CATO Research Chemicals Inc.
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# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2
Creation Date: July 15, 2019
Revision Date: August 08, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** 2,2',4,4',5,5'-Hexachlorobiphenyl-13C12

### 1.2 Other means of identification

**Product number** LCHM706527
**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

Flammable liquids, Category 2
Skin irritation, Category 2
Aspiration hazard, Category 1
Specific target organ toxicity – single exposure, Category 3
Specific target organ toxicity – repeated exposure, Category 2
Reproductive toxicity, Category 2

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger
**Hazard statement(s)**
H225 Highly flammable liquid and vapour
H315 Causes skin irritation
H304 May be fatal if swallowed and enters airways
H336 May cause drowsiness or dizziness
H373 May cause damage to organs through prolonged or repeated exposure

**Precautionary statement(s)**

| | |
|---|---|
| **Prevention** | P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>P233 Keep container tightly closed.<br>P240 Ground and bond container and receiving equipment.<br>P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.<br>P242 Use non-sparking tools.<br>P243 Take action to prevent static discharges.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...<br>P264 Wash ... thoroughly after handling.<br>P261 Avoid breathing dust/fume/gas/mist/vapours/spray.<br>P271 Use only outdoors or in a well-ventilated area.<br>P260 Do not breathe dust/fume/gas/mist/vapours/spray.<br>P203 Obtain, read and follow all safety instructions before use. |
| **Response** | P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].<br>P370+P378 In case of fire: Use ... to extinguish.<br>P302+P352 IF ON SKIN: Wash with plenty of water/...<br>P321 Specific treatment (see ... on this label).<br>P332+P317 If skin irritation occurs: Get medical help.<br>P362+P364 Take off contaminated clothing and wash it before reuse.<br>P301+P316 IF SWALLOWED: Get emergency medical help immediately.<br>P331 Do NOT induce vomiting.<br>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>P319 Get medical help if you feel unwell.<br>P318 IF exposed or concerned, get medical advice. |
| **Storage** | P403+P235 Store in a well-ventilated place. Keep cool.<br>P405 Store locked up.<br>P403+P233 Store in a well-ventilated place. Keep container tightly closed. |
| **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 |
|---|---|---|---|---|
| Toluene | Toluene | 108-88-3 | 203-625-9 | 100% |
| Nonane | - | 111-84-2 | - | - |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

**If inhaled**

Fresh air, rest. Refer for medical attention.

**Following skin contact**

Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

**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. Refer for medical attention .

### 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

## 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

Highly flammable. Vapour/air mixtures are explosive.

### 5.3 Special protective actions for fire-fighters

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

## SECTION 6: Accidental release measures

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

Evacuate danger area! Consult an expert! Personal protection: chemical protection suit and self-contained breathing apparatus. Ventilation. Remove all ignition sources. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools. 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

Fireproof. Separated from strong oxidants.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Occupational Exposure limit values**

TLV: 20 ppm as TWA; A4 (not classifiable as a human carcinogen); BEI issued.MAK: 190 mg/m3, 50 ppm; peak limitation category: II(4); skin absorption (H); pregnancy risk group: C.EU-OEL: 192 mg/m3, 50 ppm as TWA; 384 mg/m3, 100 ppm as STEL; (skin)

**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 ventilation, local exhaust or breathing protection.

**Thermal hazards**

no data available

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

| | |
|---|---|
| **Physical state** | Colorless liquid |
| **Colour** | no data available |
| **Odour** | no data available |
| **Melting point/freezing point** | -95 °C |

| | |
|---|---|
| **Boiling point or initial boiling point and boiling range** | 110-111°C(lit.) |
| **Flammability** | no data available |
| **Lower and upper explosion limit/flammability limit** | no data available |
| **Flash point** | 4°C |
| **Auto-ignition temperature** | 997°F |
| **Decomposition temperature** | no data available |
| **pH** | no data available |
| **Kinematic viscosity** | no data available |
| **Solubility** | In water: 0.5 g/L (20 °C) |
| **Partition coefficient n-octanol/water** | 2.69 |
| **Vapour pressure** | 22 mm Hg ( 20 °C) |
| **Density and/or relative density** | 0.865g/mLat 25°C(lit.) |
| **Relative vapour density** | 3.2 (vs air) |
| **Particle characteristics** | no data available |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

The vapour mixes well with air, explosive mixtures are easily formed. As a result of flow, agitation, etc., electrostatic charges can be generated.Reacts violently with strong oxidants. This generates fire and explosion hazard.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

## SECTION 11: Toxicological information

**Acute toxicity**

- Oral: no data available
- 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 and respiratory tract. The substance may cause effects on the central nervous system. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. Exposure at high levels could cause cardiac dysrhythmia and unconsciousness.

**STOT-repeated exposure**

The substance defats the skin, which may cause dryness or cracking. The substance may have effects on the central nervous system. Exposure to the substance may increase noise-induced hearing loss. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

**Aspiration hazard**

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

## 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

no data available

### 12.4 Mobility in soil

no data available

### 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: UN1294 (For reference only, please check.) | IMDG: UN1294 (For reference only, please check.) | IATA: UN1294 (For reference only, please check.) |

### 14.2 UN Proper Shipping Name

| | | |
|---|---|---|
| ADR/RID: TOLUENE (For reference only, please check.) | IMDG: TOLUENE (For reference only, please check.) | IATA: TOLUENE (For reference only, please check.) |

### 14.3 Transport hazard class(es)

| | | |
|---|---|---|
| ADR/RID: 3 (For reference only, please check.) | IMDG: 3 (For reference only, please check.) | IATA: 3 (For reference only, please check.) |

### 14.4 Packing group, if applicable

| | | |
|---|---|---|
| ADR/RID: II (For reference only, please check.) | IMDG: II (For reference only, please check.) | IATA: II (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 |
|---|---|---|---|
| Toluene | Toluene | 108-88-3 | 203-625-9 |
| 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. |

## SECTION 16: Other information

**Information on revision**

| | |
|---|---|
| **Creation Date** | July 15, 2019 |
| **Revision Date** | August 08, 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
- 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**

Depending on the degree of exposure, periodic medical examination is suggested.Use of alcoholic beverages enhances the harmful effect.

**Any questions regarding this SDS, Please send your inquiry to info@cato-chem.com**

*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.*