

谷氨酸二乙酸四钠

Tetrasodium Glutamate Diacetate (GLDA-Na4)

CAS No: 51981-21-6

分子式: C₉H₉NO₈Na₄

Chemical name: L-glutamic acid N,N-diacetic acid, tetrasodium salt; GLDA-Na 4

INCI 名称: Tetrasodium Glutamate Diacetate; Tetrasodium Dicarboxymethyl Glutamate

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谷氨酸二乙酸四钠 Tetrasodium Glutamate Diacetate， 又被称为谷氨酸二羧甲基四钠 Tetrasodium Dicarboxymethyl Glutamate， 简称 GLDA-Na4。

GLDA-Na4 是新型绿色可降解螯合剂，用以替代传统的膦酸盐、EDTA、NTA。产品适用 pH 范围广，溶解度高，耐高温，去污力强，无生态毒性，和杀菌剂有协同作用，对皮肤和眼睛无刺激性。

Tetrasodium Glutamate Diacetate, also known as Tetrasodium Dicarboxymethyl Glutamate, GLDA-Na4 for short.

GLDA-Na4 is a new type of green degradable chelating agent, can replace traditional phosphonates, EDTA, NTA. The product is suit for a wide pH range, with high solubility, high temperature resistance, strong detergency, no ecological toxicity, has synergistic effect with fungicides, and no irritation to skin and eyes.

应用领域

适用于清洗剂、洗涤剂、纺织助剂、日化用品、油田水处理、制浆造纸助剂、金属表面处理等。

Application:

It is suitable for cleaning agents, detergents, textile auxiliaries, daily chemicals, oilfield water treatment, pulp and paper auxiliaries, metal surface treatment, etc.

一、技术指标

项 目	GLDA-Na4 液体
外 观	淡黄色粘稠液体
有效含量/%	≥47%

pH 值	10-12
密度(20℃) g/cm ³	≥1.2

Technical Specifications

Items	GLDA-Na4 solution
Appearance	Light yellow viscous liquid
Active Content /%	≥47%
pH value	10-12
Density(20℃) g/cm ³	≥1.2

二、GLDA-Na4 的特色:

1 宽 PH 下的高溶解度

GLDA 在强酸到高碱体系都有很好的溶解性, 对于配制高活性成分和低水含量的配方体系有着更好的优势。例如在工业清洗中的高碱体系下, 酸性清洗体系和高浓缩体系都有着非常好的溶解性。

1 High solubility under wide pH

GLDA has good solubility in strong acid to high alkali systems, and has better advantages for formulating high active ingredients and low water content formulation systems. For example, in the high-alkali system in industrial cleaning, the acid cleaning system and the high-concentration system have very good solubility.

2 高温稳定性好

通过热重分析, GLDA 在 170℃下测试 6 小时或在 150℃下测试一周, GLDA 无分解, 极其稳定, 和其他螯合剂产品在 100℃测试对比中, 表现最优。

2 Good high temperature stability

By thermogravimetric analysis, GLDA is tested at 170° C for 6 hours or at 150° C for a week. GLDA has no decomposition and is extremely stable. Compared with other chelating agent products at 100° C, it has the best performance.

3 螯合能力强

对于配方来说, 选择具有足够螯合能力的螯合剂非常重要, 螯合能力与不同的金属离子和体系的 PH 值有关系, 对于特定金属的结合力, 我们可以从稳定平衡常数看出来, 同时 GLDA 对于各种难以清洗的钙垢或者不易清洗的设备会有很好的效果。

3 Strong chelating ability

For the formulation, it is very important to choose a chelating agent with sufficient chelating ability. The chelating ability is related to different metal ions and the pH value of the system. For the binding force of a specific metal, we can see it from the stability equilibrium constant. GLDA has a good effect on all kinds of difficult-to-clean calcium scales or difficult-to-clean equipment.

4 具有防腐增效的作用

因为 GLDA 具有天然氨基酸成分，和动物细胞壁的结合能力更强，会有效破坏细胞的电解质平衡，抑制细胞活性，从而起到防腐增效的作用。经过实验我们发现 GLDA 于众多杀菌剂都有明显的防腐杀菌增效，可以节省 20%-80% 的使用量。例如我们用防腐剂——咪唑烷基脲和 GLDA 复配，观察其对绿脓杆菌的杀菌效果，结果发现和 GLDA 复配后，可降低 50% 的使用量。

4 Has the effect of antiseptic and synergistic

Because GLDA has natural amino acid components, it has a stronger binding ability with animal cell walls, which can effectively destroy the electrolyte balance of cells, inhibit cell activity, and thus play a role in antiseptic and synergistic. After experiments, we found that GLDA has obvious antiseptic and sterilization synergies in many fungicides, which can save 20%-80% of the usage. For example, we use the preservative-imidazolidinyl urea and GLDA compound to observe its bactericidal effect on *Pseudomonas aeruginosa*, and it turns out that after compounding with GLDA, the usage can be reduced by 50%.

三、包装与贮存

塑料桶包装，净重每桶 25kg、250kg、1250kg 等，包装可根据用户需要定制。

密封存放于干燥通风的库房内，避免与酸性及有异味的物品混贮，防止暴晒雨淋。

Packing and storage

Packed in plastic drums, net weight of per drum is 25kg, 250kg, 1250kg, etc. Packing can be customized according to user needs.

Sealed and stored in a dry and ventilated warehouse, avoid mixed storage with acidic and odorous items, prevent exposure to the sun and rain.

四、安全防护

GLDA-Na 为碱性，操作时注意劳动保护，应避免与皮肤、眼睛等接触，接触后用大量清水冲洗。

Safety protection

GLDA-Na is alkaline, pay attention to labor protection during operation, avoid contact with skin, eyes, etc., rinse with plenty of water after contact.