

# SAFETY DATA SHEETS

According to the UN GHS revision 10

Version: 1.1  
Creation Date: July 15, 2024  
Revision Date: March 23, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name 10,10'-Oxybis(phenoxarsine)

### 1.2 Other means of identification

Product number C1804926  
Other names -

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

Identified uses For laboratory and Industrial use only.  
Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.  
Address 3/F, Building B, No. 179 BASIGO, Guangpu Rd East, Huangpu Dist, Guangzhou  
Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175  
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 2, Oral  
Acute toxicity - Category 3, Dermal  
Skin corrosion, Sub-category 1B  
Acute toxicity - Category 2, Inhalation  
Specific target organ toxicity – repeated exposure, Category 1  
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H300 Fatal if swallowed  
H311 Toxic in contact with skin  
H314 Causes severe skin burns and eye damage  
H330 Fatal if inhaled  
H372 Causes damage to organs through prolonged or repeated exposure  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects

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/...  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P271 Use only outdoors or in a well-ventilated area.  
P284 [In case of inadequate ventilation] wear respiratory protection.  
P273 Avoid release to the environment.

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Response</b> | <p>P301+P316 IF SWALLOWED: Get emergency medical help immediately.</p> <p>P321 Specific treatment (see ... on this label).</p> <p>P330 Rinse mouth.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water/...</p> <p>P316 Get emergency medical help immediately.</p> <p>P361+P364 Take off immediately all contaminated clothing and wash it before reuse.</p> <p>P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P320 Specific treatment is urgent (see ... on this label).</p> <p>P319 Get medical help if you feel unwell.</p> <p>P391 Collect spillage.</p> |
| <b>Storage</b>  | <p>P405 Store locked up.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Disposal</b> | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### 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 |
|-----------------------------|---------------------------|------------|-----------|---------------|
| 10,10'-Oxybis(phenoxarsine) | Diphenoxarsin-10-yl oxide | 58-36-6    | 200-377-3 | ≈ 99%         |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

Non-Specific -- Arsenic Compounds) Arsenic compounds are acutely poisonous by ingestion. Ingestion or inhalation may result in chronic poisoning. Arsenic compounds are recognized carcinogens of the skin, lungs, and liver. (EPA, 1998)

### 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 if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the 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. Poisons A and B

## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Non-Specific -- Arsenic Compound, Solid, n.o.s.) Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Arsenic Compound, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. (EPA, 1998)

### 5.2 Specific hazards arising from the chemical

Non-Specific -- Arsenic Compounds) When heated to decomposition, it emits highly toxic fumes of arsenic. (EPA, 1998)

### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

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## SECTION 6: Accidental release measures

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### 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

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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

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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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

**Skin protection**

Wear fire/flammable resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

**Thermal hazards**

no data available

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

|                                                                 |                                                                                                                                                                                                 |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical state</b>                                           | Phenoxarsine, 10,10'-oxydi- is a clear light yellow liquid with a mild odor. Insoluble in water and slightly denser than water. Contact may severely irritate skin, eyes, and mucous membranes. |
| <b>Colour</b>                                                   | Colorless monoclinic prisms                                                                                                                                                                     |
| <b>Odour</b>                                                    | Odorless                                                                                                                                                                                        |
| <b>Melting point/freezing point</b>                             | 180-184°C                                                                                                                                                                                       |
| <b>Boiling point or initial boiling point and boiling range</b> | 531.3°C at 760mmHg                                                                                                                                                                              |
| <b>Flammability</b>                                             | no data available                                                                                                                                                                               |
| <b>Lower and upper explosion limit/flammability limit</b>       | no data available                                                                                                                                                                               |
| <b>Flash point</b>                                              | 214.1°C                                                                                                                                                                                         |
| <b>Auto-ignition temperature</b>                                | no data available                                                                                                                                                                               |
| <b>Decomposition temperature</b>                                | no data available                                                                                                                                                                               |
| <b>pH</b>                                                       | no data available                                                                                                                                                                               |

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|                                       |                                               |
|---------------------------------------|-----------------------------------------------|
| Kinematic viscosity                   | no data available                             |
| Solubility                            | In water, 5 mg/L at 20 deg C                  |
| Partition coefficient n-octanol/water | log Kow = 7.51 (est)                          |
| Vapour pressure                       | 5.1X10 <sup>-12</sup> mm Hg at 25 deg C (est) |
| Density and/or relative density       | 1.40-1.42                                     |
| Relative vapour density               | no data available                             |
| Particle characteristics              | no data available                             |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Highly flammable. Insoluble in water.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Organometallics, such as PHENOXARSINE, 10,10'-OXYDI-, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /arsenic/.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral 40 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

no data available

### STOT-repeated exposure

no data available

### Aspiration hazard

no data available

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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 7500 was calculated in fish for phenarsazine oxide(SRC), using an estimated log Kow of 7.51(1) and a regression-derived equation(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is very high(SRC), provided the compound is not metabolized by the organism(SRC).

## 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of phenarsazine oxide can be estimated to be  $1.3 \times 10^8$ (SRC). According to a classification scheme(2), this estimated Koc value suggests that phenarsazine oxide is expected to be immobile 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: UN1557 (For reference only, please check.) IMDG: UN1557 (For reference only, please check.) IATA: UN1557 (For reference only, please check.)

## 14.2 UN Proper Shipping Name

ADR/RID: ARSENIC COMPOUND, SOLID, IMDG: ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; N.O.S., inorganic, including: Arsenates, Arsenites, n.o.s.; and Arsenic sulphides, n.o.s. (For reference only, please check.) IATA: ARSENIC COMPOUND, SOLID, N.O.S., inorganic, including: Arsenates, n.o.s.; Arsenites, n.o.s.; and Arsenic sulphides, 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: 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

# 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 |
|------------------------------------------------------------------------|---------------------------|------------|-----------|
| Diphenoxarsin-10-yl oxide                                              | Diphenoxarsin-10-yl oxide | 58-36-6    | 200-377-3 |
| European Inventory of Existing Commercial Chemical Substances (EINECS) |                           |            | Listed.   |
| EC Inventory                                                           |                           |            | 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)                                     | Listed.     |

## SECTION 16: Other information

### Information on revision

Creation Date July 15, 2024  
Revision Date March 23, 2025

### 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 [info@cato-chem.com](mailto:info@cato-chem.com)

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