



# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, hydrate (1:1)

### 1.2 Other means of identification

**Product number** -

**Other names** EXTRAN AP 22; monohydrate citric acid; ACETONE D

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.

**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yien Chemical Technology Co., Ltd  
**Address** Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
**Telephone** +86-400-133-2688

### 1.5 Emergency phone number

**Emergency phone number** +86-400-133-2688

**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Skin irritation, Category 2

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Warning

**Hazard statement(s)** H319 Causes serious eye irritation

**Precautionary statement(s)**

**Prevention** P264 Wash ... thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
**Response** P302+P352 IF ON SKIN: Wash with plenty of water/...

P321 Specific treatment (see ... on this label).  
P332+P317 If skin irritation occurs: Get medical help.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
**Storage** none  
**Disposal** none

## 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name  | Common names and synonyms                                  | CAS number | EC number | Concentration |
|--|--|------------|-----------|---------------|
| 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, hydrate (1:1) | 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, hydrate (1:1) | 5949-29-1  | 611-842-9 | 100%          |

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Fresh air, rest.

#### Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth. Give one or two glasses of water to drink.

### 4.2 Most important symptoms/effects, acute and delayed

no data available

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

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## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### 5.2 Specific hazards arising from the chemical

Combustible. Finely dispersed particles form explosive mixtures in air.

### 5.3 Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to

prevent dusting. Wash away remainder with plenty of water.

## **6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

## **6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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# **SECTION 7: Handling and storage**

## **7.1 Precautions for safe handling**

NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

## **7.2 Conditions for safe storage, including any incompatibilities**

Separated from strong bases and oxidants.

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# **SECTION 8: Exposure controls/personal protection**

## **8.1 Control parameters**

### **Occupational Exposure limit values**

no data available

### **Biological limit values**

no data available

## **8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## **8.3 Individual protection measures, such as personal protective equipment (PPE)**

### **Eye/face protection**

Wear safety spectacles.

### **Skin protection**

Protective gloves.

### **Respiratory protection**

Use local exhaust or breathing protection.

### **Thermal hazards**

no data available

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# **SECTION 9: Physical and chemical properties and safety characteristics**

|                                     |                     |
|-------------------------------------|---------------------|
| <b>Physical state</b>               | Solid. Crystalline. |
| <b>Colour</b>                       | White.              |
| <b>Odour</b>                        | no data available   |
| <b>Melting point/freezing point</b> | Ca. 153 °C.         |

|   |   |
|---|---|
| <b>Boiling point or initial boiling point and boiling range</b> | 141.3 °C. Atm. press.:1 000.2 mBar.   |
| <b>Flammability</b>   | no data available   |
| <b>Lower and upper explosion limit/flammability limit</b>       | no data available   |
| <b>Flash point</b>  | 345 °C.   |
| <b>Auto-ignition temperature</b>                                | 1 010 °C.   |
| <b>Decomposition temperature</b>                                | no data available   |
| <b>pH</b>   | 1.8.  |
| <b>Kinematic viscosity</b>                                      | dynamic viscosity (in mPa s) = 6.5. Temperature:25.0°C. Remarks:50% aqueous solution.         |
| <b>Solubility</b>   | In water: 540 g/L. Temperature:10 °C.;592 g/L. Temperature:20 °C.;643 g/L. Temperature:30 °C. |
| <b>Partition coefficient n-octanol/water</b>                    | log Pow = -1.72.  |
| <b>Vapour pressure</b>  | 0 Pa. Temperature:25 °C. Remarks:Extrapolated.  |
| <b>Density and/or relative density</b>                          | 1.67. Temperature:20 °C.  |
| <b>Relative vapour density</b>                                  | 2 (vs air)  |
| <b>Particle characteristics</b>                                 | no data available   |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Dust explosion possible if in powder or granular form, mixed with air.The solution in water is a weak acid. Attacks copper, zinc, aluminium and their alloys.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - mouse (male/female) - 5 400 mg/kg bw. Remarks:Observation limited to 10 days.
- Inhalation: Inhalation Risk Test - rat (male/female) - Inhalation Risk Test.
- Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The aerosol is irritating to the eyes, skin and respiratory tract.

**STOT-repeated exposure**

no data available

**Aspiration hazard**

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

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**SECTION 12: Ecological information****12.1 Toxicity**

- Toxicity to fish: LC50 - *Leuciscus idus melanotus* - 440 mg/L - 48 h.
- Toxicity to daphnia and other aquatic invertebrates: LC50 - *Daphnia magna* - 1 535 mg/L - 24 h.
- Toxicity to algae: Toxicity Threshold - *Scenedesmus quadricauda* - 640 mg/L - 8 d.
- Toxicity to microorganisms: TT - *Pseudomonas putida* - > 10 000 mg/L - 16 h.

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Other adverse effects**

no data available

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**SECTION 13: Disposal considerations****13.1 Disposal methods****Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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**SECTION 14: Transport information**

## 14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

## 14.6 Special precautions for user

no data available

## 14.7 Transport in bulk according to IMO instruments

no data available

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# SECTION 15: Regulatory information

## 15.1 Safety, health and environmental regulations specific for the product in question

| Chemical name  | Common names and synonyms                                  | CAS number | EC number   |
|--|--|------------|-------------|
| 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, hydrate (1:1)               | 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, hydrate (1:1) | 5949-29-1  | 611-842-9   |
| European Inventory of Existing Commercial Chemical Substances (EINECS)   |  |            | Not Listed. |
| EC Inventory   |  |            | Not Listed. |
| United States Toxic Substances Control Act (TSCA) Inventory              |  |            | Not Listed. |
| China Catalog of Hazardous chemicals 2015                                |  |            | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                               |  |            | Listed.     |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |  |            | Listed.     |
| Vietnam National Chemical Inventory                                      |  |            | Listed.     |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |  |            | Listed.     |
| Korea Existing Chemicals List (KECL)                                     |  |            | Not Listed. |

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# SECTION 16: Other information

### Information on revision

Creation Date July 15, 2019

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

## References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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