



# Jing Jing Pharmaceutical Co.,Ltd

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## Material Safety Data Sheet

### 材料安全数据表

(Compliant with 2020/878 regulations)

L-Arginine Alpha-Ketoglutarate Dihydrate (2:1)

L-精氨酸-α-酮戊二酸 2:1

#### Section 1 - Chemical Product and Company Identification

##### 第1节-化学产品和公司标识

**MSDS Name:** L-Arginine- Alpha-Ketoglutarate Dihydrate (2:1) **材料名称:** 精酮 2:1

##### Company Identification 公司标识:

**Jingjing Pharmaceutical Co.,Ltd** 精晶药业股份有限公司

Add: The Xingtai City Caozhuang Management District,Hebei,China

地址: 邢台市曹庄管理区, 河北, 中国

**For information, call** 电话: +86-311-83078783

#### Section 2 - Composition, Information on Ingredients

##### 第2节-成分, 成分信息

| CAS       | Chemical Name 化学名称                                    | Percent 百分比 | EINECS/ELINCS |
|-----------|-------------------------------------------------------|-------------|---------------|
| 5256-76-8 | L-Arginine Alpha-Ketoglutarate Dihydrate (2:1) 精酮 2:1 | 98.0-102.0  | 226-059-4     |

**Hazard Symbols 危险性符号:** None listed. 没有列入。

**Risk Phrases 风险术语:** None listed. 没有列入。

#### Section 3 - Hazards Identification

##### 第3节-危害识别

## EMERGENCY OVERVIEW 急救概述

Appearance 外观: White or quasi-white crystalline powder 白色或类白色结晶性粉末 **Caution!** 注意安全!  
The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Light sensitive. Moisture sensitive. 这种材料的毒理学特性尚未得到充分的研究。可能引起眼睛和皮肤的刺激。可能引起呼吸道和消化道发炎。光敏感。湿度敏感。

**Target Organs:** No data found. 目标器官：没有发现数据。

### Potential Health Effects 潜在的健康影响

**Eye:** May cause eye irritation. 眼睛：可能引起眼睛发炎。

**Skin:** May cause skin irritation. May cause erythema (redness) and edema (fluid buildup) with crusting and scaling.

皮肤：可能引起皮肤发炎。可能引起红斑（发红）和水肿（液体滞留）与结皮和结垢。

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.

摄入：可能引起胃肠刺激，伴有恶心、呕吐和腹泻。这种物质的毒理学性质还没有得到充分的研究。

**Inhalation:** May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

吸入：可引起呼吸道刺激。这种物质的毒理学性质还没有得到充分的研究

**Chronic:** Laboratory experiments have resulted in mutagenic effects.

慢性：实验室实验产生了致突变作用

## Section 4 - Hazard treatment

### 第4节-危害处理

Pictogram(s) 象形图(s)



Signal word 信号字

Hazard statement ( s )

危害声明 (s)

Warning 警告

H315 Causes skin irritation

H315 引起皮肤刺激

H319 Causes serious eye irritation

H319 导致严重眼部刺激

Precautionary statement ( s )

预防性声明(s)

Prevention 预防

P264 Wash ... thoroughly after handling

P264 清洗.....处理后彻底

P280 Wear protective gloves / protective clothing /eye protection/ face protection /hearing protection /.....

P280 佩戴防护手套/防护服/护目镜/面部保护/听力保护/.....

Response 回答

P302 + P352 IF ON SKIN : Wash with plenty of water / ...

P302+P352 如果沾在皮肤上: 用大量水清洗/...

P321 Specific treatment ( see ...on this label)

P321 特殊处理 (见本标签上的.....)

P332 + P317 If skin irritation occurs : Get medical help

P332+P317 如果发生皮肤刺激: 寻求医疗帮助

P362 + P364 Take off contaminated clothing and wash it before reuse .

P362+P364 脱下被污染的衣服, 清洗后再使用。

P305 + P351 + P338 IF IN EYES : Rinse cautiously with water for several minutes . Remove contact lenses , if present and easy to do

P305+P351+P338 如果进入眼睛: 用水小心冲洗几分钟。如果有隐形眼镜并且容易摘下, 请摘下隐形眼镜

## Section 5 - First Aid Measures

### 第 5 节急救措施

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

眼睛：用大量水冲洗眼睛至少 15 分钟，抬起上眼睑。使得到医疗救助。

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

皮肤：在去除污染的衣服和鞋子的同时，用大量的水冲洗皮肤至少 15 分钟。洗衣服后再使用。

**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

摄食：不要给无意识的人任何吃的东西。以免引起呕吐。如果清醒，漱口并喝 2-4 杯牛奶或水。

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

吸入：把人立即移至新鲜空气处。如果不呼吸，进行人工呼吸。如果呼吸困难，输氧。使得到医疗救助。

Notes to Physician: Treat symptomatically and supportively.

医生须知：积极治疗。

## Section 6 - Fire Fighting Measures

### 第 6 节-消防措施

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

一般信息：在任何火灾中，在压力要求下穿戴自给式呼吸器，医院管理学硕士/国立职业安全与健康（批准或等效），和全保护装置。足够浓度的粉尘可与空气形成爆炸混合物。在火灾中，可通过热分解或燃烧产生刺激性和高毒性的气体。不可燃的，物质本身不会燃烧，但在加热时会分解，产生刺激性、腐蚀性和/或有毒气体。

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Do NOT get water inside containers. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

灭火介质：物质是不可燃的；使用最合适的灭火剂扑灭周围的火灾。不要在容器内取水。使用水喷雾、干粉、二氧化碳或适当的泡沫。

**Flash Point** 闪点: Not applicable. 不适用。

**Autoignition Temperature** 自燃温度: Not applicable. 不适用

**Explosion Limits, Lower** 爆炸下限: Not available. 不适用

**Upper** 爆炸上限: Not available. 不适用

**NFPA Rating** 美国评级: (estimated) Health (估计) 健康: 1; Flammability 易燃性: 0; Instability 不稳定: 0

## Section 7 - Accidental Release Measures

### 第 7 节-意外释放措施

**General Information:** Use proper personal protective equipment as indicated in Section 8.

一般情况：如第 8 节所示，使用适当的个人防护装备。

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Do not get water inside containers.

溢出/泄漏：真空或清扫材料，放入合适的处理容器。立即清理溢出物，注意保护设备部分的预防措施。避免产生尘土飞扬的状况。提供通风。不要在容器内取水。

## Section 8- Handling and Storage

### 第 8 节搬运和储存

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Store protected from light. Do not allow contact with water. Keep from contact with moist air and steam.

处理：处理后彻底清洗。去除污染衣物并在重新使用前清洗。充分通风使用。减少粉尘的产生和积累。避免接触眼睛、皮肤和衣物。保持容器紧闭。避免摄入和吸入。避光保存。不允许与水接触。避免与潮湿空气和蒸汽接触。

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture. Store protected from light.

储存：储存在密闭容器中。存放在阴凉，干燥，通风良好的地方，远离不相容的物质。防潮、避光贮存，保存。

## Section 9 - Exposure Controls, Personal Protection

### 第 9 节-曝光控制，个人防护

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. 工程控制：设备存储或利用该材料应配备现代化设施和安全淋浴。使保持通风以保持空气浓度低。

### Exposure Limits 暴露限值

| Chemical Name 化学名称                                    | ACGIH 美国政府工业卫生学家会议 | NIOSH 国立职业安全与健康研究所 | OSHA - Final PELs |
|-------------------------------------------------------|--------------------|--------------------|-------------------|
| L-Arginine Alpha-Ketoglutarate Dihydrate (2:1) 精酮 2:1 | none listed 没有列入   | none listed 没有列入   | none listed 没有列入  |

**OSHA Vacated PELs** OSHA 空白弹性极限: L-Arginine Alpha-Ketoglutarate Dihydrate (2:1) 精酮 2:1: No OSHA Vacated PELs are listed for this chemical. 这个化学品的空白弹性极限没有被列入 OSHA。

### Personal Protective Equipment 个人防护设备

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

眼睛：穿戴合适的防护眼镜或化学安全护目镜，如 29 CFR 1910.133 或欧洲标准 EN166 OSHA 的眼睛和面部防护法规介绍。

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

皮肤：戴适当防护手套，防止皮肤外露。

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

衣服：穿适当的防护服以防皮肤外露。

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

呼吸器：一种符合 OSHA 的 29 CFR 1910.134 和 ANSI z88.2 要求或欧洲标准 EN 149 必须随着工作条件需要使用呼吸器的呼吸保护计划。

## Section 10 - Physical and Chemical Properties

### 第 10 节-物理和化学性质

**Physical State:** Powder

物理状态：粉末

**Appearance:** white

外观：白色

**Odor:** none reported

气味：无报道

**pH:** 5.5-7.0

**Vapor Pressure:** Negligible.

蒸汽压：可以忽略不计

**Vapor Density:** Not available.

蒸汽密度：不适用。

**Evaporation Rate:** Negligible.

蒸发率：微不足道。

**Solubility:** Easy to dissolve in water.

溶解度：易溶于水。

**Specific Gravity/Density:** Not available.

比重/密度：无数据

**Molecular Formula:** C<sub>17</sub>H<sub>38</sub>N<sub>8</sub>O<sub>11</sub>

分子式：C<sub>17</sub>H<sub>38</sub>N<sub>8</sub>O<sub>11</sub>

**Molecular Weight:** 630.5

分子量：630.5

## Section 11 - Stability and Reactivity

### 第 11 节-稳定性和反应性

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions. Materials containing similar functional groups can decompose at elevated temperatures.

化学稳定性：常温下常温密闭容器中稳定。含有类似官能团的材料在高温下能分解。

**Conditions to Avoid:** High temperatures, incompatible materials, light, dust generation, moisture.

避免的条件：高温，不相容材料，光，产生灰尘，湿气。

**Incompatibilities with Other Materials:** Strong oxidizing agents, moisture.

与其它材料的相容性：强氧化剂、水分。

**Hazardous Polymerization:** Has not been reported.

危险聚合：尚未报告。

## Section 12 - Toxicological Information

### 第 12 节-毒理学信息

**RTECS#** 化学物质毒性作用登记联机数据库编号：

**CAS#** 中国科学院编号：

**LD50/LC50:**

CAS# 5256-76-8:

**Carcinogenicity** 致癌性：

CAS#5256-76-8: Not listed by ACGIH (美国政府工业卫生学家会议), IARC (国际癌症研究署), NIOSH (国立职业安全与健康研究所), NTP, or OSHA (<美>职业安全与卫生条例[管理局]) .

CAS# 5256-76-8: 没有被 ACGIH, IARC, NIOSH, NTP, or OSHA 列入.

**Epidemiology:** No data available.

流行病学：无数据可用。

**Teratogenicity:** No data available.

致畸性：无数据

**Reproductive Effects:** No data available.

生殖危害：没有可用数据。

**Neurotoxicity:** No data available.

神经毒性：无可用数据。

**Mutagenicity:** Mutagenic effects have occurred in experimental animals.

致突变性：突变型发生在实验动物身上。

**Other Studies:** No information available.

其他研究：没有可用信息。

## Section 13 - Ecological Information

### 第 13 节-生态信息

No information available. 没有可用信息。

## Section 14 - Disposal Considerations

### 第 14 节处置的考虑

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

化学废物发生器必须确定是否废弃的化学品被列为危险废物。美国环保局的分类确定指南列在 40 CFR 部分 261.3 中。此外，废物发生器必须参照国家和地方危险废物条例，以确保完整和准确的分类。

**RCRA P-Series** 资源保护与恢复法 **P-Series:** None listed. 没有列入。

**RCRA U-Series** 资源保护与恢复法 **U-Series:** None listed. 没有列入。

## Section 15 - Transport Information

### 第 15 节-运输信息

NON-HAZARDOUS FOR AIR ,SEA AND ROAD TRANSPORT

NOT REGULATED BY IMO/IMDG

|                           | <b>US DOT</b> 美国运输部                | <b>IATA</b> 国际航空运输协会 | <b>RID</b> <美> ( 联邦通讯委员会 )无线电信报处 / <b>ADR</b> 事故数据记录器 | <b>IMO</b> 国际海事组织 | <b>Canada TDG</b> 加拿大贸易            |
|---------------------------|------------------------------------|----------------------|-------------------------------------------------------|-------------------|------------------------------------|
| <b>Shipping Name</b> 船名:  | No information available.<br>无适用信息 |                      |                                                       |                   | No information available.<br>无适用信息 |
| <b>Hazard Class</b> 危险等级: |                                    |                      |                                                       |                   |                                    |

|                         |  |  |  |  |  |
|-------------------------|--|--|--|--|--|
| UN Number 联合国<br>编号:    |  |  |  |  |  |
| Packing Group 包装<br>等级: |  |  |  |  |  |

## Section 16 - Regulatory Information

### 第 16 节-监管信息

#### US FEDERAL 美国联邦

##### TSCA <美>有毒物质管理法

CAS# 5256-76-8 is not listed on the TSCA inventory.

CAS# 5256-76-8 没有被列在 TSCA 的目录上

##### Health & Safety Reporting List 健康与安全报告单

None of the chemicals are on the Health & Safety Reporting List.

这个化学品不在健康和安全报告单上。

##### Chemical Test Rules 化学检验规则

None of the chemicals in this product are under a Chemical Test Rule.

本产品中没有任何化学品不符合化学试验规程

##### Section 12b 第 12 节

None of the chemicals are listed under TSCA Section 12b.

本品没有被列入<美>有毒物质管理法第 12 节。

##### TSCA Significant New Use Rule<美>有毒物质管理法的重要新用途规则

None of the chemicals in this material have a SNUR under TSCA.

这个物质的化学物质在<美>有毒物质管理法中没有重要新用途。

##### CERCLA Hazardous Substances and corresponding RQs

综合环境反应，补偿与债务法案有害物质和相应的评价

##### SARA Section 302 Extremely Hazardous Substances

SARA 第 302 节极危险物质

**Section 313** No chemicals are reportable under Section 313.

这种产品的化学成分没有被列入 313 节。

##### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

这种材料不含任何有害的空气污染物。

该材料不含任何 1 级臭氧消耗剂。

该材料不含任何 2 级臭氧消耗剂。

#### **Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

这种化学产品没有有害物质被列入<美>土木工程署。

这种化学产品没有优先污染物被列入<美>土木工程署。

这种化学产品没有有毒污染物被列入<美>土木工程署。

#### **OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

该产品中没有一种化学品被 OSHA 认为是高度危险的。

#### **STATE**

CAS# 5256-76-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 5256-76-8 不存在于 CA、PA、MN、MA、FL 或新泽西州的国家名单上

#### **California Prop 65 加州 65 提案**

California No Significant Risk Level: None of the chemicals in this product are listed.

加利福尼亚没有显著的风险水平：该产品中没有任何化学物质被列入

#### **European/International Regulations 欧洲/国际条例**

##### **European Labeling in Accordance with EC Directives 按照欧共同体指令的欧洲标签**

S 24/25 Avoid contact with skin and eyes.

S 24/25 避免接触皮肤和眼睛

##### **WGK (Water Danger/Protection) 德国水公害 (水危险/保护)**

CAS# 5256-76-8: 0

#### **Canada - DSL/NDSL**

CAS# 5256-76-8 is listed on Canada's DSL List.

CAS# 5256-76-8 被列入 Canada's DSL

#### **Canada - WHMIS**

This product has a WHMIS classification of D2B.

本产品符合 D2B 的家用危险分类。

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

本产品按照危险标准和法规进行了分类，安全数据表中包含法规所需的所有信息。

## **Section 17 - statute**

### **第 17 节-法规信息**

The following laws, regulations, rules and standards provide for the management of the product:

下列法律、法规、规章和标准，对该化学品的管理作相应的规定：

**组分 (2S)-2-amino-5-(diaminomethylideneamino)pentanoic acid,2-oxopentanedioic acid CAS: 16856-18-1**

Law of the People's Republic of China on the Prevention of Occupational Diseases:

中华人民共和国职业病防治法:

Classification of occupational hazard factors (2015): not included

职业病危害因素分类目录(2015): 未列入

Regulations on Safety Management of Hazardous Chemicals:

危险化学品安全管理条例:

Catalogue of hazardous chemicals (2015): not included

危险品化学品目录 (2015): 未列入

List of explosive hazardous chemicals (2017): not included

易制爆危险化学品名录 (2017): 未列入

List of hazardous chemicals under key supervision

重点监管的危险化学品名录:

List of the first and second batch of hazardous chemicals under key supervision: not included

首批和第二批重点监管的危险化学品名录: 未列入

Measures for Environmental Management Registration of Hazardous Chemicals (for Trial Implementation):

危险化学品环境管理登记办法 (试行):

List of key hazardous chemicals for environmental management: not included

重点环境管理危险化学品目录: 未列入

Regulations on the Administration of Narcotic Drugs and Psychotropic Substances:

麻醉药品和精神药品管理条例:

Category of narcotic drugs: not included

麻醉药品品种目录: 未列入

Catalogue of psychotropic drugs: not included

精神药品品种目录: 未列入

Environmental management measures for new chemicals:

新化学物质环境管理办法:

List of Existing Chemical Substances in China (2013): Not included

中国现有化学物质名录(2013): 未列入

## Section 18 - Additional Information

### 第 18 节-补充资料

**MSDS Creation Date: 2022.10**

安全数据表生成日期: 2022.10

**Revision #4 Date: 10/2022**

修订 #4 日期: 2022.10

**有效期: 5 年**

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