

# 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** Benzene-1,2:4,5-tetracarboxylic dianhydride

### 1.2 Other means of identification

**Product number** -  
**Other names** BDFtetrone; 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone;  
pyromellitic acid anhydride

### 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 Baishun Biotechnology Co., Ltd  
**Address** No. 26, Lane 918, Lianye Road, Zhelin Town, Fengxian  
District, Shanghai, 201400, China  
**Telephone** +86-21-37581181

### 1.5 Emergency phone number

**Emergency phone number** +86-21-37581181  
**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

Serious eye damage, Category 1  
Skin sensitization, Category 1  
Respiratory sensitization, Category 1

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger  
**Hazard statement(s)** H318 Causes serious eye damage  
H317 May cause an allergic skin reaction

	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
<b>Precautionary statement(s)</b>	
<b>Prevention</b>	P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P272 Contaminated work clothing should not be allowed out of the workplace. P284 [In case of inadequate ventilation] wear respiratory protection.
<b>Response</b>	P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P317 Get medical help. P302+P352 IF ON SKIN: Wash with plenty of water/... P333+P317 If skin irritation or rash occurs: Get medical help. P321 Specific treatment (see ... on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.
<b>Storage</b>	none
<b>Disposal</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## 2.3 Other hazards which do not result in classification

no data available

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Benzene-1,2:4,5-tetracarboxylic dianhydride	Benzene-1,2:4,5-tetracarboxylic dianhydride	89-32-7	201-898-9	100%

# SECTION 4: First-aid measures

## 4.1 Description of necessary first-aid measures

### If inhaled

Fresh air, rest. Half-upright position. Refer for medical attention.

### 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. Do NOT induce vomiting.

## 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

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist respirations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Monitor for shock and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Activated charcoal is not effective. Do not attempt to neutralize because of exothermic reaction. Cover skin burns with dry, sterile dressings after decontamination. Organic acids and related compounds

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

To fight fire use: Powder, water spray, foam, carbon dioxide.

### **5.2 Specific hazards arising from the chemical**

Combustible.

### **5.3 Special protective actions for fire-fighters**

Use water spray, powder, foam, 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**

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.

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

Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water. (Extra personal protection: P2 filter respirator for harmful particles.)

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

NO open flames. 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**

Dry. Well closed. Dry. Well closed.

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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 goggles or eye protection in combination with breathing protection.

#### Skin protection

Protective gloves. Protective clothing.

#### 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

Physical state	DryPowder
Colour	White powder
Odour	no data available
Melting point/freezing point	287 °C
Boiling point or initial boiling point and boiling range	397 ~ 400 °C
Flammability	Combustible.
Lower and upper explosion limit/flammability limit	no data available
Flash point	380 °C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	Soluble in some organic solvents
Partition coefficient n-octanol/water	log Kow = 2.14 /Estimated/
Vapour pressure	4.8X10-6 mm Hg @ 25 deg C /Estimated/
Density and/or relative density	1.68
Relative vapour density	no data available
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reacts with water. This produces acid.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Reacts with water. This produces acid.

### 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 Guinea pig oral 1595 mg/kg
- Inhalation: no data available
- Dermal: no data available

### **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 substance is irritating to the eyes, skin and respiratory tract. Exposure at high levels could cause pulmonary haemorrhage.

### **STOT-repeated exposure**

Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation may cause asthma.

### **Aspiration hazard**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

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# **SECTION 12: Ecological information**

## **12.1 Toxicity**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

## **12.2 Persistence and degradability**

no data available

## **12.3 Bioaccumulative potential**

An estimated BCF of 9 was calculated for pyromellitic dianhydride(SRC), using an estimated log Kow of 2.14(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

## 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc for pyromellitic dianhydride can be estimated to be 178(SRC). According to a classification scheme(2), this estimated Koc value suggests that pyromellitic dianhydride is expected to have moderate mobility in soil(SRC).

## 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.)
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## 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.)
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## 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.)
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## 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.)
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## 14.5 Environmental hazards

ADR/RID: No	IMDG: No	IATA: No
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## 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
Benzene-1,2:4,5-tetracarboxylic dianhydride	Benzene-1,2:4,5-tetracarboxylic dianhydride	89-32-7	201-898-9
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			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)			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/>

### Other Information

The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore

essential. Anyone who has shown symptoms of asthma due to this substance should avoid all further contact with this substance.

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

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*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*