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 Pyrocatechol

1.2 Other means of identification

Product number -
Other names 1,2-dihydroxybenzene; Phthalsaeure-diheptylester; di-n-octyl phthalate

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

Acute toxicity - Category 3, Oral
Acute toxicity - Category 3, Dermal
Skin irritation, Category 2
Eye irritation, Category 2
Germ cell mutagenicity, Category 2
Carcinogenicity, Category 1B

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)	H301 Toxic if swallowed H311 Toxic in contact with skin H315 Causes skin irritation H319 Causes serious eye irritation H341 Suspected of causing genetic defects H350 May cause cancer
Precautionary statement(s)	
Prevention	P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P203 Obtain, read and follow all safety instructions before use.
Response	P301+P316 IF SWALLOWED: Get emergency medical help immediately. P321 Specific treatment (see ... on this label). P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water/... P316 Get emergency medical help immediately. P361+P364 Take off immediately all contaminated clothing and wash it before reuse. P332+P317 If skin irritation occurs: Get medical help. P362+P364 Take off contaminated clothing and wash it before reuse. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P318 IF exposed or concerned, get medical advice.
Storage	P405 Store locked up.
Disposal	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
Pyrocatechol	Pyrocatechol	120-80-9	204-427-5	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer immediately for medical attention.

4.2 Most important symptoms/effects, acute and delayed

DUST: Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. SOLID: Will burn skin and eyes. Harmful if swallowed. (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. Phenols and related compounds

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

To fight fire, use water, carbon dioxide, dry chemical

5.2 Specific hazards arising from the chemical

Combustible. POISONOUS GASES MAY BE PRODUCED WHEN HEATED. May form toxic fumes at high temperatures. (USCG, 1999)

5.3 Special protective actions for fire-fighters

Use water spray, dry powder, alcohol-resistant foam, carbon dioxide.

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. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: P2 filter respirator for harmful particles.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. NO contact with oxidizing agents. 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

Well closed. Separated from oxidants and food and feedstuffs. Keep in the dark. Ventilation along the floor. Store in an area without drain or sewer access.Separated from strong oxidants, food and feedstuffs. Keep in the dark. Ventilation along the floor.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

TLV: 5 ppm as TWA; (skin); A3 (confirmed animal carcinogen with unknown relevance to humans)

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 face shield 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

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Solid. Flakes.
Colour	Brown shavings.
Odour	Faint characteristic odor
Melting point/freezing point	105 °C.
Boiling point or initial boiling point and boiling range	245.5 °C. Atm. press.:1 013 hPa. Remarks:Sublimation, vapour elimination.;245 °C. Atm. press.:1 000 hPa. Remarks:Data from Safety assessment (1986).
Flammability	Combustible Solid
Lower and upper explosion limit/flammability limit	Flammability lower limit (vapor in air): 1.97%
Flash point	127 °C.
Auto-ignition temperature	510 °C. Remarks:No information on pressure are available.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	Miscible with water
Partition coefficient n-octanol/water	log Pow = 0.88. Temperature:25 °C. Remarks:Measured value reported in Garst & Wilson (1984).;log Pow = 0.9. Temperature:25 °C. Remarks:Measured value #1 reported in Garst (1984).;log Pow = 0.95. Temperature:25 °C. Remarks:Measured value #2 reported in Garst (1984).
Vapour pressure	6.66 hPa. Temperature:104 °C.;13.3 hPa. Temperature:118.3 °C.;53.3 hPa. Temperature:150.6 °C.
Density and/or relative density	1.34 g/cm³. Temperature:15 °C.;1.34 - 1.37 g/cm³. Temperature:15 °C.
Relative vapour density	3.8 (vs air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

On combustion, forms toxic fumes. Reacts violently with oxidants. This generates fire and explosion hazard.

10.2 Chemical stability

Discolors in air and light ... its aqueous solution soon turns brown.

10.3 Possibility of hazardous reactions

Combustible when exposed to heat or flame.POISONOUS GASES MAY BE PRODUCED WHEN HEATED. CATECHOL may form toxic fumes at high temperatures. (USCG, 1999). This compound can react with acid chlorides, acid anhydrides, bases and oxidizing agents. It reacts violently on contact with concentrated nitric acid. It acts as a reducing agent (NTP, 1992).

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Can react vigorously with oxidizing materials

10.6 Hazardous decomposition products

Decomposition compounds: phenol derivatives, carbon oxides, irritating smokes.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male) - 300 mg/kg bw.
- Inhalation: LC0 - rat (female) - >= 2.8 mg/L air.
- Dermal: LD50 - rat (male/female) - 600 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

Evaluation: No epidemiological data relevant to the carcinogenicity of catechol were available. There is sufficient evidence in experimental animals for the carcinogenicity of catechol. OVERALL EVALUATION: Catechol is possibly carcinogenic to humans (Group 2B).

Reproductive toxicity

No information is available on the reproductive or developmental effects of catechol in humans or animals.

STOT-single exposure

The substance is irritating to the skin and respiratory tract. The substance is corrosive to the eyes. The substance may cause effects on the central nervous system. This may result in depression, convulsions and respiratory failure. Exposure could cause rise of blood pressure.

STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization. This substance is possibly carcinogenic to humans. May cause heritable genetic damage to human germ cells.

Aspiration hazard

A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - Pimephales promelas - 9.22 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 1.09 mg/L - 48 h.
- Toxicity to algae: EC50 - Chlorella vulgaris - 22 mg/L - 96 h.
- Toxicity to microorganisms: IC50 - Tetrahymena pyriformis - 19.58 mg/L - 48 h.

12.2 Persistence and degradability

AEROBIC: Catechol is moderately to readily biodegraded in soils based on a residence time of 1 day for 500 mg of catechol in chernozem soil on hard carbonaceous woody loam (pH 7.1-7.5, 19 deg C)(1). The percent biodegradation (measured as percentage of recovered 14CO2 activity) after 6 months at 23 deg C in Steinbeck loam (pH 5.0), Fallbrook sandy loam (pH 5.5), Greenfield sandy loam (pH 7.0), and Sorrento loam (pH 7.4) were 24, 50, 28, and 26%, respectively(2). The soil bacteria Agrobacterium radiobacter was shown to biodegrade catechol(3).

12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated for catechol(SRC), using a log Kow of 0.88(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

The Koc of catechol in Brookston clay loam has been reported to be 118(1). According to a classification scheme(2), this Koc value suggests that catechol is expected to have high mobility in soil.

12.5 Other adverse effects

no data available

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.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN2811 (For reference only, please check.)	IMDG: UN2811 (For reference only, please check.)	IATA: UN2811 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.)	IMDG: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.)	IATA: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)	IMDG: 6.1 (For reference only, please check.)	IATA: 6.1 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.)	IMDG: I (For reference only, please check.)	IATA: I (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

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
Pyrocatechol	Pyrocatechol	120-80-9	204-427-5
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.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
Revision Date	July 15, 2019

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
- 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

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