Sodium Metasilicate Pentahydrate



Sodium Metasilicate Pentahydrate

Crystalline sodium metasilicate pentahydrate with 28.7-30% Na₂O content. Widely used in detergents, metal cleaning, ceramics.

Detergent Industry Builder and surfactant for concentrated formulations Metal Cleaning Surface treatment and rust inhibition

SPEC	Sodium Metasilicate Pentahydrate — Granular		Sodium Metasilicate Pentahydrate — Powder	
	Superior Grade	First Grade	Spec.1	Spec.2
Na ₂ O %	28.70	28.50	28.70	28.70
SiO ₂ %	27.80	27.80	28.00	28.00
Fe % ≤	0.008	0.010	0.010	0.010
Bulk Density g/cm ³	0.8 – 1.0	0.8 – 1.0	0.8 – 1.0	0.8 – 1.0
Particle Size	12-60 mesh ≥ 95%	12-60 mesh ≥ 95%	pass 60mesh≥15.00	pass 30mesh≥90.00
Whiteness ≥	80	75	85	85
Water Insoluble ≤	0.03%	0.05%	0.06%	0.06%
Transparence ≥	96	92	96	96

Key Properties

- **Alkaline pH Buffer:** Excellent alkaline buffering capacity maintains stable cleaning performance
- **Metal Corrosion Protection:** Protects aluminum, zinc, glassware and ceramic surfaces during cleaning
- **High Soil Suspension:** Superior emulsifying, dispersing and anti-redeposition properties
- **Multi-Surface Safe:** Water-softening action protects substrates while delivering deep cleaning

MOQ 1 MT	LEAD TIME ~2 Weeks	PORT Qingdao	OEM Available	SAMPLE Free
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Packing: 25 kg|PP Woven Bag 25 kg|Kraft Paper Bag 500 kg|FIBC Jumbo Bag 1000 kg|FIBC Jumbo Bag

05 Liquid Sodium Silicate (Water Glass)



Liquid Sodium Silicate (Water Glass)

Six standard grades LGY33 to LGY401. Versatile liquid silicate for construction, automotive, aquaculture, and wastewater treatment.

Metal Surface Protection Dense protective coating formation Automotive Maintenance Engine component crack sealing

SPEC	Grade				
	Baumé (20°C)	Na ₂ O % ≥	SiO ₂ % ≥	Water Insoluble % ≤	M.R. (Modulus)
LGY33	32.5 – 35.0	11.00	15.00	0.06	1.30 – 1.50
LGY501	50.0 – 51.0	14.20	28.00	0.20	1.90 – 2.20
LGY502	50.0 – 51.0	12.80	29.40	0.20	2.20 – 2.50
LGY404	40	12.4	20.60	0.10	1.70 – 1.75
LGY401	39.0 – 40.0	8.30	26.50	0.20	3.20 – 3.40
LGY402	39.0 – 40.0	8.30	26.50	0.80	3.20 – 3.40
LGY403	39.0 – 40.0	8.20	26.00	—	3.20 – 3.40

Key Properties

- **Strong Adhesion:** Excellent binding properties for construction materials and industrial formulations
- **Film Forming:** Forms dense, protective films on metal and mineral surfaces
- **Adjustable Modulus:** Six grades from MR 1.3 to 3.4 for precise application matching
- **Water Soluble:** Ready-to-use liquid form for easy handling and automated dosing

MOQ	LEAD TIME	PORT	OEM	SAMPLE
1 MT	~2 Weeks	Qingdao	Available	Free

Packing: 200L Drum|Iron / Plastic 1000L IBC Tank|Bulk Container 25 MT ISO Tank|Bulk Liquid Custom|Per Requirement

06 Sodium Silicate (Water Glass)



Sodium Silicate (Water Glass)

Liquid and solid forms of sodium silicate. The most versatile industrial silicate serving 20+ industries worldwide.

Construction Water Treatment Detergent Metal Protection

SPEC	Low Modulus			High Modulus		
	LGY33	LGY501	LGY502	LGY401	LGY402	LGY403
Baumé (20°C)	32.5–35.0	50.0–51.0	50.0–51.0	39.0–40.0	39.0–40.0	39.0–40.0
Na ₂ O % ≥	10.50	14.20	12.80	8.30	8.30	8.20
SiO ₂ % ≥	14.50	28.00	29.40	26.50	26.50	26.00
Water Insoluble % ≤	0.10	0.20	0.20	0.20	0.80	—
Modulus (M.R.)	1.30–1.50	1.90–2.20	2.20–2.50	3.20–3.40	3.20–3.40	3.20–3.40

Key Properties

- **LGY401:** Lowest insolubles — critical / premium applications
- **LGY402:** Industrial general purpose
- **LGY403:** Cost-sensitive projects
- **LGY501 / LGY502:** High Baumé low-modulus for heavy industrial use
- **Uses:** Concrete set / strengthen · Metal protective film · Wastewater coagulant · Wood FR · Dye assist

MOQ	LEAD TIME	PORT	OEM	SAMPLE
1 MT	~2 Weeks	Qingdao	Available	Free

Packing: 25kg / 500kg / 1000kg

07 Instant Powder Sodium Silicate



Instant Powder Sodium Silicate

SSP20-SSP33 series. Rapid cold-water dissolution for automated batching systems.

Detergent Industry Builder, degreasing agent and corrosion inhibitor Metallurgy High-temperature processing aid

SPEC	Grade				
	SSP20	SSP23	SSP28	SSP30	SSP33
Modulus (M.R.)	2.00 – 2.10	2.30 – 2.40	2.80 – 2.90	3.00 – 3.10	3.25 – 3.35
Bulk Density g/cm³ ≥	0.55	0.55	0.55	0.50	0.50
Whiteness % ≥	90	90	90	90	90
Soluble Rate (60°C 1%) ≤	60	70	—	—	—
Na ₂ O % ≥	26.00	24.00	21.00	20.00	19.00
SiO ₂ % ≥	51	54	58	59	60

Key Properties

- **Rapid Dissolution:** Dissolves quickly in cold water at ambient temperature and pressure
- **Cold Resistant:** Excellent cold resistance for year-round transport and storage
- **Easy Handling:** Free-flowing powder suitable for mechanized and automated production
- **High Concentration Mixing:** Ideal for preparing high-concentration liquid silicate formulations

MOQ	LEAD TIME	PORT	OEM	SAMPLE
1 MT	~2 Weeks	Qingdao	Available	Free

Packing: 25 kg|PP Woven Bag 25 kg|Kraft Paper Bag 500 kg|FIBC Jumbo Bag 1000 kg|FIBC Jumbo Bag

08 Sodium Orthosilicate



Sodium Orthosilicate

58.5% Na₂O content. The strongest alkaline silicate for heavy-duty industrial cleaning and metal surface treatment.

Industrial Cleaning Heavy-duty cleaning formulations Metal Treatment Surface preparation and treatment

SPEC	Grade				
	Na ₂ O % ≥	SiO ₂ % ≥	Fe % ≤	Whiteness % ≥	Bulk Density g/cm ³ ≥
Sodium Orthosilicate	58.50	27.50	0.0120	80.00	0.90

Key Properties

- **Maximum Alkalinity:** 58.5% Na₂O content delivers the strongest alkaline performance
- **Heavy-Duty Cleaning:** Superior degreasing and oil-removal for industrial applications
- **pH Buffering:** Outstanding pH stability for consistent process performance
- **Multi-Purpose Binder:** Compatible with talc and other fillers for inorganic formulations
- **Alkalinity:** Strongest in Silicate Family
- **Detergency:** Excellent cleaning performance
- **Emulsification:** Superior oil removal
- **Dispersing:** Outstanding particle suspension
- **pH Buffering:** Excellent buffering capacity
- **Appearance:** White Solid, Granular / Powder
- **Non-Toxic:** Odorless, Water Soluble

MOQ 1 MT	LEAD TIME ~2 Weeks	PORT Qingdao	OEM Available	SAMPLE Free
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Packing: 25 kg|PP Woven Bag 25 kg|Kraft Paper Bag 500 kg|FIBC Jumbo Bag 1000 kg|FIBC Jumbo Bag

09 Potassium Silicate



Potassium Silicate

Three grades with modulus 3.3-4.9. Premium binder for refractories, welding rods, and high-temperature coatings.

Refractory Binder High-temperature material bonding Welding Electrodes Flux binder for welding rods

SPEC	Grade								
	SiO ₂ %	K ₂ O %	Solid Content %	Density g/cm ³	pH	Modulus	S ≤	P ≤	Water Inso. ≤
Grade A	22.0 – 23.0	9.8 – 10.9	31.8 – 33.9	1.28 – 1.33	12.9 – 13.2	3.3 – 3.5	0.01%	0.01%	0.05%
Grade B	19.0 – 19.8	7.4 – 8.2	26.4 – 28.0	1.23 – 1.26	12.0 – 12.3	3.8 – 4.0	0.01%	0.01%	0.05%
Grade C	16.0 – 16.8	5.1 – 5.6	21.1 – 22.4	1.16 – 1.18	11.6 – 12.0	4.7 – 4.9	0.01%	0.01%	0.05%

Key Properties

- **Excellent Adhesion:** Outstanding bonding performance for refractories and coatings
- **High Thermal Stability:** Superior heat resistance compared to sodium-based silicates
- **Film-Forming:** Creates durable, chemical-resistant films on various substrates
- **Display-Grade Purity:** Low sulfur and phosphorus for electronic-grade applications

MOQ	LEAD TIME	PORT	OEM	SAMPLE
1 MT	~2 Weeks	Qingdao	Available	Free

Packing: 200L Drum|Iron / Plastic 1000L IBC Tank|Bulk Container 25 kg Bag|Solid Powder Form Custom|Per Requirement

010 Lithium Silicate



Lithium Silicate

Deep-penetrating concrete densifier. Superior hardness, chemical resistance, and UV stability for floor treatment.

Concrete Densifiers Floor hardening and dust-proofing Floor Hardeners Industrial and commercial flooring

SPEC	Item
	Specification
Chemical Formula	$\text{Li}_2\text{O} \cdot n\text{SiO}_2$
Appearance	Colorless to Pale Yellow Transparent Liquid
Characteristics	Deep Penetration, Fast Reaction, Excellent UV Resistance, Water Resistance, and Chemical Resistance

Key Properties

- **Deep Penetration:** Low molecular weight ensures deep substrate penetration
- **Surface Hardening:** Forms stable C-S-H gel for increased surface density
- **UV Resistant:** Does not yellow or degrade under sunlight exposure
- **Chemical Stability:** Outstanding resistance to water, chemicals and weathering

MOQ	LEAD TIME	PORT	OEM	SAMPLE
1 MT	~2 Weeks	Qingdao	Available	Free

Packing: 200L Drum|Iron / Plastic 1000L IBC Tank|Bulk Container 25 kg Bag|Solid Form Available Custom|Per Requirement

011 Silicon Based Flame Retardant



Silicon Based Flame Retardant

Water-soluble, non-toxic flame retardant. LOI $\geq$ 29%, anti-dripping, low smoke. Environmentally friendly.

Textile Flame Retardant Fabric and upholstery protection Polymer & Plastics Material flame retardancy

SPEC	Grade		
	Most Versatile	High Performance	Standard Grade
Appearance	Colorless to Light Yellow Liquid or White Solid Powder	White Solid Powder	White Solid Powder
SiO ₂ % $\geq$	15.0	15.0	15.0
Heavy Metals & PBBs	$\leq$ 5.0 mg/kg	$\leq$ 5.0 mg/kg	$\leq$ 5.0 mg/kg
LOI (Textile) % $\geq$	29.0	29.0	29.0

Key Properties

- **High LOI $\geq$ 29%:** Superior flame retardancy for textiles and polymer materials
- **Anti-Dripping:** Prevents molten droplet formation during combustion
- **Smoke Suppression:** Significantly reduces smoke generation in fire conditions
- **Non-Toxic & Eco-Friendly:** Water-soluble formulation free of halogens and hazardous substances

MOQ	LEAD TIME	PORT	OEM	SAMPLE
1 MT	~2 Weeks	Qingdao	Available	Free

Packing: 25 kg|PP Woven Bag 25 kg|Kraft Paper Bag 500 kg|FIBC Jumbo Bag 1000 kg|FIBC Jumbo Bag



12

Contact & Export Service

Shandong Zhongzhi Chemical Technology Co., Ltd.

Changyi City, Shandong Province, China

Website: www.zzhchem.com | Email: info@zzhchem.com

Port: Qingdao, China | MOQ: 1 MT | Lead Time: ~2 Weeks

ISO 9001:2015 · ISO 14001 · REACH Registered

Quotation · SDS · TDS · COA · Sample → www.zzhchem.com/contact

Packing Options

- 25 kg PE / PP bags
- 200 L / 250 kg drums
- ISO tank containers
- 500–1000 kg jumbo bags
- 1000 L IBC totes
- Custom OEM labels



Zhongzhi intelligent manufacturing base — Changyi, Shandong, China

众新聚力 · 智拓新局

Unity for Progress, Wisdom for New Horizons



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