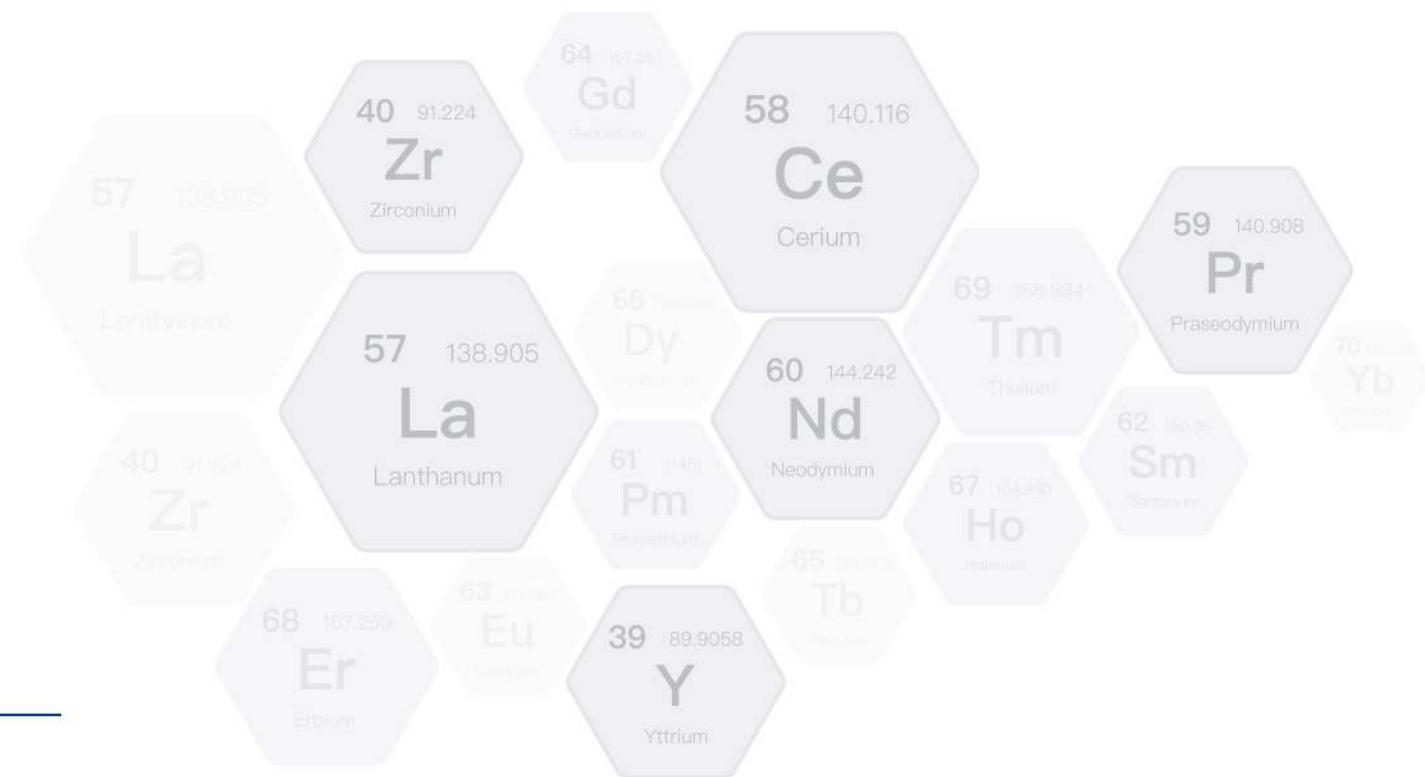


纳天地元素之华  
铸稀土精工至臻

# FROM ELEMENTS TO EXCELLENCE

TAILORED RARE EARTH PRODUCTS  
ACROSS DIVERSE APPLICATIONS





【巍然落子峨眉福地，坐观乐山大佛凌云】  
沃耐稀传承文明之舵，扬科技智造之帆，诚邀您共启稀土精工的璀璨华章。

Positioned at Mount Emei, overlooking Leshan Giant Buddha, Wonaixi carries on cultural heritage and advances smart manufacturing. Join us in exploring the brilliance of rare-earth precision engineering.

# *TAILORED RARE EARTH PRODUCTS ACROSS DIVERSE APPLICATIONS*

提供定制化稀土产品解决方案，广泛适用于多元化应用场景



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# COMPANY PROFILE

## 企业简介



## 15,000<sup>+</sup>

年产高纯稀土盐(吨)



## 3,000<sup>+</sup>

年产光学抛光粉(吨)

四川沃耐稀新材料科技有限公司自2012年成立以来，持续深耕稀土功能材料领域的研发与生产，是“国家高新技术企业”、四川省“专精特新企业”，并现拥有年产15,000吨高纯稀土盐类及3,000吨稀土精密抛光粉的专业化生产线。

公司产品涵盖了稀土硝酸盐、醋酸盐、硫酸盐、氢氧化物、氟化物、氯化物、碳酸盐、抛光粉等九大类稀土产品及钨盐共超过50种品类，广泛应用于国防军工、航空航天、医药、电子、新能源、三元催化、环保、精密光学抛光等多个领域，满足细分领域客户的多样化需求。

Established in 2012, Sichuan Wonaixi New Materials Technology Co., Ltd. has consistently focused on the research, development, and production of rare earth functional materials. Recognized as a "National High-Tech Enterprise" and designated as a "Specialized, Refined, Unique, and Innovative Enterprise" in Sichuan Province, the company operates specialized production lines with an annual capacity of 15,000 tons of high-purity rare earth salts and 3,000 tons of precision rare earth polishing powder.

The product range covers nine major categories of rare earth products—including nitrates, acetates, sulfates, hydroxides, fluorides, chlorides, carbonates, polishing powders—along with zirconium salts, totaling over 50 specialized variants. These materials are extensively applied in defense systems, aerospace engineering, pharmaceutical manufacturing, electronics, new energy technologies, three-way catalysis, environmental protection, and precision optical polishing, addressing diverse demands of clients in specialized industrial sectors.



## 50<sup>+</sup>

以稀土为笔，13 年绘就 50 + 产品图谱，  
从汽车尾气净化到多领域覆盖，驱动无限可能！

国家级高新  
技术企业

专精特新  
企业

国家科技型  
企业

沃耐稀始终坚持以优质生产力助力企业发展，引进国际先进设备，全面打造数智化生产线。从原材料采购到产品交付，全程严格按ISO9001质量管理体系管控。经过十余年的市场深耕，我们的产品在市场占有率处于行业领先地位。不断开拓国际市场，产品足迹遍及超过20个国家，与多家世界500强企业建立稳定合作。

我们的产品以可靠的质量和卓越的性能赢得了国际市场的广泛赞誉与客户的信赖，期待成为您值得信赖的伙伴！

Committed to smart manufacturing excellence, we integrate globally advanced equipment with digitalized production systems. Every process—from raw material sourcing to final delivery—strictly adheres to ISO 9001 quality standards. With over a decade of market expertise, we hold the industry-leading domestic market share and export to over 20 countries, partnering with Fortune 500 companies worldwide.

Renowned for uncompromising quality and superior performance, our products have earned global acclaim. We strive to be your trusted partner in advancing technological frontiers. Precision Engineered. Globally Trusted.



# OUR STORY

## 我们的故事



研发

Research and Development



生产

Production



销售

Sales



服务

Services

沃耐稀的领导团队是一群躬身探索的先行者，自 20 世纪 90 年代起便投身于初级稀土产品的生产。从最初的化学方法到如今串级萃取分离技术的广泛应用，从简陋斑驳的老旧车间到高度智能化的自动化工厂，我们亲历了中国稀土冶炼分离的早期发展进程。然而，随着稀土应用领域的不断拓展，我们逐渐意识到，常规的稀土分离产品在纯度或特性上难以满足下游细分领域的需求，往往需要经过国外制造商的深加工才能实现更高效的利用。面对这一挑战，团队创始人杨青先生毅然决定从稀土分离领域转型，投身于高品质稀土功能材料前驱体的研究与生产，并汇聚了一批志同道合的伙伴组建了如今充满活力与创新精神的沃耐稀团队。

2012年，我们在西南的一处千平旧舍中起步。彼时，我们的产品仅聚焦于车用催化剂领域的硝酸铈铵与氢氧化铈。然而，十三载光阴如梭，我们以不懈的追求和匠心精神，铸就了年产15000吨稀土高纯盐类的现代化生产线，以及年产3000吨光学抛光粉的专业产线。如今，我们的产品体系已涵盖超50种稀土元素产品及精密光学抛光粉，成为国内稀土精加工行业产品最丰富和技术最领先的企业之一。从催化、环保到医学，从新能源开发到精密光学抛光等领域，我们的业务已覆盖多个战略性产业。

The leadership team of Wonaixi comprises pioneering explorers who have been producing primary rare earth products since the 1990s. From rudimentary chemical methods to today's ubiquitous cascade extraction technology, and from dilapidated workshops to fully automated smart factories, we have chronicled the formative evolution of China's rare earth smelting and separation industry. As rare earth applications expanded, we recognized that standard separations struggled to meet the purity and functional specifications demanded by niche downstream markets, frequently necessitating reprocessing by overseas manufacturers to enhance efficiency. Confronting this bottleneck, Mr. Yang Qing, the team's founder, spearheaded a strategic transition from conventional separation to pioneering research and production of premium rare earth functional material precursors. By mobilizing industry professionals who shared this vision, he forged today's agile and innovation-driven Wonaixi team.

In 2012, we embarked on our journey in a modest 1,000-square-meter building located in southwest China. At that time, we primarily focused on producing ammonium cerium nitrate and cerium hydroxide for automotive catalysts. Thirteen years have passed swiftly. With our unrelenting pursuit of excellence and craftsmanship, we have established a modern production line with an annual capacity of 15,000 tons of high-purity rare earth salts, as well as a specialized line producing 3,000 tons of optical polishing powders annually. Today, our product portfolio encompasses over 50 types of rare earth element products and precision optical polishing powders, making us one of the most product-diversified and technologically-leading enterprises in China's rare earth precision processing industry. Our business now spans multiple strategic sectors, including catalysis, environmental protection, pharmaceuticals, new energy development, and precision optical polishing.



杨青

Yang Qing

公司创始人、董事长兼总经理

The corporate founder Chairman of the Board & Managing Director

## 纳天地元素之华，铸稀土精工至臻



“纳天地元素之华，铸稀土精工至臻”是沃耐稀公司一直专注的事业，我们聚同道之仕，携手并肩将梦想的种子深植于岁月沃土。展望中国稀土产业之未来，必将霞光万道。届时仰望星空，我们必将笑容灿烂因为那璀璨星河中定有属于沃耐稀独一无二的闪耀光芒。

"From Elements to Excellence, Tailored Rare Earth Products Across Diverse Applications" remains the mission that Wonaixi has always cherished. Together with our like-minded colleagues, we plant the seeds of our dreams in the fertile soil of time. As we look ahead to the future of China's rare earth industry, we envision it glowing with brilliant promise. When we gaze up at the starry sky, we will surely smile warmly, knowing that within that radiant galaxy lies a unique and shining light that belongs exclusively to Wonaixi.



# INNOVATION & RESEARCH

## 科技与研发

我们秉持技术革新与卓越品质的理念，  
以成为全球稀土制造领域的先驱者为目标而不懈努力。

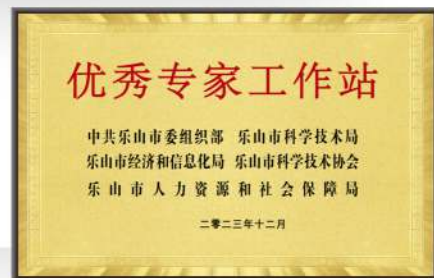


自成立以来，本公司荣获 “国家级高新技术企业” “专精特新企业” “国家科学技术企业” 等荣誉，至今已取得 41 项发明专利和实用新型专利。

本公司积极推进自主研发与协同创新的双重战略，与成都理工大学、四川轻化工大学等高等院校建立了密切的合作关系。构建了 “省级企业技术中心” “优秀专家工作站” “校企合作与创新基地” 等一体化科技创新平台并持续建设完善。

Since its establishment, our company has been honored as a "National High - tech Enterprise", a "Specialized and Sophisticated Enterprise", and a "National Science and Technology Enterprise". Up to now, we have obtained 41 invention patents and utility model patents.

Our company actively promotes a dual - strategy of independent research and development and collaborative innovation. We have established close cooperative relationships with institutions of higher learning such as Chengdu University of Technology and Sichuan University of Science and Engineering. We have built an integrated scientific and technological innovation platform including a "Provincial - level Enterprise Technology Center", an "Outstanding Expert Workstation", and a "University - Enterprise Cooperation and Innovation Base", and continue to build and improve it.



### 知识管理体系认证证书



### 质量管理体系认证



# 41<sup>+</sup>

发明专利和实用新型专利

多项科学技术成果获得 “国内最先进水平” 的评价，荣获了由国家工业和信息化部颁发的 “科学技术成果登记证明书”。

多项科学技术成果被纳入 “中国制造2025四川行动计划”。



### 部分专利展示





## 氧化镧 (Lanthanum Oxide)

稀土氧化物

- Formula:  $\text{La}_2\text{O}_3$
- CAS: 1312-81-8
- Mol.wt.325.8
- Lanthanum Oxide

### 技术指标 (Specification)

第十三版

| Code                                                      | LO-3.5N | LO-4N  | LO-5N   |
|-----------------------------------------------------------|---------|--------|---------|
| TREO%                                                     | ≥98     | ≥98    | ≥98     |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |         |        |         |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                    | ≥99.95  | ≥99.99 | ≥99.999 |
| $\text{CeO}_2/\text{TREO} \%$                             | <0.02   | <0.004 | <0.0004 |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                 | <0.01   | <0.002 | <0.0002 |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                    | <0.01   | <0.002 | <0.0002 |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                    | <0.005  | <0.001 | <0.0001 |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                     | <0.005  | <0.001 | <0.0001 |
| 非稀土杂质 (Non rare earth impurities)                         |         |        |         |
| Ca %                                                      | <0.05   | <0.03  | <0.0002 |
| Fe %                                                      | <0.005  | <0.005 | <0.0002 |
| Na %                                                      | <0.01   | <0.005 | <0.0001 |
| K %                                                       | <0.001  | <0.001 | <0.0001 |
| Pb %                                                      | <0.003  | <0.002 | <0.0002 |
| Al %                                                      | <0.01   | <0.01  | <0.0001 |
| $\text{SiO}_2 \%$                                         | <0.02   | <0.01  | <0.003  |
| Cl <sup>-</sup> %                                         | <0.08   | <0.06  | <0.01   |
| $\text{SO}_4^{2-} \%$                                     | <0.08   | <0.06  | <0.01   |

### 说明 (Description)

白色粉末，不溶于水，可溶于酸。极易吸潮，能迅速吸收空气中的水份和二氧化碳，应置于密封容器内。

White powder, insoluble in water, soluble in acids, As it is highly hygroscopic and absorb the moisture and carbon dioxide from air rapidly, it should be kept in sealed containers.

### 用途 (Uses)

供玻璃，陶瓷和电子工业用。

Used as the raw material of the industries of glass, ceramics and electronics.



## 氧化铈 (Cerium Oxide)

稀土氧化物

- Formula:  $\text{CeO}_2$
- CAS: 1306-38-3
- Mol.wt.172.12
- Cerium Oxide

### 技术指标 (Specification)

第十三版

| Code                                                          | CO-3.5N | CO-4N  |
|---------------------------------------------------------------|---------|--------|
| TREO%                                                         | ≥99     | ≥99    |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |         |        |
| $\text{CeO}_2/\text{TREO} \%$                                 | ≥99.95  | ≥99.99 |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                        | <0.02   | <0.004 |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                     | <0.01   | <0.002 |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                        | <0.01   | <0.002 |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                        | <0.005  | <0.001 |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                         | <0.005  | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                             |         |        |
| Ca %                                                          | <0.01   | <0.005 |
| Fe %                                                          | <0.003  | <0.002 |
| Na %                                                          | <0.005  | <0.005 |
| Pb %                                                          | <0.005  | <0.003 |
| Al %                                                          | <0.005  | <0.003 |
| $\text{SiO}_2 \%$                                             | <0.02   | <0.01  |
| Cl <sup>-</sup> %                                             | <0.08   | <0.06  |
| $\text{SO}_4^{2-} \%$                                         | <0.05   | <0.03  |
| 外观颜色                                                          | 淡黄色粉末   |        |

### 说明 (Description)

淡黄色粉末，不溶于水和微溶于酸。

light yellow powder, insoluble in water and slightly soluble in acid.

### 用途 (Uses)

用于玻璃脱色剂，玻璃抛光剂，也是制备金属铈的原料。高纯度氧化铈在稀土发光材料中有重要应用。

Mainly used as the glass decolorizing agent and the glass polishing powder. Also used as the raw material in making metal cerium. High purity Cerium dioxide is very important in the applications of rare earth fluorescent materials.



大粒径氧化铈 (Large Particle Size Cerium Oxide)

稀土氧化物

- Formula: CeO<sub>2</sub>

• CAS: 1306-38-3

• Mol.wt.172.12

• Large Particle Size Cerium Oxide

技术指标 (Specification)

第十三版

| Code                                                          | CO-3.5N(LP) | CO-4N(LP) |
|---------------------------------------------------------------|-------------|-----------|
| TREO%                                                         | ≥99         | ≥99       |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |             |           |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95      | ≥99.99    |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02       | <0.004    |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01       | <0.002    |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01       | <0.002    |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005      | <0.001    |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005      | <0.001    |
| 非稀土杂质 (Non rare earth impurities)                             |             |           |
| Ca %                                                          | <0.005      | <0.003    |
| Fe %                                                          | <0.003      | <0.002    |
| Na %                                                          | <0.003      | <0.002    |
| K %                                                           | <0.002      | <0.001    |
| Pb %                                                          | <0.003      | <0.002    |
| Al %                                                          | <0.01       | <0.01     |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.01       | <0.01     |
| D <sub>50</sub>                                               | 25~50μm     | 25~50μm   |
| 外观颜色                                                          | 淡黄色粉末       |           |

说明 (Description)

淡黄色粉末，不溶于水和微溶于酸。  
light yellow powder, insoluble in water and slightly soluble in acid.

用途 (Uses)

用于玻璃脱色剂，玻璃抛光剂，也是制备金属铈的原料。高纯度氧化铈在稀土发光材料中有重要应用。  
Mainly used as the glass decolorizing agent and the glass polishing powder. Also used as the raw material in making metal cerium. High purity Cerium dioxide is very important in the applications of rare earth fluorescent materials.



氯化镧 (Lanthanum Chloride)

稀土氯化物

- Formula: LaCl<sub>3</sub> · 7H<sub>2</sub>O

• CAS: 10025-84-0

• Mol.wt.371.5

• Lanthanum Chloride Heptahydrate

技术指标 (Specification)

第十三版

| Code                                                      | LL-3.5N | LL-4N   |
|-----------------------------------------------------------|---------|---------|
| TREO%                                                     | ≥43     | ≥43     |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |         |         |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.95  | ≥99.99  |
| CeO <sub>2</sub> /TREO %                                  | <0.02   | <0.004  |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.01   | <0.002  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.01   | <0.002  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.001  | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.001  | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                         |         |         |
| Ca %                                                      | <0.01   | <0.005  |
| Fe %                                                      | <0.005  | <0.002  |
| Na %                                                      | <0.001  | <0.0005 |
| K %                                                       | <0.001  | <0.0005 |
| Pb %                                                      | <0.003  | <0.001  |
| Al %                                                      | <0.005  | <0.003  |
| SO <sub>4</sub> <sup>2-</sup> %                           | <0.03   | <0.03   |
| NTU                                                       | <10     | <10     |
| 外观颜色                                                      | 无色透明晶体  |         |

说明 (Description)

无色粒状结晶，溶于水。  
Colorless lump-like crystal, soluble in water.

用途 (Uses)

作石油化工催化剂，可用于污水治理、也可用来生产金属镧。  
Used as a petrochemical catalyst, for sewage treatment,and in the production of lanthanum metal.



氯化铈 (Cerium Chloride)

稀土氯化物

- Formula:  $\text{CeCl}_3 \cdot 7\text{H}_2\text{O}$

• CAS: 18618-55-8
- Mol.wt.372.6

• Cerium Chloride Heptahydrate

技术指标 (Specification)

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| Code                                                          | CL-3.5N | CL-4N  |
|---------------------------------------------------------------|---------|--------|
| TREO%                                                         | ≥45.5   | ≥45.5  |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |         |        |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95  | ≥99.99 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02   | <0.004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01   | <0.002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01   | <0.002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005  | <0.001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005  | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                             |         |        |
| Ca %                                                          | <0.005  | <0.002 |
| Fe %                                                          | <0.005  | <0.002 |
| Na %                                                          | <0.005  | <0.002 |
| K %                                                           | <0.002  | <0.001 |
| Pb %                                                          | <0.002  | <0.001 |
| Al %                                                          | <0.005  | <0.003 |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.03   | <0.03  |
| NTU                                                           | <10     | <10    |
| 外观颜色                                                          | 无色透明晶体  |        |

说明 (Description)

无色粒状结晶，溶于水。

Colorless lump-like crystal, soluble in water.

用途 (Uses)

用于制造石油化工催化剂，也可用来制造金属铈和铈的其它化合物。

Used to manufacture petrol-chem catalyst, also used to make into cerium metal and other compounds of cerium.



氯化镨 (Praseodymium Chloride)

稀土氯化物

- Formula:  $\text{PrCl}_3 \cdot 6\text{H}_2\text{O}$

• CAS: 10025-90-8
- Mol.wt.444.62

• Praseodymium Chloride Heptahydrate

技术指标 (Specification)

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| Code                                                                | PL-2.5N | PL-3N  |
|---------------------------------------------------------------------|---------|--------|
| TREO%                                                               | ≥47     | ≥47    |
| 镨纯度与相关稀土杂质 (Praseodymium purity and relative rare earth impurities) |         |        |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                             | ≥99.5   | ≥99.9  |
| La <sub>2</sub> O <sub>3</sub> /TREO %                              | <0.05   | <0.01  |
| CeO <sub>2</sub> /TREO %                                            | <0.05   | <0.03  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                              | <0.35   | <0.04  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                              | <0.03   | <0.01  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                               | <0.01   | <0.005 |
| 非稀土杂质 (Non rare earth impurities)                                   |         |        |
| Ca %                                                                | <0.01   | <0.005 |
| Fe %                                                                | <0.003  | <0.002 |
| Na %                                                                | <0.01   | <0.005 |
| K %                                                                 | <0.003  | <0.002 |
| Pb %                                                                | <0.003  | <0.002 |
| Al %                                                                | <0.01   | <0.005 |
| SO <sub>4</sub> <sup>2-</sup> %                                     | <0.02   | <0.02  |
| NTU                                                                 | <20     | <20    |
| 外观颜色                                                                | 绿色晶体    |        |

说明 (Description)

绿色结晶体，溶于水。

Green crystal, soluble in water.

用途 (Uses)

用于制造石油化工催化剂，也可用来制造金属镨和镨的其它化合物。

Used to manufacture petrol-chem catalyst, also used to make into Praseodymium metal and other compounds of Praseodymium.



氯化钕 (Neodymium Chloride)

稀土氯化物

- Formula:  $\text{NdCl}_3 \cdot 6\text{H}_2\text{O}$

• CAS:13477-89-9
- Mol.wt.358.69

• Neodymium(III) Chloride Hexahydrate

技术指标 (Specification)

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| Code                                                      | NL-2.5N | NL-3N  | NL-3.5N |
|-----------------------------------------------------------|---------|--------|---------|
| TREO%                                                     | ≥46     | ≥46    | ≥46     |
| 钕纯度与相关稀土杂质 (Nd purity and relative rare earth impurities) |         |        |         |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.5   | ≥99.9  | ≥99.95  |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.1    | <0.02  | <0.01   |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.2    | <0.05  | <0.03   |
| CeO <sub>2</sub> /TREO %                                  | <0.1    | <0.01  | <0.005  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.05   | <0.01  | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.05   | <0.01  | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                         |         |        |         |
| Ca %                                                      | <0.0055 | <0.003 | <0.002  |
| Fe %                                                      | <0.003  | <0.002 | <0.001  |
| Na %                                                      | <0.003  | <0.002 | <0.001  |
| K %                                                       | <0.001  | <0.001 | <0.001  |
| Pb %                                                      | <0.003  | <0.002 | <0.001  |

说明 (Description)

紫色晶体溶于水。  
Purple crystals, soluble in water.

用途 (Uses)

科研试剂、生化研究以及医药中间体。  
research reagents, biochemical research and medicine intermediate.



氯化钇 (Yttrium Chloride)

稀土氯化物

- Formula:  $\text{YCl}_3 \cdot 6\text{H}_2\text{O}$

• CAS: 10025-94-2
- Mol.wt.303.26

• Yttrium (III) Chloride Hexahydrate

技术指标 (Specification)

第十三版

| Code                                                           | YL-4N  | YL-5N   |
|----------------------------------------------------------------|--------|---------|
| TREO%                                                          | ≥36    | ≥36     |
| 钇纯度与相关稀土杂质 (Yttrium purity and relative rare earth impurities) |        |         |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                          | ≥99.99 | ≥99.999 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.004 | <0.0004 |
| CeO <sub>2</sub> /TREO %                                       | <0.002 | <0.0002 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                        | <0.002 | <0.0002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.001 | <0.0001 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.001 | <0.0001 |
| 非稀土杂质 (Non rare earth impurities)                              |        |         |
| Ca %                                                           | <0.002 | <0.001  |
| Fe %                                                           | <0.002 | <0.001  |
| Na %                                                           | <0.002 | <0.001  |
| K %                                                            | <0.002 | <0.001  |
| Pb %                                                           | <0.002 | <0.001  |
| Zn %                                                           | <0.002 | <0.001  |

说明 (Description)

白色结晶体，溶于水。  
White crystals, soluble in water.

用途 (Uses)

用于制造催化剂，也可用来制备钇的其它化合物。  
Used to manufacture catalyst, also used to make into other compounds of Yttrium.



氯化铒 (Erbium Chloride)

稀土氯化物

- Formula: ErCl<sub>3</sub> · 6H<sub>2</sub>O

• CAS: 10025-75-9

• Mol.wt.381.71

• Erbium (III) Chloride Hexahydrate

技术指标 (Specification)

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| Code                                                          | EL-2.5N | EL-3N  |
|---------------------------------------------------------------|---------|--------|
| TREO%                                                         | >49     | >49    |
| 铒纯度与相关稀土杂质 (Erbium purity and relative rare earth impurities) |         |        |
| Er <sub>2</sub> O <sub>3</sub> /TREO %                        | ≥99.5   | ≥99.9  |
| Dy <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.05   | <0.005 |
| Ho <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.05   | <0.005 |
| Tm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.1    | <0.01  |
| Yb <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.1    | <0.02  |
| Lu <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.1    | <0.02  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.1    | <0.04  |
| 非稀土杂质 (Non rare earth impurities)                             |         |        |
| Ca %                                                          | <0.005  | <0.003 |
| Fe %                                                          | <0.003  | <0.002 |
| Na %                                                          | <0.005  | <0.003 |
| K %                                                           | <0.003  | <0.002 |
| Pb %                                                          | <0.003  | <0.002 |
| Zn %                                                          | <0.003  | <0.002 |

说明 (Description)

粉色结晶体，溶于水

Pink crystals, soluble in water

用途 (Uses)

用于制备高精度光学元件，也可以作为制造其他铒基材料的前驱体。

Used for preparing high-precision optical components and can also serve as precursors for manufacturing other erbium based materials.



无水氯化镧 (Anhydrous Lanthanum Chloride)

稀土氯化物

- Formula: LaCl<sub>3</sub>

• CAS: 10099-58-8

• Mol.wt.245.26

• Anhydrous Lanthanum Chloride

技术指标 (Specification)

第十三版

| Code                                                      | ALL-3.5N | ALL-4N |
|-----------------------------------------------------------|----------|--------|
| TREO%                                                     | ≥65.5    | ≥65.5  |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |          |        |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.95   | ≥99.99 |
| CeO <sub>2</sub> /TREO %                                  | <0.02    | <0.004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.01    | <0.002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.01    | <0.002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.005   | <0.001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.005   | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                         |          |        |
| Ca %                                                      | <0.01    | <0.005 |
| Fe %                                                      | <0.005   | <0.003 |
| Na %                                                      | <0.005   | <0.003 |
| K %                                                       | <0.003   | <0.002 |
| Pb %                                                      | <0.003   | <0.002 |
| Al %                                                      | <0.005   | <0.005 |
| H <sub>2</sub> O %                                        | <0.5     | <0.5   |
| 水不溶物 %                                                    | <0.3     | <0.3   |
| 外观颜色                                                      | 白色粉末     |        |

说明 (Description)

白色粉末，溶于水。

White powder, soluble in water.

用途 (Uses)

可用于制取金属镧和石油催化剂原料，还可用于贮氢电池材料，医药中间体。

It can be used to produce lanthanum metal, petroleum catalyst and hydrogen storage cell materials and medicine intermediate.



无水氯化铈 (Anhydrous Cerium Chloride)

稀土氯化物

- Formula: CeCl<sub>3</sub>

• CAS: 7790-86-5

• Mol.wt.246.47

• Anhydrous Cerium(III) Chloride

技术指标 (Specification)

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| Code                                                          | ACL-3.5N | ACL-4N |
|---------------------------------------------------------------|----------|--------|
| TREO%                                                         | ≥69      | ≥69.5  |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |          |        |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95   | ≥99.99 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02    | <0.004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01    | <0.002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01    | <0.002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005   | <0.001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005   | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                             |          |        |
| Ca %                                                          | <0.005   | <0.003 |
| Fe %                                                          | <0.005   | <0.003 |
| Na %                                                          | <0.003   | <0.002 |
| K %                                                           | <0.003   | <0.002 |
| Pb %                                                          | <0.003   | <0.002 |
| Al %                                                          | <0.005   | <0.005 |
| H <sub>2</sub> O %                                            | <0.5     | <0.5   |
| 水不溶物 %                                                        | <0.3     | <0.3   |
| 外观颜色                                                          | 白色粉末     |        |

说明 (Description)

白色粉末，溶于水。  
White powder, soluble in water.

用途 (Uses)

用于制造石油化工催化剂，也可用来制造金属铈和铈的其它化合物以及医药中间体。  
Used to manufacture petrol-chem catalyst, also used to make into cerium metal and other compounds of cerium and medicine intermediate.



无水氯化钕 (Anhydrous Neodymium Chloride)

稀土氯化物

- Formula: NdCl<sub>3</sub>

• CAS:10024-93-8

• Mol.wt.250.60

• Anhydrous Neodymium Chloride

技术指标 (Specification)

第十三版

| Code                                                      | ANL-2.5N | ANL-3.5N |
|-----------------------------------------------------------|----------|----------|
| TREO%                                                     | ≥66.5    | ≥66.5    |
| 钕纯度与相关稀土杂质 (Nd purity and relative rare earth impurities) |          |          |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.5    | ≥99.95   |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.1     | <0.01    |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.2     | <0.03    |
| CeO <sub>2</sub> /TREO %                                  | <0.1     | <0.005   |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.05    | <0.001   |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.05    | <0.001   |
| 非稀土杂质 (Non rare earth impurities)                         |          |          |
| Ca %                                                      | <0.005   | <0.003   |
| Fe %                                                      | <0.005   | <0.003   |
| Na %                                                      | <0.005   | <0.003   |
| K %                                                       | <0.003   | <0.002   |
| Pb %                                                      | <0.003   | <0.002   |
| Al %                                                      | <0.005   | <0.005   |
| H <sub>2</sub> O %                                        | <0.5     | <0.5     |
| 水不溶物 %                                                    | <0.3     | <0.3     |
| 外观颜色                                                      | 紫色粉末     |          |

说明 (Description)

紫色粉末，溶于水。  
Purple powder, soluble in water.

用途 (Uses)

科研试剂、生化研究以及医药中间体。  
Research reagents, biochemical research and medicine intermediate.



碳酸镧 (Lanthanum Carbonate)

稀土碳酸盐

- Formula:  $\text{La}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$
- CAS:54451-24-0
- Mol.wt.457.85 (anhydrous basis)
- Lanthanum Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                      | LC-3.5N | LC-4N  |
|-----------------------------------------------------------|---------|--------|
| TREO%                                                     | ≥45     | ≥45    |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |         |        |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.95  | ≥99.99 |
| CeO <sub>2</sub> /TREO %                                  | <0.02   | <0.004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.01   | <0.002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.01   | <0.002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.005  | <0.001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.005  | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                         |         |        |
| Ca %                                                      | <0.05   | <0.03  |
| Fe %                                                      | <0.005  | <0.002 |
| Na %                                                      | <0.005  | <0.003 |
| K %                                                       | <0.002  | <0.001 |
| Pb %                                                      | <0.002  | <0.001 |
| Al %                                                      | <0.01   | <0.01  |
| SiO <sub>2</sub> %                                        | <0.02   | <0.01  |
| Cl <sup>-</sup> %                                         | <0.05   | <0.03  |
| SO <sub>4</sub> <sup>2-</sup> %                           | <0.05   | <0.03  |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

主要用作镧的中间化合物，可作为氯化镧，氧化镧的原料。  
Used in making Catalyst for cleaning automotive exhaust gas and also can be made into cerium metal, cerium oxide and other compounds of cerium.



高纯碳酸镧 (High Purity Lanthanum Carbonate)

稀土碳酸盐

- Formula:  $\text{La}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$
- CAS:6487-39-4
- Mol.wt.457.85 (anhydrous basis)
- High Purity Cerium Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                             | GLC-4N  | GLC-5N  |
|------------------------------------------------------------------|---------|---------|
| TREO%                                                            | ≥45     | ≥45     |
| 镧纯度与相关稀土杂质 (Lanthanum purity and relative rare earth impurities) |         |         |
| La <sub>2</sub> O <sub>3</sub> /TREO %                           | ≥99.99  | ≥99.999 |
| CeO <sub>2</sub> /TREO %                                         | <0.004  | <0.0004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                          | <0.002  | <0.0002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                           | <0.002  | <0.0002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                           | <0.001  | <0.0001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                            | <0.001  | <0.0001 |
| 非稀土杂质 (Non rare earth impurities)                                |         |         |
| Ca %                                                             | <0.0001 | <0.0001 |
| Fe %                                                             | <0.0001 | <0.0001 |
| Na %                                                             | <0.0001 | <0.0001 |
| K %                                                              | <0.0001 | <0.0001 |
| Pb %                                                             | <0.0001 | <0.0001 |
| Al %                                                             | <0.0001 | <0.0001 |
| SiO <sub>2</sub> %                                               | <0.001  | <0.001  |
| Cl <sup>-</sup> %                                                | <0.005  | <0.005  |
| SO <sub>4</sub> <sup>2-</sup> %                                  | <0.01   | <0.01   |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于制造汽车尾气净化催化剂，也是制取镧和其他化合物的中间体。  
Used in making Catalyst for cleaning automotive exhaust gas and also can be made into Lanthanum metal, Lanthanum oxide and other compounds of Lanthanum.



碳酸铈 (Cerium Carbonate)

稀土碳酸盐

- Formula:  $\text{Ce}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$

• CAS:54451-25-1

• Mol.wt. 460.26 (anhydrous basis)

• Cerium Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                          | CC-3.5N       | CC-4N  |
|---------------------------------------------------------------|---------------|--------|
| TREO%                                                         | ≥46           | ≥46    |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |               |        |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95        | ≥99.99 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02         | <0.004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01         | <0.002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01         | <0.001 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005        | <0.001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005        | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                             |               |        |
| Ca %                                                          | <0.01         | <0.005 |
| Fe %                                                          | <0.005        | <0.003 |
| Na %                                                          | <0.008        | <0.005 |
| K %                                                           | <0.003        | <0.001 |
| Pb %                                                          | <0.003        | <0.001 |
| Al %                                                          | <0.005        | <0.005 |
| Si %                                                          | <0.010        | <0.010 |
| Cl <sup>-</sup> %                                             | <0.030        | <0.030 |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.030        | <0.030 |
| NTU                                                           | <20           | <20    |
| 油份                                                            | 硝酸溶解后溶液面无明显油份 |        |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于制造汽车尾气净化催化剂，也是制取铈和其他化合物的中间体。  
Used in making Catalyst for cleaning automotive exhaust gas and also can be made into cerium metal, cerium oxide and other compounds of cerium.



大粒径碳酸铈 (Large Particle Size Cerium Carbonate)

稀土碳酸盐

- Formula:  $\text{Ce}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$

• CAS:54454-25-1

• Mol.wt. 460.26 (anhydrous basis)

• Large Particle Size Cerium Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                          | DLCC-3.5N(LP) | DLCC-4N(LP) |
|---------------------------------------------------------------|---------------|-------------|
| TREO%                                                         | ≥48           | ≥48         |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |               |             |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95        | ≥99.99      |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02         | <0.004      |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01         | <0.002      |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01         | <0.002      |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005        | <0.001      |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005        | <0.001      |
| 非稀土杂质 (Non rare earth impurities)                             |               |             |
| Ca %                                                          | <0.002        | <0.001      |
| Fe %                                                          | <0.002        | <0.001      |
| Na %                                                          | <0.002        | <0.001      |
| Pb %                                                          | <0.002        | <0.001      |
| Mn %                                                          | <0.001        | <0.0005     |
| Mg %                                                          | <0.001        | <0.0005     |
| Al %                                                          | <0.002        | <0.001      |
| SiO <sub>2</sub> %                                            | <0.005        | <0.002      |
| Cl <sup>-</sup> %                                             | <0.005        | <0.005      |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.02         | <0.02       |
| D <sub>50</sub>                                               | 70~100μm      | 70~100μm    |
| NTU                                                           | <10           | <10         |
| 油份                                                            | 硝酸溶解后溶液面无明显油份 |             |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于制造汽车尾气净化催化剂，也是制取铈和其他化合物的中间体。  
Used in making Catalyst for cleaning automotive exhaust gas and also can be made into cerium metal, cerium oxide and other compounds of cerium.



高纯碳酸铈 (High Purity Cerium Carbonate)

稀土碳酸盐

- Formula:  $\text{Ce}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$
  - Mol.wt. 460.26 (anhydrous basis)
- CAS:54451-25-1
  - High Purity Cerium Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                          | GCC-4N        | GCC-5N  |
|---------------------------------------------------------------|---------------|---------|
| TREO%                                                         | ≥48           | ≥48     |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |               |         |
| CeO <sub>2</sub> /TREO %                                      | ≥99.99        | ≥99.999 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.004        | <0.0004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.002        | <0.0002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.002        | <0.0002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.001        | <0.0001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.001        | <0.0001 |
| 非稀土杂质 (Non rare earth impurities)                             |               |         |
| Ca %                                                          | <0.0001       | <0.0001 |
| Fe %                                                          | <0.0001       | <0.0001 |
| Na %                                                          | <0.0001       | <0.0001 |
| Pb %                                                          | <0.0001       | <0.0001 |
| Mn %                                                          | <0.0001       | <0.0001 |
| Mg %                                                          | <0.0001       | <0.0001 |
| Al %                                                          | <0.0001       | <0.0001 |
| SiO <sub>2</sub> %                                            | <0.001        | <0.001  |
| Cl <sup>-</sup> %                                             | <0.002        | <0.002  |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.01         | <0.01   |
| NTU                                                           | <10           | <10     |
| 油份                                                            | 硝酸溶解后溶液面无明显油份 |         |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于制造汽车尾气净化催化剂，也是制取铈和其他化合物的中间体。  
Used in making Catalyst for cleaning automotive exhaust gas and also can be made into cerium metal, cerium oxide and other compounds of cerium.



低氯根碳酸铈 (Low Chloride Cerium Carbonate)

稀土碳酸盐

- Formula:  $\text{Ce}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$
  - Mol.wt. 460.26 (anhydrous basis)
- CAS:54451-25-1
  - Low Chloride Cerium Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                          | DLCC-3.5N     | DLCC-4N |
|---------------------------------------------------------------|---------------|---------|
| TREO%                                                         | ≥48           | ≥48     |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |               |         |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95        | ≥99.99  |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02         | <0.004  |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.005        | <0.002  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005        | <0.002  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005        | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005        | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                             |               |         |
| Ca %                                                          | <0.002        |         |
| Fe %                                                          | <0.002        |         |
| Na %                                                          | <0.002        |         |
| Pb %                                                          | <0.002        |         |
| Mn %                                                          | <0.002        |         |
| Mg %                                                          | <0.002        |         |
| Al %                                                          | <0.002        |         |
| TiO <sub>2</sub> %                                            | <0.0005       |         |
| Hg %                                                          | <0.0005       |         |
| Cd %                                                          | <0.0005       |         |
| Cr %                                                          | <0.0005       |         |
| Zn %                                                          | <0.002        |         |
| Cu %                                                          | <0.0005       |         |
| Ni %                                                          | <0.0005       |         |
| SiO <sub>2</sub> %                                            | <0.005        |         |
| Cl <sup>-</sup> %                                             | <0.004        |         |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.03         |         |
| PO <sub>4</sub> <sup>2-</sup> %                               | <0.003        |         |
| NTU                                                           | <10           |         |
| 油份                                                            | 硝酸溶解后溶液面无明显油份 |         |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于制造汽车尾气净化催化剂，也是制取铈和其他化合物的中间体。  
Used in making Catalyst for cleaning automotive exhaust gas and also can be made into cerium metal, cerium oxide and other compounds of cerium.



細晶型球状碳酸铈

(Fine Crystalline Spherical Cerium Carbonate)

稀土碳酸盐

- Formula:  $\text{Ce}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$

• Mol.wt. 460.26 (anhydrous basis)
- CAS: 54451-25-1

• Fine Crystalline Spherical Cerium Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                          | DLCC-3.5N(X)  | DLCC-4N(X) |
|---------------------------------------------------------------|---------------|------------|
| TREO%                                                         | ≥48           | ≥48        |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |               |            |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95        | ≥99.99     |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02         | <0.004     |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.005        | <0.002     |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005        | <0.001     |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005        | <0.001     |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005        | <0.001     |
| 非稀土杂质 (Non rare earth impurities)                             |               |            |
| Ca %                                                          | <0.002        | <0.002     |
| Fe %                                                          | <0.002        | <0.002     |
| Na %                                                          | <0.002        | <0.002     |
| Pb %                                                          | <0.002        | <0.002     |
| Mn %                                                          | <0.002        | <0.002     |
| Mg %                                                          | <0.002        | <0.002     |
| Al %                                                          | <0.002        | <0.002     |
| SiO <sub>2</sub> %                                            | <0.01         | <0.01      |
| Cl <sup>-</sup> %                                             | <0.0045       | <0.0045    |
| D <sub>50</sub>                                               | 25~35 μm      | 25~35 μm   |
| NTU                                                           | <10           | <10        |
| 油份                                                            | 硝酸溶解后溶液面无明显油份 |            |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于制造汽车尾气净化催化剂，也是制取铈和其他化合物的中间体。  
Used in making Catalyst for cleaning automotive exhaust gas and also can be made into cerium metal, cerium oxide and other compounds of cerium.



高纯碳酸钇

(High Purity Yttrium Carbonate)

稀土碳酸盐

- Formula:  $\text{Y}_2(\text{CO}_3)_3 \cdot x\text{H}_2\text{O}$

• Mol.wt. 357.82 (anhydrous basis)
- CAS:38245-39-5

• High Purity Yttrium Carbonate Hydrate

技术指标 (Specification)

第十三版

| Code                                                           | GYC-4N  | GYC-5N   |
|----------------------------------------------------------------|---------|----------|
| TREO%                                                          | ≥40     | ≥40      |
| 钇纯度与相关稀土杂质 (Yttrium purity and relative rare earth impurities) |         |          |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                          | ≥99.99  | ≥99.999  |
| La <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.001  | <0.0001  |
| CeO <sub>2</sub> /TREO %                                       | <0.0005 | <0.00005 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                        | <0.001  | <0.00005 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.0005 | <0.00005 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.0005 | <0.00005 |
| 非稀土杂质 (Non rare earth impurities)                              |         |          |
| Ca %                                                           | <0.0001 | <0.0001  |
| Fe %                                                           | <0.0001 | <0.0001  |
| Na %                                                           | <0.0001 | <0.0001  |
| K %                                                            | <0.0001 | <0.0001  |
| Pb %                                                           | <0.0001 | <0.0001  |
| Zn %                                                           | <0.0001 | <0.0001  |
| Cl <sup>-</sup> %                                              | <0.005  | <0.005   |

说明 (Description)

白色粉末不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于制备催化剂、陶瓷材料及钇化合物中间体。  
Used for preparing catalysts, ceramic materials, and yttrium compound intermediates.



硝酸镧 (Lanthanum Nitrate)

稀土硝酸盐

- Formula:  $\text{La}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$
- CAS: 10277-43-7
- Mol.wt.433.01
- Lanthanum Nitrate Hexahydrate

技术指标 (Specification)

第十三版

| Code                                                      | LN-4N  | LN-4.5N |
|-----------------------------------------------------------|--------|---------|
| TREO%                                                     | ≥37.5  | ≥37.5   |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |        |         |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                    | ≥99.99 | ≥99.995 |
| $\text{CeO}_2/\text{TREO} \%$                             | <0.004 | <0.002  |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                 | <0.002 | <0.001  |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                    | <0.002 | <0.001  |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                    | <0.001 | <0.0005 |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                     | <0.001 | <0.0005 |
| 非稀土杂质 (Non rare earth impurities)                         |        |         |
| Ca %                                                      | <0.002 | <0.001  |
| Fe %                                                      | <0.001 | <0.0005 |
| Na %                                                      | <0.001 | <0.001  |
| K %                                                       | <0.001 | <0.001  |
| Pb %                                                      | <0.001 | <0.001  |
| Al %                                                      | <0.001 | <0.001  |
| Cl <sup>-</sup> %                                         | <0.005 | <0.005  |
| $\text{SO}_4^{2-} \%$                                     | <0.01  | <0.01   |
| NTU                                                       | <10    | <10     |
| 外观颜色                                                      | 无色透明晶体 |         |

说明 (Description)

块状结晶,溶于水。  
Colorless lump-like crystal, soluble in water.

用途 (Uses)

作石油化工催化剂。  
Used to make petro-chem catalyst.



硝酸铈 (Cerium Nitrate)

稀土硝酸盐

- Formula:  $\text{Ce}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$
- CAS:10294-41-4
- Mol.wt.434.22
- Cerium(III) Nitrate Hexahydrate

技术指标 (Specification)

第十三版

| Code                                                          | CN-3.5N | CN-4N   | CN-4.5N | CN-5N    |
|---------------------------------------------------------------|---------|---------|---------|----------|
| TREO%                                                         | ≥39.5   | ≥39.5   | ≥39.5   | ≥39.5    |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |         |         |         |          |
| $\text{CeO}_2/\text{TREO} \%$                                 | ≥99.95  | ≥99.99  | ≥99.995 | ≥99.999  |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                        | <0.02   | <0.004  | <0.001  | <0.0004  |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                     | <0.01   | <0.002  | <0.001  | <0.0002  |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                        | <0.01   | <0.002  | <0.001  | <0.0002  |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                        | <0.005  | <0.001  | <0.001  | <0.0001  |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                         | <0.005  | <0.001  | <0.001  | <0.0001  |
| 非稀土杂质 (Non rare earth impurities)                             |         |         |         |          |
| Ca %                                                          | <0.001  | <0.0005 | <0.0001 | <0.00005 |
| Fe %                                                          | <0.001  | <0.0005 | <0.0001 | <0.00005 |
| Na %                                                          | <0.001  | <0.0005 | <0.0001 | <0.00005 |
| K %                                                           | <0.001  | <0.0005 | <0.0001 | <0.00005 |
| Pb %                                                          | <0.001  | <0.0005 | <0.0001 | <0.00005 |
| Cl <sup>-</sup> %                                             | <0.005  | <0.005  | <0.005  | <0.005   |
| $\text{SO}_4^{2-} \%$                                         | <0.01   | <0.01   | <0.01   | <0.01    |
| NTU                                                           | <10     | <10     | <5      | <3       |
| 外观颜色                                                          | 无色透明晶体  |         |         |          |

说明 (Description)

无色粒状晶体，易溶于水。  
Colorless granular crystal, soluble in water.

用途 (Uses)

用于石油化催化剂和汽灯纱罩的添加剂。  
Used as petrol-chem catalyst. Also used as additive forgauze covering of steam light.



硝酸镨 (Praseodymium Nitrate)

稀土硝酸盐

- Formula:  $\text{Pr}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$
- CAS: 15878-77-0
- Mol.wt.434.91
- Praseodymium (III) Nitrate Hexahydrate

技术指标 (Specification)

第十三版

| Code                                                                | PN-2.5N | PN-3N  |
|---------------------------------------------------------------------|---------|--------|
| TREO%                                                               | ≥39     | ≥39    |
| 镨纯度与相关稀土杂质 (Praseodymium purity and relative rare earth impurities) |         |        |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                           | ≥99.5   | ≥99.9  |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                              | <0.05   | <0.01  |
| $\text{CeO}_2/\text{TREO} \%$                                       | <0.05   | <0.03  |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                              | <0.35   | <0.04  |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                              | <0.03   | <0.01  |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                               | <0.01   | <0.005 |
| 非稀土杂质 (Non rare earth impurities)                                   |         |        |
| Ca %                                                                | <0.01   | <0.005 |
| Fe %                                                                | <0.005  | <0.003 |
| Na %                                                                | <0.01   | <0.005 |
| K %                                                                 | <0.005  | <0.003 |
| Pb %                                                                | <0.005  | <0.003 |
| $\text{Cl}^- \%$                                                    | <0.005  | <0.005 |
| $\text{SO}_4^{2-} \%$                                               | <0.02   | <0.02  |
| NTU                                                                 | <20     | <20    |
| 外观颜色                                                                | 绿色晶体    |        |

说明 (Description)

绿色结晶体，易溶于水。  
Green crystal, soluble in water.

用途 (Uses)

用于实验试剂、特种合金及三元催化剂制备。  
Used for the preparation of experimental reagents, special alloys, and ternary catalysts.



硝酸钕 (Neodymium Nitrate)

稀土硝酸盐

- Formula:  $\text{Nd}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$
- CAS: 16454-60-7
- Mol.wt.438.24
- Neodymium (III) Nitrate Hexahydrate

技术指标 (Specification)

第十三版

| Code                                                             | NN-2.5N | NN-3N  |
|------------------------------------------------------------------|---------|--------|
| TREO%                                                            | ≥37.5   | ≥37.5  |
| 钕纯度与相关稀土杂质 (Neodymium purity and relative rare earth impurities) |         |        |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                           | ≥99.5   | ≥99.9  |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                           | <0.02   | <0.005 |
| $\text{CeO}_2/\text{TREO} \%$                                    | <0.05   | <0.01  |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                        | <0.3    | <0.05  |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                           | <0.03   | <0.02  |
| 非稀土杂质 (Non rare earth impurities)                                |         |        |
| Ca %                                                             | <0.01   | <0.005 |
| Fe %                                                             | <0.005  | <0.003 |
| Na %                                                             | <0.01   | <0.005 |
| K %                                                              | <0.005  | <0.003 |
| Pb %                                                             | <0.005  | <0.003 |
| $\text{Cl}^- \%$                                                 | <0.005  | <0.005 |
| $\text{SO}_4^{2-} \%$                                            | <0.02   | <0.02  |
| NTU                                                              | <20     | <20    |
| 外观颜色                                                             | 紫色晶体    |        |

说明 (Description)

紫色结晶体，溶于水。  
Purple crystals, soluble in water.

用途 (Uses)

用于制备化学试剂和玻璃着色剂，也用来制备氧化钕。  
Used for preparing chemical reagents and glass coloring agents, as well as for preparing neodymium oxide.



硝酸钇 (Yttrium Nitrate)

稀土硝酸盐

- Formula:  $\text{Y}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$
- CAS: 13494-98-9
- Mol.wt.382.91
- Yttrium (III) Chloride Hexahydrate

技术指标 (Specification)

第十三版

| Code                                                           | YN-4N  | YN-5N   |
|----------------------------------------------------------------|--------|---------|
| TREO%                                                          | ≥30.45 | ≥30.45  |
| 钇纯度与相关稀土杂质 (Yttrium purity and relative rare earth impurities) |        |         |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                          | ≥99.99 | ≥99.999 |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                         | <0.004 | <0.0004 |
| $\text{CeO}_2/\text{TREO} \%$                                  | <0.002 | <0.0002 |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                      | <0.002 | <0.0002 |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                         | <0.001 | <0.0001 |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                         | <0.001 | <0.0001 |
| 非稀土杂质 (Non rare earth impurities)                              |        |         |
| Ca %                                                           | <0.002 | <0.001  |
| Fe %                                                           | <0.002 | <0.001  |
| Na %                                                           | <0.002 | <0.001  |
| K %                                                            | <0.002 | <0.001  |
| Pb %                                                           | <0.002 | <0.001  |
| Cl %                                                           | <0.005 | <0.005  |
| $\text{SO}_4^{2-} \%$                                          | <0.01  | <0.01   |
| NTU                                                            | <20    | <20     |
| 外观颜色                                                           | 白色晶体   |         |

说明 (Description)

白色结晶体，溶于水。

White crystals, soluble in water.

用途 (Uses)

用于制备三元催化剂、陶瓷材料及钇化合物中间体。

Used for preparing ternary catalysts, ceramic materials, and yttrium compound intermediates.



硝酸铈铵 (Cerium Ammonium Nitrate)

稀土硝酸盐

- Formula:  $\text{Ce}(\text{NH}_4)_2(\text{NO}_3)_6$
- CAS:16774-21-3
- Mol.wt. 548.22
- Cerium(IV) Ammonium Nitrate

技术指标 (Specification)

第十三版

| Code                                                          | CAN-4N  | CAN-5N  |
|---------------------------------------------------------------|---------|---------|
| TREO%                                                         | ≥30.5   | ≥31.0   |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |         |         |
| $\text{CeO}_2/\text{TREO} \%$                                 | ≥99.99  | ≥99.999 |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                        | <0.004  | <0.0004 |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                     | <0.002  | <0.0002 |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                        | <0.002  | <0.0002 |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                        | <0.001  | <0.0001 |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                         | <0.001  | <0.0001 |
| 非稀土杂质 (Non rare earth impurities)                             |         |         |
| Ca %                                                          | <0.0005 | <0.0003 |
| Fe %                                                          | <0.0005 | <0.0003 |
| Na %                                                          | <0.0003 | <0.0002 |
| K %                                                           | <0.0003 | <0.0002 |
| Pb %                                                          | <0.0003 | <0.0002 |
| Cu %                                                          | <0.0003 | <0.0002 |
| Co %                                                          | <0.0003 | <0.0002 |
| Ni %                                                          | <0.0003 | <0.0002 |
| Cd %                                                          | <0.0003 | <0.0002 |
| NTU                                                           | <5      | <2      |

说明 (Description)

硝酸铈铵为桔红色晶体。

Cerium ammonium nitrate is the orange color.

用途 (Uses)

在液晶显示器生产中用作抛光剂和腐刻剂，医药行业用作催化剂，也用于合成车用三元催化剂。

In LCD production starting polished and engraved the role of corruption, it is also used in the synthesis of automotive three-way catalysts.



电子级硝酸铈铵

(Electronic Grade Cerium Ammonium Nitrate)

稀土硝酸盐

- Formula:  $\text{Ce}(\text{NH}_4)_2(\text{NO}_3)_6$

• CAS:16774-21-3
- Mol.wt. 548.22

• Electronic Grade Cerium(IV) Ammonium Nitrate

技术指标 (Specification)

第十三版

|                                                               |            |
|---------------------------------------------------------------|------------|
| Code                                                          | EGCAN-4.5N |
| TREO%                                                         | ≥31.0      |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |            |
| CeO <sub>2</sub> /TREO %                                      | ≥99.995    |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.002     |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.001     |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.001     |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.0005    |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.0005    |
| 非稀土杂质 (Non rare earth impurities)                             |            |
| Ca %                                                          | <0.00005   |
| Fe %                                                          | <0.00005   |
| Na %                                                          | <0.00005   |
| K %                                                           | <0.00005   |
| Pb %                                                          | <0.00005   |
| Cu %                                                          | <0.00005   |
| Co %                                                          | <0.00005   |
| Ni %                                                          | <0.00005   |
| Cd %                                                          | <0.00005   |
| NTU                                                           | <1         |

说明 (Description)

硝酸铈铵为桔红色晶体。  
Cerium ammonium nitrate is the orange color.

用途 (Uses)

在液晶显示器生产中用作抛光剂和腐刻剂， 医药行业用作催化剂， 也用于合成车用三元催化剂。  
In LCD production starting polished and engraved the role of corruption, it is also used in the synthesis of automotive three-way catalysts.



氢氧化镧

(Lanthanum Hydroxide)

稀土氢氧化物

- Formula:  $\text{La}(\text{OH})_3$

• CAS:14507-19-8
- Mol.wt.189.9

• Lanthanum Hydroxide

| 技术指标 (Specification)                                      |         |        | 第十三版 |
|-----------------------------------------------------------|---------|--------|------|
| Code                                                      | LH-3.5N | LH-4N  |      |
| TREO%                                                     | 72~85   | 72~85  |      |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |         |        |      |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.95  | ≥99.99 |      |
| CeO <sub>2</sub> /TREO %                                  | <0.02   | <0.004 |      |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.01   | <0.002 |      |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.01   | <0.002 |      |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.005  | <0.001 |      |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.005  | <0.001 |      |
| 非稀土杂质 (Non rare earth impurities)                         |         |        |      |
| Ca %                                                      | <0.02   | <0.02  |      |
| Fe %                                                      | <0.003  | <0.002 |      |
| Na %                                                      | <0.005  | <0.003 |      |
| K %                                                       | <0.003  | <0.002 |      |
| Pb %                                                      | <0.003  | <0.002 |      |
| Al %                                                      | <0.01   | <0.005 |      |
| SiO <sub>2</sub> %                                        | <0.02   | <0.01  |      |
| Cl <sup>-</sup> %                                         | <0.06   | <0.05  |      |
| SO <sub>4</sub> <sup>2-</sup> %                           | <0.05   | <0.03  |      |

说明 (Description)

白色粉末，不溶于水，可溶于酸。极易吸潮，能迅速吸收空气中的水分和二氧化碳，应置于密封容器内。  
White powder, insoluble in water, soluble in acids. As it is highly hygroscopic and picks up the moisture and carbon dioxide from air rapidly, it should be kept in sealed containers.

用途 (Uses)

供玻璃、陶瓷和电子工业用。  
Used as the raw material of the industries of glass, ceramics and electronics.



氢氧化铈 (Cerium Hydroxide)

稀土氢氧化物

- Formula: Ce(OH)<sub>4</sub>

• CAS: 12014-56-1

• Mol.wt.208.1

• Cerium Hydroxide

技术指标 (Specification)

第十三版

| Code                                                          | CH-3.5N | CH-4N  |
|---------------------------------------------------------------|---------|--------|
| TREO%                                                         | 62~70   | 62~70  |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |         |        |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95  | ≥99.99 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02   | <0.004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01   | <0.002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01   | <0.002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005  | <0.001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005  | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                             |         |        |
| Ca %                                                          | <0.005  | <0.003 |
| Fe %                                                          | <0.003  | <0.002 |
| Na %                                                          | <0.003  | <0.002 |
| K %                                                           | <0.001  | <0.001 |
| Pb %                                                          | <0.002  | <0.001 |
| Al %                                                          | <0.002  | <0.001 |
| SiO <sub>2</sub> %                                            | <0.01   | <0.01  |
| Cl <sup>-</sup> %                                             | <0.01   | <0.005 |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.03   | <0.03  |

说明 (Description)

淡黄色或黄褐色粉末，不溶于水，溶于酸。  
Pale yellow or yellow brown powder, insoluble in water, soluble in acids.

用途 (Uses)

在玻璃工业中用作澄清和脱色剂,亦可用于增强玻璃的防紫外线照射功能。  
Used as clarify and decolorant in the industry of glass and also used to enhance the uv protection of glass.



氢氧化钇 (Yttrium Hydroxide)

稀土氢氧化物

- Formula: Y(OH)<sub>3</sub>

• CAS:16469-22-0

• Mol.wt. 139.93

• Yttrium Hydroxide

技术指标 (Specification)

第十三版

| Code                                                           | YH-4N  | YH-5N   |
|----------------------------------------------------------------|--------|---------|
| TREO%                                                          | ≥65    | ≥65     |
| 钇纯度与相关稀土杂质 (Yttrium purity and relative rare earth impurities) |        |         |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                          | ≥99.99 | ≥99.999 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.004 | <0.0004 |
| CeO <sub>2</sub> /TREO %                                       | <0.002 | <0.0002 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                        | <0.002 | <0.0002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.001 | <0.0001 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.001 | <0.0001 |
| 非稀土杂质 (Non rare earth impurities)                              |        |         |
| Ca %                                                           | <0.005 | <0.003  |
| Fe %                                                           | <0.005 | <0.003  |
| Na %                                                           | <0.005 | <0.003  |
| K %                                                            | <0.003 | <0.001  |
| Pb %                                                           | <0.003 | <0.001  |

说明 (Description)

白色粉末，不溶于水，溶于酸。  
White powder, insoluble in water, soluble in acids.

用途 (Uses)

用于石油催化,也可用于制备钇的其他化合物。  
Used for petroleum catalysis and can also be used to prepare other compounds of yttrium.



硫酸镧 (Lanthanum Sulfate Hydrate)

稀土硫酸盐

- Formula:  $\text{La}_2(\text{SO}_4)_3 \cdot 8\text{H}_2\text{O}$

• CAS: 57804-25-8
- Mol.wt.709.8

• Lanthanum Sulfate Hydrate

| 技术指标 (Specification)                                      |         |        | 第十三版 |
|-----------------------------------------------------------|---------|--------|------|
| Code                                                      | LS-3.5N | LS-4N  |      |
| TREO%                                                     | ≥43     | ≥43    |      |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |         |        |      |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.95  | ≥99.99 |      |
| CeO <sub>2</sub> /TREO %                                  | <0.02   | <0.004 |      |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.01   | <0.002 |      |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.01   | <0.002 |      |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.005  | <0.001 |      |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.005  | <0.001 |      |
| 非稀土杂质 (Non rare earth impurities)                         |         |        |      |
| Ca %                                                      | <0.005  | <0.002 |      |
| Fe %                                                      | <0.003  | <0.002 |      |
| Na %                                                      | <0.003  | <0.002 |      |
| K %                                                       | <0.002  | <0.001 |      |
| Pb %                                                      | <0.002  | <0.001 |      |
| Al %                                                      | <0.003  | <0.002 |      |
| 外观颜色                                                      | 白色粉末    |        |      |

说明 (Description)

无色结晶体，溶于水。有潮解，密闭保存。  
Colorless crystal, soluble in-water. Deliquescence, airtight preservation.

用途 (Uses)

用作防腐剂、测定元素的原子量、光谱分析、试剂等。  
Used as preservative, determination of atomic weight of elements, spectroscopic analysis, reagent, etc.



硫酸铈 (Cerous Sulfate)

稀土硫酸盐

- Formula:  $\text{Ce}_2(\text{SO}_4)_3 \cdot 5\text{H}_2\text{O}$

• CAS:16648-30-9
- Mol.wt. 658.42

• Cerium(III) Sulfate Pentahydrate

| 技术指标 (Specification)                                          |             |           | 第十三版 |
|---------------------------------------------------------------|-------------|-----------|------|
| Code                                                          | C(III)-3.5N | C(III)-4N |      |
| TREO%                                                         | ≥45         | ≥45       |      |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |             |           |      |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95      | ≥99.99    |      |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02       | <0.004    |      |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01       | <0.002    |      |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01       | <0.002    |      |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005      | <0.001    |      |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005      | <0.001    |      |
| 非稀土杂质 (Non rare earth impurities)                             |             |           |      |
| Ca %                                                          | <0.003      | <0.002    |      |
| Fe %                                                          | <0.002      | <0.001    |      |
| Na %                                                          | <0.002      | <0.001    |      |
| K %                                                           | <0.001      | <0.001    |      |
| Pb %                                                          | <0.002      | <0.001    |      |
| Al %                                                          | <0.003      | <0.002    |      |
| 外观颜色                                                          | 白色粉末        |           |      |

说明 (Description)

白色晶体，易溶于水，水溶液呈弱酸性，在空气中稳定。  
White crystals, readily soluble in water, the aqueous solution is weakly acidic, and it is stable in air.

用途 (Uses)

用于催化有机反应，并作为一种分析滴定标准试剂。在电子领域，用于辅助制造电子陶瓷和荧光粉。在玻璃行业，用于玻璃的澄清和脱色处理。在电镀方面，用于提升镀层质量。  
Used to catalyze organic reactions and as an analytical titration standard. In electronics, used to assist in making ceramics and phosphors. In glass, used for clarification and decolorization. In electroplating, used to enhance layer quality.



硫酸高铈 (Ceric Sulfate)

稀土硫酸盐

- Formula:  $\text{Ce}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$

• CAS:10294-42-5
- Mol.wt.404.284

• Cerium(IV) Sulfate Trahydratete

技术指标 (Specification)

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| Code                                                          | C(IV)-3.5N |         | C(IV)S-4N |         |
|---------------------------------------------------------------|------------|---------|-----------|---------|
| TREO%                                                         | 36~38      | 42~48   | 36~38     | 42~48   |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |            |         |           |         |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95     | ≥99.95  | ≥99.99    | ≥99.99  |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02      | <0.02   | <0.004    | <0.004  |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01      | <0.01   | <0.002    | <0.002  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01      | <0.01   | <0.002    | <0.002  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005     | <0.005  | <0.001    | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005     | <0.005  | <0.001    | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                             |            |         |           |         |
| Ca %                                                          | <0.003     | <0.002  | <0.003    | <0.002  |
| Fe %                                                          | <0.003     | <0.002  | <0.003    | <0.002  |
| Na %                                                          | <0.002     | <0.002  | <0.002    | <0.002  |
| K %                                                           | <0.001     | <0.0005 | <0.001    | <0.0005 |
| Pb %                                                          | <0.002     | <0.001  | <0.002    | <0.001  |
| Al %                                                          | <0.003     | <0.002  | <0.003    | <0.002  |
| Cl %                                                          | <0.005     | <0.005  | <0.005    | <0.005  |
| NTU                                                           | <20        | /       | <20       | /       |
| 外观颜色                                                          | 黄色粉末       |         |           |         |

说明 (Description)

硫酸高铈是微红的黄色晶体。  
Cerium sulfate is a reddish yellow crystal.

用途 (Uses)

主要用于氧化剂、防水剂、防霉剂和滴定试剂。  
Mainly used as oxidant, water repellent, mildew repellent and titration reagent.



硫酸铈铵 (Ammonium Cerium Sulfate)

稀土硫酸盐

- Formula:  $(\text{NH}_4)_4\text{Ce}(\text{SO}_4)_4 \cdot x\text{H}_2\text{O}$

• CAS: 7637-03-8
- Mol.wt.596.52 (anhydrous basis)

• Cerium(IV) Ammonium Sulfate Hydrate

技术指标 (Specification)

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| Code                                                          | CAS-3.5N | CAS-4N |
|---------------------------------------------------------------|----------|--------|
| TREO%                                                         | ≥26      | ≥26    |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |          |        |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95   | ≥99.99 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02    | <0.004 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01    | <0.002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01    | <0.002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005   | <0.001 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005   | <0.001 |
| 非稀土杂质 (Non rare earth impurities)                             |          |        |
| Ca %                                                          | <0.003   | <0.002 |
| Fe %                                                          | <0.003   | <0.002 |
| Na %                                                          | <0.003   | <0.002 |
| K %                                                           | <0.002   | <0.001 |
| Pb %                                                          | <0.003   | <0.002 |
| Al %                                                          | <0.003   | <0.002 |
| Cl %                                                          | <0.005   | <0.005 |
| NTU                                                           | <20      | <10    |
| 外观颜色                                                          | 黄色粉末     |        |

说明 (Description)

硫酸铈铵为黄色粉末。  
Orange-red crystals, highly soluble in water, stable in acidic solutions, and the aqueous solution is strongly acidic.

用途 (Uses)

主要用于氧化还原滴定试剂。  
Mainly used for redox titration reagents.



醋酸镧 (Lanthanum Acetate)

稀土醋酸盐

- Formula:  $\text{La}(\text{C}_2\text{H}_3\text{O}_2)_3 \cdot x\text{H}_2\text{O}$
  - Mol.wt.316.04 (anhydrous basis)
- CAS:100587-90-4
  - Lanthanum Acetate Hydrate

技术指标 (Specification)

第十三版

| Code                                                      | LAC-3.5N | LAC-4N  |
|-----------------------------------------------------------|----------|---------|
| TREO%                                                     | ≥45      | ≥45     |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |          |         |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.95   | ≥99.99  |
| CeO <sub>2</sub> /TREO %                                  | <0.02    | <0.004  |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.01    | <0.002  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.01    | <0.002  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.005   | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.005   | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                         |          |         |
| Ca %                                                      | <0.003   | <0.002  |
| Fe %                                                      | <0.002   | <0.001  |
| Na %                                                      | <0.002   | <0.001  |
| K %                                                       | <0.001   | <0.0005 |
| Pb %                                                      | <0.002   | <0.001  |
| Al %                                                      | <0.003   | <0.002  |
| Cl <sup>-</sup> %                                         | <0.005   | <0.005  |
| SO <sub>4</sub> <sup>2-</sup> %                           | <0.03    | <0.03   |
| NTU                                                       | <20      | <20     |

说明 (Description)

白色雪花状结晶体，溶于水。  
White snowflake crystal, soluble in water.

用途 (Uses)

用于制造三元催化剂、化学试剂工业。  
Used in the manufacture of three element catalyst, chemical reagent industry.



醋酸铈 (Cerium Acetate)

稀土醋酸盐

- Formula:  $\text{Ce}(\text{C}_2\text{H}_3\text{O}_2)_3 \cdot x\text{H}_2\text{O}$
  - Mol.wt.371.27 (anhydrous basis)
- CAS: 537-00-8
  - Cerium Acetate Hydrate

技术指标 (Specification)

第十三版

| Code                                                          | CAC-3.5N | CAC-4N  |
|---------------------------------------------------------------|----------|---------|
| TREO%                                                         | ≥47.5    | ≥47.5   |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |          |         |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95   | ≥99.99  |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02    | <0.004  |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01    | <0.002  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01    | <0.002  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005   | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005   | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                             |          |         |
| Ca %                                                          | <0.002   | <0.001  |
| Fe %                                                          | <0.002   | <0.001  |
| Na %                                                          | <0.002   | <0.001  |
| K %                                                           | <0.001   | <0.0005 |
| Pb %                                                          | <0.001   | <0.0005 |
| Al %                                                          | <0.002   | <0.001  |
| Cl <sup>-</sup> %                                             | <0.005   | <0.005  |
| SO <sub>4</sub> <sup>2-</sup> %                               | <0.03    | <0.03   |
| NTU                                                           | <20      | <20     |

说明 (Description)

白色雪花状结晶体，溶于水。  
White snowflake crystal, soluble in water.

用途 (Uses)

用于制造三元催化剂、化学试剂工业。  
Used in the manufacture of three element catalyst, chemical reagent industry.



## 氟化镧 (Lanthanum Fluoride)

稀土氟化盐

- Formula: LaF<sub>3</sub>
- CAS:13709-38-1
- Mol.wt.195.9
- Lanthanum Fluoride

### 技术指标 (Specification)

第十三版

| Code                                                      | LF-3.5N | LF-4.0N |
|-----------------------------------------------------------|---------|---------|
| TREO%                                                     | ≥82     | ≥82     |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |         |         |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.95  | ≥99.99  |
| CeO <sub>2</sub> /TREO %                                  | <0.02   | <0.004  |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.01   | <0.002  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.01   | <0.002  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.005  | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.005  | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                         |         |         |
| Ca %                                                      | <0.04   | <0.03   |
| Fe %                                                      | <0.02   | <0.01   |
| Na %                                                      | <0.02   | <0.02   |
| K %                                                       | <0.005  | <0.002  |
| Pb %                                                      | <0.005  | <0.002  |
| Al %                                                      | <0.03   | <0.02   |
| SiO <sub>2</sub> %                                        | <0.05   | <0.04   |
| F <sup>-</sup> %                                          | ≥27.0   | ≥27.0   |
| LOI %                                                     | <0.8    | <0.8    |

### 说明 (Description)

白色粉末，不溶于水，可溶于高氯酸。在空气中有吸湿性，应置于密封容器内。

White powder, insoluble in water, soluble in perchloric acid. Hygroscopic in air, should be stored in a sealed container.

### 用途 (Uses)

用于制备现代医学图像显示技术和核子科学要求的闪烁体，稀土晶体激光材料，氟化物玻璃光导纤维和稀土红外玻璃。在照明光源 中用于制造弧光灯炭电极。在冶金工业中用于制造特种合金和电解生产金属镧。

For the preparation of modern medical image display techMology and nuclear science requirements of the scintillator crystal, laser materials of rare earth, rare earth fluoride glass optical fiber and infrared glass. Used in the manufacture of arc carbon electrodes in the light source for lighting. Used in the manufacture of special alloy and electrolytic production of metal Lanthanum in metallur gical industry.



## 氟化铈 (Cerium Fluoride)

稀土氟化盐

- Formula: CeF<sub>3</sub>
- CAS:7758-88-5
- Mol.wt.197.12
- Cerium Fluoride

### 技术指标 (Specification)

第十三版

| Code                                                          | CF-3.5N | CF-4.0N |
|---------------------------------------------------------------|---------|---------|
| TREO%                                                         | ≥86     | ≥86     |
| 铈纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |         |         |
| CeO <sub>2</sub> /TREO %                                      | ≥99.95  | ≥99.99  |
| La <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.02   | <0.004  |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                       | <0.01   | <0.002  |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.01   | <0.002  |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                        | <0.005  | <0.001  |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.005  | <0.001  |
| 非稀土杂质 (Non rare earth impurities)                             |         |         |
| Ca %                                                          | <0.02   | <0.02   |
| Fe %                                                          | <0.02   | <0.01   |
| Na %                                                          | <0.01   | <0.005  |
| K %                                                           | <0.01   | <0.005  |
| Pb %                                                          | <0.01   | <0.005  |
| Al %                                                          | <0.02   | <0.02   |
| SiO <sub>2</sub> %                                            | <0.05   | <0.04   |
| F <sup>-</sup> %                                              | ≥27.0   | ≥27.0   |
| LOI %                                                         | <0.8    | <0.8    |

### 说明 (Description)

白色粉末，不溶于水，可溶于高氯酸。有一定的吸湿性。

White powder, insoluble in water, soluble in perchloric acid, and somewhat hygroscopic.

### 用途 (Uses)

用于光学领域优化玻璃光学性能、制作光学薄膜，电子领域的半导体掺杂与电子陶瓷制造，冶金领域辅助铈提取，以及荧光材料领域。

Used to optimize glass optics and make optical films in optics, for semiconductor doping and e - ceramics in electronics, to assist cerium extraction in metallurgy and in fluorescent materials.



## 氟化镨钕 (Praseodymium-Neodymium Fluoride)

稀土氟化盐

- Formula:  $\text{Pr}_6\text{O}_{11}\text{F}_3$
- Mol.wt: 145.90
- CAS: 13709-49-4
- Praseodymium-Neodymium Fluoride

### 技术指标 (Specification)

第十三版

| Code                                                                           | PN-2575 |
|--------------------------------------------------------------------------------|---------|
| TREO%                                                                          | ≥82.5   |
| 镨钕纯度与相关稀土杂质 (Praseodymium neodymium purity and relative rare earth impurities) |         |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                                      | 25±2    |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                                         | 75±2    |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                                         | <0.04   |
| $\text{CeO}_2/\text{TREO} \%$                                                  | <0.04   |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                                         | <0.02   |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                                          | <0.01   |
| 非稀土杂质 (Non rare earth impurities)                                              |         |
| Ca %                                                                           | <0.02   |
| Fe %                                                                           | <0.01   |
| Na %                                                                           | <0.01   |
| K %                                                                            | <0.005  |
| Pb %                                                                           | <0.005  |
| Al %                                                                           | <0.03   |
| $\text{SiO}_2 \%$                                                              | <0.04   |
| F <sup>-</sup> %                                                               | ≥27.0   |
| LOI %                                                                          | <0.8    |

### 说明 (Description)

粉色粉末，不溶于水，可溶于高氯酸。  
Pink powder, insoluble in water, soluble in perchloric acid.

### 用途 (Uses)

用于制造高性能光学镜片，应用于激光加工、通讯、医药等领域。它也是冶炼镨钕金属的关键材料，也是荧光粉的活化剂或添加剂。  
Used to make high-performance optical lenses, applied in laser processing, communication, and medicine. It is also a key material for smelting praseodymium-neodymium metals and serves as an activator or additive for fluorescent powders.



## 氟化钇 (Yttrium Fluoride)

稀土氟化盐

- Formula:  $\text{YF}_3$
- Mol.wt: 145.90
- CAS: 13709-49-4
- Yttrium Fluoride

### 技术指标 (Specification)

第十三版

| Code                                                          | YF-4N   | YF-5N    |
|---------------------------------------------------------------|---------|----------|
| TREO%                                                         | ≥76     | ≥76      |
| 钇纯度与相关稀土杂质 (Cerium purity and relative rare earth impurities) |         |          |
| $\text{Y}_2\text{O}_3/\text{TREO} \%$                         | ≥99.99  | ≥99.999  |
| $\text{La}_2\text{O}_3/\text{TREO} \%$                        | <0.001  | <0.0001  |
| $\text{CeO}_2/\text{TREO} \%$                                 | <0.0005 | <0.00005 |
| $\text{Pr}_6\text{O}_{11}/\text{TREO} \%$                     | <0.001  | <0.00005 |
| $\text{Nd}_2\text{O}_3/\text{TREO} \%$                        | <0.0005 | <0.00003 |
| $\text{Sm}_2\text{O}_3/\text{TREO} \%$                        | <0.0005 | <0.00003 |
| 非稀土杂质 (Non rare earth impurities)                             |         |          |
| Ca %                                                          | <0.005  | <0.003   |
| Fe %                                                          | <0.003  | <0.002   |
| Na %                                                          | <0.005  | <0.003   |
| K %                                                           | <0.003  | <0.001   |
| Pb %                                                          | <0.002  | <0.001   |
| Al %                                                          | <0.005  | <0.005   |
| $\text{SiO}_2 \%$                                             | <0.04   | <0.03    |
| F <sup>-</sup> %                                              | >37     | >37      |

### 说明 (Description)

白色粉末，不溶于水，难溶于盐酸、硝酸和硫酸，能溶于高氯酸。  
White powder, insoluble in water, difficult to dissolve in hydrochloric acid, nitric acid, and sulfuric acid, soluble in perchloric acid.

### 用途 (Uses)

用于制作喷涂材料、催化剂、光学镀膜材料。  
Used for making spray coating materials, catalysts, and optical coating materials.



## 高纯氟化镧 (High-Purity Lanthanum Fluoride)

稀土氟化盐

- Formula: LaF<sub>3</sub>
- CAS: 13709-38-1
- MoL.wt. 195.9
- Lanthanum Fluoride

### 技术指标 (Specification)

第十三版

|                                                           |         |
|-----------------------------------------------------------|---------|
| Code                                                      | LF-5.0N |
| TREO%                                                     | ≥82     |
| 镧纯度与相关稀土杂质 (La purity and relative rare earth impurities) |         |
| La <sub>2</sub> O <sub>3</sub> /TREO %                    | ≥99.999 |
| CeO <sub>2</sub> /TREO %                                  | <0.0002 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                   | <0.0002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.0002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                    | <0.0002 |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                     | <0.0002 |
| 非稀土杂质 (Non rare earth impurities)                         |         |
| Ca %                                                      | <0.003  |
| Fe %                                                      | <0.0003 |
| Na %                                                      | <0.0005 |
| K %                                                       | <0.0005 |
| Pb %                                                      | <0.0005 |
| Al %                                                      | <0.001  |
| SiO <sub>2</sub> %                                        | <0.01   |
| F <sup>-</sup> %                                          | ≥27.0   |
| LOI                                                       | <0.8    |

### 说明 (Description)

白色粉末，不溶于水，可溶于酸。极易吸潮，能迅速吸收空气中的水份和二氧化碳，应置于密封容器内。

White powder, insoluble in water, soluble in acid. Can easily absorb moisture, can quickly absorb moisture and carbon dioxide in the air, it should be kept in sealed containers.

### 用途 (Uses)

用于制备现代医学图像显示技术和核子科学要求的闪烁体，稀土晶体激光材料，氟化物玻璃光导纤维和稀土红外玻璃。在照明光源 中用于制造弧光灯发电极。在冶金工业中用于制造特种合金和电解生产金属镧。

For the preparation of modern medical image display technology and nuclear science requirements of the scintillator crystal, laser materials of rare earth, rare earth fluoride glass optical fiber and infrared glass. Used in the manufacture of arc carbon electrodes in the light source for lighting. Used in the manufacture of special alloy and electrolytic production of metal Lanthanum in metallurgical industry.



## 高纯氟化钇 (High-Purity Yttrium Fluoride)

稀土氟化盐

- Formula: YF<sub>3</sub>
- CAS: 13709-49-4
- MoL.wt. 145.90
- Yttrium Fluoride

### 技术指标 (Specification)

第十三版

|                                                                |         |
|----------------------------------------------------------------|---------|
| Code                                                           | YF-5N   |
| TREO%                                                          | >76     |
| 钇纯度与相关稀土杂质 (Yttrium purity and relative rare earth impurities) |         |
| Y <sub>2</sub> O <sub>3</sub> /TREO %                          | ≥99.999 |
| La <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.0002 |
| CeO <sub>2</sub> /TREO %                                       | <0.0002 |
| Pr <sub>6</sub> O <sub>11</sub> /TREO %                        | <0.0002 |
| Nd <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.0002 |
| Sm <sub>2</sub> O <sub>3</sub> /TREO %                         | <0.0002 |
| 非稀土杂质 (Non rare earth impurities)                              |         |
| Ca %                                                           | <0.003  |
| Fe %                                                           | <0.0003 |
| Na %                                                           | <0.0005 |
| K %                                                            | <0.0005 |
| Pb %                                                           | <0.0005 |
| Al %                                                           | <0.001  |
| SiO <sub>2</sub> %                                             | <0.01   |
| F <sup>-</sup> %                                               | >37     |

### 说明 (Description)

白色粉末，不溶于水，难溶于盐酸、硝酸和硫酸，能溶于高氯酸。

White powder, insoluble in water, difficult to dissolve in hydrochloric acid, nitric acid, and sulfuric acid, soluble in perchloric acid.

### 用途 (Uses)

用于制作喷涂材料、催化剂、光学镀膜材料。

Used for making spray coating materials, catalysts, and optical coating materials.



硝酸锆 (Zirconium Nitrate)

锆系列

- Formula:  $\text{Zr}(\text{NO}_3)_4 \cdot 2\text{H}_2\text{O}$

• CAS: 13746-89-9

• Mol.wt.375.36

• Zirconium(IV) Nitrate Dihydrate

技术指标 (Specification)

第十三版

| Code                            | ZN-1   | ZN-2    |
|---------------------------------|--------|---------|
| ZrO <sub>2</sub> %              | ≥32    | ≥32     |
| Ca %                            | <0.002 | <0.0005 |
| Fe %                            | <0.002 | <0.0005 |
| Na %                            | <0.002 | <0.0005 |
| K %                             | <0.002 | <0.0005 |
| Pb %                            | <0.002 | <0.0005 |
| SiO <sub>2</sub> %              | <0.005 | <0.0010 |
| Cl <sup>-</sup> %               | <0.005 | <0.005  |
| SO <sub>4</sub> <sup>2-</sup> % | <0.010 | <0.010  |

说明 (Description)

白色或无色粉状结晶体，易溶于水和乙醇，有潮解性，密闭保存。  
White or colorless crystalline powder, Soluble in water and ethaMol, deliquescence, airtight preservation.

用途 (Uses)

用于制造三元催化剂、高档陶瓷，锆化合物中间体、化学试剂等工业。  
Used in the manufacture of three element catalyst, zirconium compounds chemical reagent industry.



醋酸锆 (Zirconium Acetate)

锆系列

- Formula:  $\text{Zr}(\text{C}_2\text{H}_3\text{O}_2)_4$

• CAS: 7585-20-8

• Mol.wt.327.4

• Zirconium(IV) Acetate Solution

技术指标 (Specification)

第十三版

| Code                             | ZAC-1  |
|----------------------------------|--------|
| ZrO <sub>2</sub> %               | 20~29  |
| Fe <sub>2</sub> O <sub>3</sub> % | <0.002 |
| CaO %                            | <0.01  |
| Na <sub>2</sub> O %              | <0.005 |
| PbO %                            | <0.005 |
| SO <sub>4</sub> <sup>2-</sup> %  | <0.01  |
| Cl <sup>-</sup> %                | <0.015 |
| SiO <sub>2</sub> %               | <0.005 |

说明 (Appearance)

无色透明液体，密闭保存。  
colorless transparent liquid; airtight preservation.

用途 (Uses)

用于制造三元催化剂、锆化合物中间体、化学试剂等工业。  
used in the manufacture of three element catalyst, zirconium compounds, chemical reagent industry.



硫酸锆 (Zirconium Sulfate)

锆系列

- Formula:  $\text{Zr}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$
- CAS: 7446-31-3
- Mol.wt.355.41
- Zirconium(IV) Sulfate Tetrahydrate

技术指标 (Specification)

第十三版

| Code               | ZS      | EGZS    |
|--------------------|---------|---------|
| ZrO <sub>2</sub> % | ≥32     | ≥32     |
| Ca %               | <0.002  | <0.0001 |
| Fe %               | <0.002  | <0.0001 |
| Na %               | <0.001  | <0.0001 |
| K %                | <0.001  | <0.0001 |
| Pb %               | <0.001  | <0.0001 |
| Zn %               | <0.0005 | <0.0001 |
| Cu %               | <0.0005 | <0.0001 |
| Cr %               | <0.0005 | <0.0001 |
| Co %               | <0.0005 | <0.0001 |
| Ni %               | <0.0005 | <0.0001 |
| 外观颜色               | 白色粉末    | 白色粉末    |

说明 (Description)

白色结晶粉末或结晶性固体。有吸湿性，易溶于水。  
White crystalline powder or crystalline solid. Hygroscopic, soluble in water.

用途 (Uses)

催化剂载体。氨基酸和蛋白质沉淀剂。用于鱼肝油脱色剂、沉淀离析氨基酸等;用做白色皮革鞣革剂，使皮革表面细腻、丰富并富有弹性，可用做润滑剂、催化剂载体等。  
Catalyst support. Amino acid and protein precipitator. Used for decolorizing agent of cod liver oil, precipitation segregation amino acid, etc. Used as white leather tanning agent, make the leather surface fine, rich and elastic, can be used as lubricant, catalyst carrier, etc.

LEGAL CERTIFICATES FOR OPERATION AND PRODUCTION

经营与生产的法定凭证

企业法人营业执照



安全生产许可证



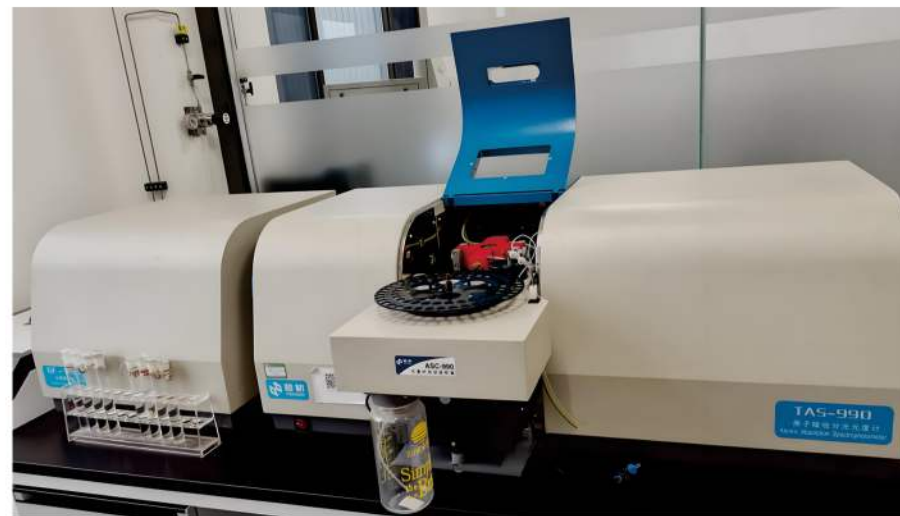
# WORKSHOP

● 制造工厂



# MAIN EQUIPMENT IN ANALYSIS ROOM

## 分析室的主要仪器



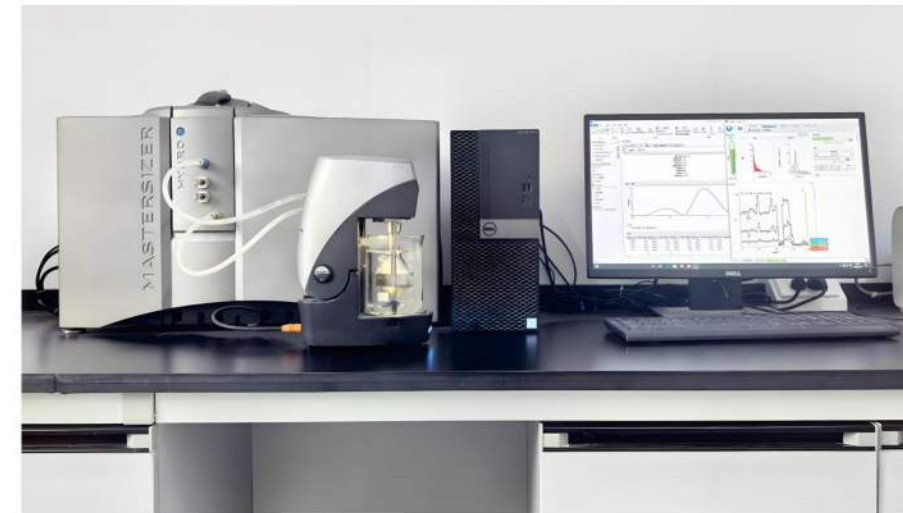
石墨炉原子吸收  
分光光度计

Graphite furnace atomic  
absorption spectrophotometer



火焰原子吸收分  
光光度计

Flame atomic absorption  
spectrophotometer



激光衍射粒度分  
布测定仪

laser diffraction particle  
size analyzer



分析室

Analytical laboratory



高频红外碳硫分析仪

High frequency infrared carbon sulfur analyzer



电感耦合等离子体  
原子发射光谱仪

Inductively coupled plasma-atomic  
emission spectrometry