



# 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** [4-[4-(diethylamino)benzhydrylene]cyclohexa-2,5-dien-1-ylidene]diethylammonium hydrogen sulphate

### 1.2 Other means of identification

**Product number** -  
**Other names** 4,4'-bis-diethylamino-tritylium,hydrogen sulfate; diamond green G;  
Ethanaminium, N-[4-[[4-(diethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, sulfate (1:1)

### 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 4, Oral  
Skin irritation, Category 2  
Skin sensitization, Category 1  
Serious eye damage, 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)** H302 Harmful if swallowed  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H318 Causes serious eye damage  
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.

<b>Response</b>	P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
	P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
<b>Storage</b> <b>Disposal</b>	P272 Contaminated work clothing should not be allowed out of the workplace.
	P273 Avoid release to the environment.
	P301+P317 IF SWALLOWED: Get medical help.
	P330 Rinse mouth.
	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.
	P333+P317 If skin irritation or rash occurs: Get medical help.
	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.
	P391 Collect spillage.
	none
	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
[4-[4-(diethylamino)benzhydrylene]cyclohexa-2,5-dien-1-ylidene]diethylammonium hydrogen sulphate	[4-[4-(diethylamino)benzhydrylene]cyclohexa-2,5-dien-1-ylidene]diethylammonium hydrogen sulphate	633-03-4	211-190-1	100%

## 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

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

no data available

### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

---

## 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.

---

## 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.

---

## 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/ flame 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

---

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

<b>Physical state</b>	Solid. Powder.
<b>Colour</b>	Green.
<b>Odour</b>	no data available
<b>Melting point/freezing point</b>	Atm. press.: Ca. 1 atm.
<b>Boiling point or initial boiling point and boiling range</b>	Ca. 774 °C. Atm. press.: 1 atm.
<b>Flammability</b>	no data available

<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	-17°C(lit.)
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	40 mg/ml in water; 60 mg/ml in 2-methoxyethanol; 50 mg/ml in ethanol
<b>Partition coefficient n-octanol/water</b>	log Pow = Ca. 0.765. Temperature:20 °C.
<b>Vapour pressure</b>	< 0 Pa. Temperature:25 °C. Remarks:Calculated value 1.26 E-020 Pa.
<b>Density and/or relative density</b>	Ca. 1.126. Temperature:20 °C.
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	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

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Incompatible with anionic, oxidizing and reducing substances. Incompatible with aqueous suspensions of bentonite.

### 10.6 Hazardous decomposition products

When heated to decomposition it emits very toxic fumes of /nitrogen oxides, ammonia and sulfur oxides/.

---

## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (male/female) - ca. 1.2 mL/kg bw. Remarks:Estimated at 100 %: LD50 = ca 674 mg/Kg bw.
- Inhalation: no data available
- Dermal: LD0 - rat and guinea pig (male/female) - ca. 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

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

---

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: LC50 - other aquatic crustacea: Ostracods (Cypridopsis) and Prawns (Palaemonetes kadiakensis) - 5.85 mg/L - 6 h. Remarks: Ostracods (Cypridopsis).
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

C.I. Basic Green 1 was resistant to aerobic biodegradation in the BOD5 test using an activated sludge inoculum; 1.3% of the theoretical BOD was reached in 5 days(1).

### **12.3 Bioaccumulative potential**

An estimated BCF value of 2 was calculated for C.I. Basic Green 1(SRC), using a measured water solubility of 40,000 mg/l(1) and a recommended regression-derived equation(2). According to a classification scheme(3), this BCF value suggests that bioconcentration in aquatic organisms is low(SRC).

### **12.4 Mobility in soil**

The Koc of C.I. Basic Green 1 is estimated as approximately 13(SRC), using a measured water solubility of 40,000 mg/l(1) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this estimated Koc value suggests that C.I. Basic Green 1 has very high mobility in soil(SRC). Due to the ionic nature of the dye, the retention of C.I. Basic Green 1 by ion-exchange processes(4,SRC), particularly on clay surfaces and adsorption at mineral surfaces such as geothite(5,SRC), may slow down or prevent leaching(SRC).

### **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: Not dangerous goods. (For reference only, please check.)    IMDG: Not dangerous goods. (For reference only, please check.)    (For IATA: Not dangerous goods. (For reference only, please check.)

### **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.)    (For IATA: Not dangerous goods. (For reference only, please check.)

### **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.)    (For IATA: Not dangerous goods. (For reference only, please check.)

### **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.)    (For 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

---

## 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
[4-[4-(diethylamino)benzhydrylene]cyclohexa-2,5-dien-1-ylidene]diethylammonium hydrogen sulphate	[4-[4-(diethylamino)benzhydrylene]cyclohexa-2,5-dien-1-ylidene]diethylammonium hydrogen sulphate	633-03-4	211-190-1
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.

---

## 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](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](mailto:sds@xixisys.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.*

