ZEHUI GROUP

High-end magnesium salt for 30 years

Top 500 Global supplier

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About Us

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镁化合物全产业链服务供应商

A full industrial chain service provider of magnesium compounds

Jiangsu Zehui Magnesium New Material Technology Co. (Zehui Group)

Zehui Group, originated from a state-owned enterprise in the 80s, has established its foundation with industry and made its way with innovation. Since its establishment, the group has always focused on the field of chemical industry and new materials, and gradually build up an industrial map covering the east and west, radiating the coastal area, and become a comprehensive enterprise with great influence in the magnesium salt industry.

2002-2013

The initial stage

Zehui Group was originally a state-owned enterprise in the 1980s, and completed the restructuring in 2002. Starting from chemical industry, Zehui Group has successively relied on local enterprises in Hunan and Jiangsu. Focusing on the production and research and development of magnesium compounds, it has laid a solid capacity and technical foundation for subsequent development.

2020

Coastal Strategic Layout

Based on the industry trend insight, the Group set up a production base in Shandong Zehui in 2020 to deeply radiate the magnesium resources in the east coast and Liaoning mines, forming the advantage of coastal resource integration and capacity synergy. In the same year, Jiangsu Zehui Magnesium-based New Material Technology Co., Ltd. was born, formally established Zehui Group.

2020-Now

Technological upgrading and national radiation

In 2024, Tibet Zehui Magnesium Technology Co., Ltd. was officially put into production in Golmud Industrial Park, focusing on development and production of high-end magnesium salts and nano-high purity series products. Relying on the resources of the western salt lake, the company has formed the development mode of ‘eastern production capacity + western R & D’.

Advantage

Focus on China's magnesium salt products for 30 years, the first domestic production of high-purity and non-polluting magnesium salt carbonisation technology using western Qinghai

Established 3 joint laboratories with the National Nano Engineering Centre, Jiangnan University and Yangzhou University, with a total of 10 PhDs and 30 postgraduate researchers.

With a complete production management system, production capacity of up to 60,000 tonnes or more, with more than 80 invention patents, utility model patents more than 200, owns 2 large factories.

One of the drafting units for the revision of HG/T 2573-2012 industry standard

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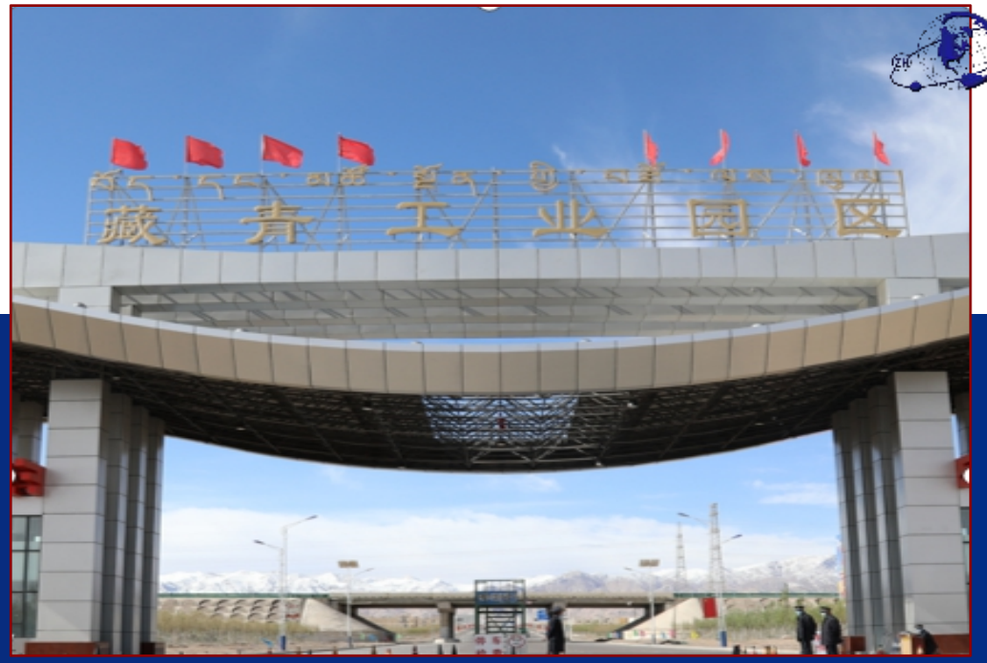

Tibet Zehui

Tibet Zehui is a subsidiary of Zehui Group. The total investment of Tibet factory is estimated to be 50 million RMB. It is located in 6 and 7 plants in G area of Tibet-Qingdao Industrial Park, Golmud City, Haixi Prefecture, Qinghai Province. The plant is equipped with production area, laboratory area, office area, raw material storage area, product storage area and other corresponding ancillary facilities. After the completion of the project, it can produce 60,000t of magnesium-based new materials, including 10,000t of high-purity magnesium carbonate, 20,000t of high-purity magnesium hydroxide, 25,000t of high-purity magnesium oxide, and 5,000t of magnesium-based nanomaterials.

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Shandong Zehui

Shandong New Zehui New Material Technology Co., Ltd. was founded on 7 January 2020, headquartered in the Yellow River Delta International Logistics Port, No. 303, Chizhou Road, Dongying District, Dongying City, Shandong Province, which is a high-tech enterprise focusing on the research, development, production and sales of new materials under Zehui Group. With a registered capital of RMB 3 million, the company is a modern science and technology enterprise integrating technological innovation, intelligent manufacturing and market service.

Cultures

Vision

To become an innovation leader and technological benchmark in the global magnesium-based new materials field

Mission

Drive industrial upgrading with technology, empower the future with magnesium-based materials, and benefit all mankind

Values

Technology leads, green responsibility, craftsmanship for the long term, and win-win collaboration

镁化合物全产业链服务供应商

A full industrial chain service provider of magnesium compounds

History

2002

Founded Wuxi Zehui Chemical, the business is based on chemical trading and product agency.

2007

The products of the invested factory are focused on medium and high-end magnesium salt products, involving deep processing and modification of the products.

2010

Established R&D centre, cooperated with Anhui University, Jiangnan University, Yangzhou University and other domestic famous colleges and universities and national nanotechnology R&D centre, and became a leading enterprise of magnesium salt functional materials in China.

Independent research and development to obtain the title of high-tech enterprises in Jiangsu Province has more than 80 invention patents, utility model patents more than 200.

2016

Zehui magnesium-based Qinghai branch plant in the Tibet-Qingdao Industrial Park officially laid the foundation stone, to invest 50.0 million yuan to build an annual output of 60,000 tonnes of magnesium-based new materials projects.

2021

The introduction of talents has started a new journey: we have introduced excellent technical talents from home and abroad to carry out research on a number of new material projects.

2023

R&D Base Re-expanded The R&D base and research team expanded again, and successfully landed in Wuxi National Science and Technology Industrial Park.

2024–Now

Why choose Zehui?

State-owned enterprises originating in the 1980s

Focus on global magnesium salt products

First in China

Produced by Western Qinghai high-purity and non-polluting magnesium salt carbonisation technology

National R&D Cooperation Centre

Cooperation with Anhui University, Jiangnan University, Yangzhou University and other domestic well-known institutions and national nanotechnology R & D centres

Production system

Complete production management system, production capacity up to 50,000 tonnes or more

Patents

Has more than 80 invention patents and more than 200 utility model patents

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CHAPTER

Product

- Magnesium Oxide • Magnesium Hydroxide
- Magnesium Carbonate

About Product

Magnesium oxide

Magnesium Hydroxide

Magnesium Carbonate

Product Specification

Magnesium Oxide	ZH-V3H(Heavy)
	ZH-V3
	ZH-V2-1
	ZH-V2-2
	ZH-V2-3
	ZH-V100（Active）
	ZH-V150（Active）
	Light magensium oxide
	ZH-ARL（Analytical Pure）
	ZH-V5-A
	ZH-V5-B
	ZH-VUSPH(USP Heavy)
	ZH-VUSPL(USP Light)
	ZH-VBPH(USP Heavy)
	ZH-VBPL(USP Light)

Magnesium Hydroxide	ZH-E6（Modify）
	ZH-E6Y（Modify）
	ZH-H1（Hexagonal）
	ZH-H2-1
	ZH-H2-2
	ZH-H3-1
	ZH-H3-2
	ZH-H5（Heavy）
	ZH-H7（Heavy）
	ZH-HUSPH（USP）
	ZH-HUSPL（USP）

Magnesium Carbonate	ZH-1
	Light magesium carbonate 1#
	ZH-BPL
	ZH-4L
	ZH-USPL
	ZH-USPH
	ZH-4H
	Natural magnesium carbonate
	ZH-7
	ZH-6（3um）
	ZH-6（5um）

Magnesium Oxide

- High purity magnesium oxide
- Active magnesium oxide
- Light/Heavy magnesium oxide

- Nano magnesium oxide
- Modified magnesium oxide
- Food/Pharmaceutical Grade Magnesium Oxide

Core indicator parameters

High Purity Magnesium Oxide					
Model Test Items	ZH-V2-1	ZH-V2-2	ZH-V2-3	ZH-V3	ZH-V3H
MgO%≥	99	97	98	97	99
Acid-insoluble substance≤%	0.05	0.1	0.5	0.1	0.1
Loss on ignition%	0.5	3	2	2	1
Cl≤%	0.05	0.6	0.3	0.6	0.05
SO4≤%	0.3	0.5	0.1	0.3	0.2
Ca≤%	0.01	0.1	0.1	0.1	0.01
Fe≤%	0.005	0.05	0.1	0.05	0.05
D50 size≤um	8	5	5	40	45
Bulk density (g/mL)	0.4	0.4	0.35	0.45	0.6

Magnesium Hydroxide

High purity magnesium oxide

Flame retardant magnesium hydroxide

Modified magnesium hydroxide

Food/Pharmaceutical Magnesium Hydroxide

Core indicator parameters

Active Magnesium Oxide			
Model	ZH-V100	ZH-V150	ZH-Light MgO
MgO%≥	98.5	98.8	98
Ca≤%	0.5	0.5	1
SiO2%	0.12	0.1	0.1
Fe≤%	0.04	0.04	0.1
SO4≤%	0.25	0.29	0.1
Cl≤%	0.48	0.25	0.035
Loss on ignition%	3.5	5.3	10
Specific surface area ≥（m2/g）	100	150	50
Bulk density (g/mL)	0.395	0.45	0.2

Core indicator parameters

High Purity Magnesium Hydroxide			
Model Test Items	ZH-H2-1	ZH-H3-1	ZH-H5
$Mg(OH)_2$ Content ≥%	99	99	99
CaO≤%	0.05	0.05	0.05
Loss on ignition%	30	30	30
Acid-insoluble substance ≤%	0.1	0.1	0.1
Cl≤%	0.6	0.6	0.6
SO4≤%	0.5	0.5	0.5
Fe ≤%	0.05	0.05	0.05
Size D_{50}≤ um	2	4.5	40-60
Water ≤%	1	1	0.5
Bulk density g/cm^3	≤0.4	≤0.4	0.6

Core indicator parameters

Flame Retardant Magnesium Hydroxide					
Model Test Items	13G1	14G2	ZH-E6-Y	ZH-E6-A	ZH-E6-B
Mg(OH)2 Content ≥%	98	98	90	86	91
Fe ≤%	0.005	0.005	0.5	0.5	0.5
CI≤%	0.05	0.3	0.05	0.05	4.5
Water ≤%	0.5	0.5	0.5	0.5	0.5
Acid-insoluble substance ≤%	0.05	0.05	8	12	8
D50 Size D50≤ um	1.8	2	5	4.5	4.5
D100 Size D100≤ um	8	12	35	45	35
325 mesh Pass rate of 325	99.8	99.8	99.5	99	99.5
Loss on ignition%	30	30	30-33	30-33	30-33
Bulk density g/cm3	0.4	0.4	0.5	0.5	0.5
Whiteness	97	97	90	90	90

Magnesium Carbonate

- High purity magnesium carbonate
- Basic magnesium carbonate
- Natural Magnesium Carbonate

- Light magnesium carbonate
- Heavy magnesium carbonate
- Food/Pharmaceutical Grade Magnesium Carbonate

Core indicator parameters

Magnesium Carbonate				
	High Purity Series			Industrial Series
Model	ZH-4L	ZH-4H	ZH-6	Industrial Level 1#
MgO%≥	40	40	40	40
Ca≤%	0.2	0.35	3	0.5
Water ≤%	5	5	2	3
Acid-Insoluble substance≤ %	0.15	0.15	1	0.05
Cl≤ %	0.1	0.1	0.1	0.05
Fe ≤%	0.01	0.01	0.03	0.05
SO4≤ %	0.1	2	1	0.2
Loss on ignition %	54-60	54-60	55	54-58
Accumulation density≤g/ml	0.35	0.25	0.4	0.15

Magnesium Carbonate	
Model	Anhydrous magnesium carbonate
MgO ≥%	47.79
Ca≤%	0.001
Al≤ %	0.0005
Cu≤ %	0.0002
Ni≤ %	0.0001
Fe ≤%	0.0005
Cr≤ %	0.0001
Loss on ignition %	54-58
Co≤ %	0.0001
Pb	0.001

03

CHAPTER

Application Industries

- Architectural
- Petrochemical
- Agriculture
- Eco-friendly
- Food/Pharma
- Military/New energy

Application-Magnesium Oxide

Refractory materials/building materials/rubber industry/environmental protection
food/medicine/agriculture/feed/chemical industry/ceramics/glass/electronic materials/energy field

Specific application products

- Magnesia bricks, magnesia carbon bricks, magnesia chrome bricks, metallurgical furnace linings
- Fireproof board, glass magnesium board, lightweight partition board
- Tires, seals, cable sheaths
- Flue gas desulfurization agent, wastewater treatment agent
- Food additives (anti-caking agents), stomach medicine, medical dressings
- Fertilizers, feed additives
- Ceramic glaze, optical glass
- Preparation of magnesium sulfate, magnesium hydroxide flame retardant, catalyst carrier
- Insulating ceramic substrate, thermal conductive filler
- Fuel cell electrolyte, lithium battery cathode coating
- Abrasives, ink thickeners
- Flame retardant coating

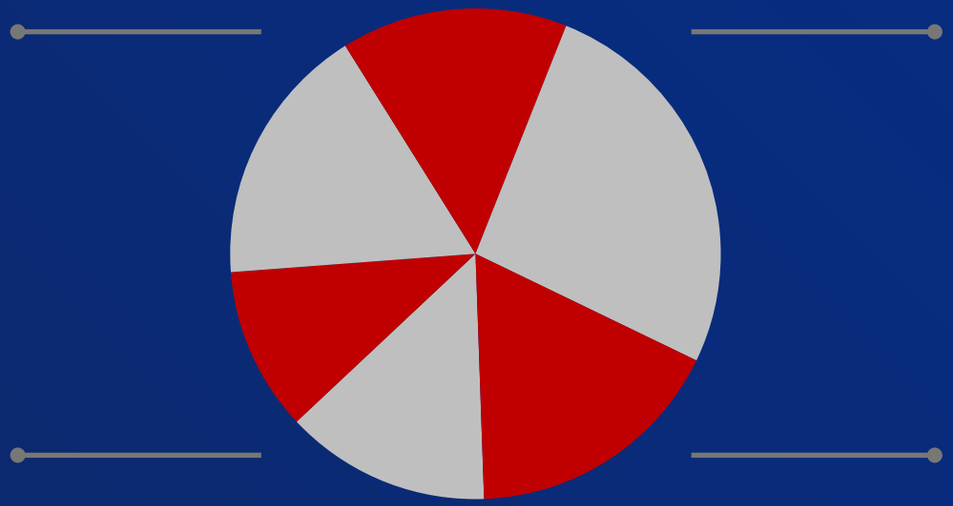
Application-Magnesium Hydroxide

Polymer materials and flame retardants/Environmental protection treatment/Medicine and food industry/Other applications

Specific application products

PE, PP, PVC and other plastics
Rubber products
Wire and cable sheaths and insulation materials
Building materials, coatings, paints, unsaturated polyester resins

Acid wastewater neutralizer
Flue gas desulfurizer
Heavy metal remover (Ni^{2+} , Cu^{2+} , Cr^{6+} , etc.)
Decolorization, dephosphorization, and deammonium removal for printing and dyeing wastewater



Antacids, laxatives (such as milk of magnesia)
Refined sugar
Food preservatives

Manufacturing magnesium oxide and other magnesium salts
Oil additives,Electronic materials (copper-clad laminates, magnetic components),Insulation materials, refractory materials

Application-Magnesium Carbonate

Pharmaceutical industry / food industry / rubber industry / building materials / new energy industry / electronics industry / paper industry / cosmetics industry / other fields

Application Scenario

Antacids, stomach ulcer treatment drugs laxative
Pharmaceutical excipients (tablet/capsule fillers)

Flour improver
Bread bulking agent
Magnesium supplements (nutraceuticals)

Tyres, seals, rubber balls Transparent rubber products (e.g. sports equipment)

Lnsulating materials for electronic components
Liquid crystal glass, microcrystalline glass (mobile phone screen)

High-grade paper, printing paper Foundation, eye shadow, toothpaste

Fireproof panels, lightweight wall panels
Refractory coatings, insulation materials

Lithium-ion batteries
Thin Film Solar Cells
Energy storage material precursors

Sports non-slip powder (rock climbing/weightlifting)
Ink, ceramic glaze, aquaculture water treatment agent

Cobalt/nickel precipitation agent

Higher purity

The cobalt hydroxide obtained by refining cobalt with magnesium oxide has a higher purity, which is beneficial to reduce the loss during production during secondary processing, improve production quality, and greatly save production costs.

Finer particle size

The magnesium oxide used for cobalt precipitation has finer particle size and all index values are better than those of similar magnesium oxide manufacturers. The advantage of magnesium oxide particle size will also promote the purification efficiency of cobalt ore and improve production efficiency.

Low content of calcium, iron and chloride, and fewer impurities

The magnesium oxide used in cobalt precipitation has lower content of calcium oxide, iron ions and chlorides than other products of the same industry, and has fewer impurities, which can make the cobalt precipitation process and production process more stable.

The cobalt content in the tail liquid after purification is low

Magnesium oxide is used for cobalt precipitation. In the process of purifying cobalt ore, the purification conversion rate is high and the residual cobalt content in the tail liquid is low. At the same time, no new impurities and harmful substances will be introduced in the entire production process, and the environmental protection performance is better.

Common Fields

Magnesium oxide/Magnesium hydroxide/Magnesium carbonate

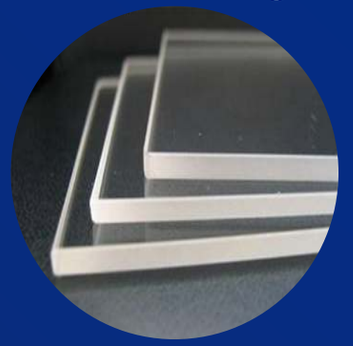
Food and Medicine

Battery Materials

Military Industry

Electronic Ceramics

Glass Industry



Besides, it can also be used in enamel oil, talc, ink, acid-base regulator, fungicide, desiccant, catalyst, adsorbent, decolourant, silicone steel coating, magnesium stearate, magnesium fluoride, sporting goods, ink and so on.

04

CHAPTER

R&D Strength

- R&D Innovation
- Enterprise Qualification

Zehui Team

Zehui Group has brought together a high-quality and innovative core team, with the values of "technology-led, green responsibility, collaborative win-win", driving the innovation and development of the magnesium-based new materials industry. The group's management is led by industry elites with a global vision, and the technical team is mainly composed of doctors and masters. They are deeply engaged in the research and development of high-purity magnesium-based materials and green process innovation, breaking through many industry bottlenecks. The backbone of the business covers the entire chain of production, marketing, and services, and uses "craftsmanship quality" to create product competitiveness and "customer-oriented" to build a global cooperation network. The team adheres to the culture of "openness, tolerance, and pursuit of excellence", stimulates the potential of talents through industry-university-research collaboration and equity incentives, and continues to empower the military industry, new energy, environmental protection, high-end manufacturing and other fields. It practices sustainable development with responsibility and helps the group move towards the goal of becoming a global leader in magnesium-based new materials.

Scientific research and innovation

Zehui Foundation's R&D team is composed of doctors, masters and senior engineers from the world's top universities and research institutions. They focus on cutting-edge R&D and performance optimization in the field of magnesium compounds with technological innovation as the core driving force, accurately overcome process difficulties, and design high value-added products based on customer needs. By building a local and international dual-track talent system, we continue to attract top technical talents, work with global expert teams to share cutting-edge concepts, promote the rapid transformation and cross-border application of technological achievements, and consolidate the company's leading position in the field of magnesium materials with an open innovation ecosystem, enabling industry technological innovation.

R&D Base

The R&D center is located on the bank of Taihu Lake, in a national-level science and technology industrial park, covering an area of more than 5,000 square meters.

Talent advantage

We have established three joint laboratories with the National Center for Nanoengineering, Yangzhou University, and Jiangnan University, with a total of 20 doctors, 50 graduate students, and more than 100 professional engineering and technical personnel.

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Enterprise Qualification

Guided by the group's goals, it has won many provincial and national honorary titles, and has been selected as a "high-tech enterprise", "private technology enterprise", "specialized and new enterprise" and "national technology-based small and medium-sized enterprises".

The production center has been awarded "ISO9001 quality management system certification", "ISO1400 environmental management system certification", "occupational health and safety management system certification" and so on.

05

CHAPTER

Partners

Partners

BAYER

彩虹集团

南玻集团

中国中车 CRRC

SAMSUNG

BASF
The Chemical Comoany

東旭集团
TUNGHSU GROUP

DUPONT®

Global magnesium compound full industry chain service provider

ZEHUI GROUP