

# SAFETY DATA SHEETS

According to the UN GHS revision 9

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

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** Benzoic acid

### 1.2 Other means of identification

**Product number** -  
**Other names** Benzoic acid

### 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).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Skin irritation, Category 2  
Serious eye damage, Category 1  
Specific target organ toxicity – repeated exposure, Category 1

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger  
**Hazard statement(s)** H315 Causes skin irritation  
H318 Causes serious eye damage  
H372 Causes damage to organs through prolonged or repeated exposure

**Precautionary statement(s)**

<b>Prevention</b>	P264 Wash ... thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
<b>Response</b>	P260 Do not breathe dust/fume/gas/mist/vapours/spray. P270 Do not eat, drink or smoke when using this product. 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. 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. P319 Get medical help if you feel unwell.
<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

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**SECTION 3: Composition/information on ingredients**

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**3.1 Substances**

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Benzoic acid	Benzoic acid	65-85-0	200-618-2	100%

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**SECTION 4: First-aid measures**

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**4.1 Description of necessary first-aid measures****If inhaled**

Fresh air, rest.

**Following skin contact**

Remove contaminated clothes. Rinse and then wash skin with water and soap.

**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. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention .

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

Dust may be irritating to nose and eyes. At elevated temperatures, fumes may cause irritation of eyes, respiratory system, and skin. (USCG, 1999)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and

maintain normal body temperature. Obtain medical attention. Organic acids and related compounds

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

### **5.1 Suitable extinguishing media**

If material on fire or involved in fire: Use water in flooding quantities as fog. Solid streams of water may spread fire. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use foam, dry chemical, or carbon dioxide.

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

Behavior in Fire: Vapor from molten benzoic acid may form explosive mixture with air. Concentrated dust may form explosive mixture. (USCG, 1999)

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

Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

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## **SECTION 6: Accidental release measures**

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

Personal protection: protective clothing and face shield. Sweep spilled substance into covered plastic containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.

### **6.2 Environmental precautions**

Personal protection: protective clothing and face shield. Sweep spilled substance into covered plastic 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**

Cover with soda ash or sodium bicarbonate. Mix and add water.

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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**

The bulk material should be stored in well-closed container in a cool dry place.

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

### **8.1 Control parameters**

#### **Occupational Exposure limit values**

MAK: (respirable fraction): 0.5 mg/m<sup>3</sup>, 0.1 ppm; peak limitation category: II(4); skin absorption (H); pregnancy risk group: C

#### **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.

#### 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. Monoclinic tablets, plates, leaflets.
<b>Colour</b>	White.
<b>Odour</b>	Odorless or with a slight benzaldehyde odor
<b>Melting point/freezing point</b>	122.4 °C.
<b>Boiling point or initial boiling point and boiling range</b>	249.2 °C. Atm. press.:760 mm Hg.;227 °C. Atm. press.:400 mm Hg.;205.8 °C. Atm. press.:200 mm Hg.
<b>Flammability</b>	Combustible.
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	121°C
<b>Auto-ignition temperature</b>	1061°F
<b>Decomposition temperature</b>	no data available
<b>pH</b>	2.8. Remarks:Saturated solution.
<b>Kinematic viscosity</b>	1.26 cP at 130 deg C
<b>Solubility</b>	less than 1 mg/mL at 68° F (NTP, 1992)
<b>Partition coefficient n-octanol/water</b>	log Pow = 1.88. Remarks:Temperature and pH not reported.
<b>Vapour pressure</b>	0.001 hPa. Temperature:20 °C.
<b>Density and/or relative density</b>	1.321 g/cm <sup>3</sup> . Temperature:20 °C.;1.082 g/cm <sup>3</sup> . Temperature:122.375 °C.;1.029 g/cm <sup>3</sup> . Temperature:180 °C.
<b>Relative vapour density</b>	4.21 (vs air)
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The solution in water is a weak acid. Reacts with oxidants.

### 10.2 Chemical stability

A 0.1% w/v aqueous solution of benzoic acid has been reported to be stable for at least 8 weeks when stored in polyvinyl chloride bottles, at room temperature.

### 10.3 Possibility of hazardous reactions

Slight, when exposed to heat or flame...Dust explosion possible if in powder or granular form, mixed with air.At high temperature BENZOIC ACID can react with oxidizing reagents.

### 10.4 Conditions to avoid

no data available

## 10.5 Incompatible materials

Undergoes typical reactions of an organic acid, e.g. with alkalis or heavy metals.  
Preservative activity may be reduced by interaction with kaolin.

## 10.6 Hazardous decomposition products

When heated to decomp it emits acrid smoke and irritating fumes.

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# SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Cat oral 2000 mg/kg
- Inhalation: LC50 - rat (male/female) - > 12 200 mg/m<sup>3</sup> air.
- Dermal: LD50 - rabbit (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

Cancer Classification: Group D Not Classifiable as to Human Carcinogenicity

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract. Exposure could cause a non-allergic rash on contact.

### 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 - *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*) - 47.3 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: LC50 - *Daphnia magna* - > 100 mg/L - 48 h.
- Toxicity to algae: EC50 - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - > 33.1 mg/L - 72 h.
- Toxicity to microorganisms: IC50 - activated sludge - > 1 000 mg/L - 3 h.  
Remarks:Respiration rate.

## 12.2 Persistence and degradability

AEROBIC: Benzoic acid is biodegradable under aerobic conditions by bacteria present in crude municipal wastewater at less than or equal to 200 g/cu m.

### 12.3 Bioaccumulative potential

Measured BCF values of <10, 14, and 21 were reported for Golden ide (*Leuciscus idus melanotus*)(1), trout(2), and mosquito fish (*Gambusia affinis*)(3), respectively. According to a classification scheme(4), this BCF range suggests the potential for bioconcentration in aquatic organisms is low(SRC). Bioconcentration factors of <10(1), 100, 138, 1800, 2800(3) and 10(4) have been reported in algae (*Chorella fusca*)(1), algae (*Oedogonium cardiacum*), mosquito larvae (*Culex quinquefasciatus*), daphnia (*Daphnia magna*) and snail (*Physa*), respectively(3).

### 12.4 Mobility in soil

Koc of benzoic acid is estimated as 15(SRC), using a log Kow of 1.87(1) and a regression-derived equation(2). An experimental log Koc of 1.50 (Koc = 31) has been reported, test details not available(3). According to a classification scheme(4), these Koc values suggest that benzoic acid is expected to have very high mobility in soil. The pKa of benzoic acid is 4.20(5), indicating that this compound will exist in anion form in the environment and anions generally do not adsorb more strongly to organic carbon and clay than their neutral counterparts(6). Freundlich adsorption constants of 0.23, 0 and 0 were reported using Ersum sandy till (pH 4.7; 0.25% OC), Tirstrup melt water sand (pH 6.1; 0.09% OC) and Djursland clayey till (pH 7.6; 0.22% OC), respectively, at 6 deg C. Soils were collected in North Sealand and Djursland, Jutland(7). Benzoic acid displayed negligible adsorption when using a montmorillonite (Volclay bentonite, Upton WY) clay(8).

### 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.)

## 14.5 Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

## 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
Benzoic acid	Benzoic acid	65-85-0	200-618-2
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			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)			Listed.

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## SECTION 16: Other information

### Information on revision

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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 substance begins to sublime at 100°C.

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

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