

# SAFETY DATA SHEET

## Graphene Zinc Powder

## Coating B Component

Jiangsu Toppen Technology Co., Ltd.

- Prepared according to GB/T 17519 and GB/T 16483

# SDS

### Section 1 Product and Company Identification

#### > Product Identifier

Product Name	Graphene Zinc Powder Coating B Component
Synonyms	-
CAS No.	-
EC No.	-
Molecular Formula	-

#### > Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses	Please consult manufacturer.
Uses Advised Against	Please consult manufacturer.

#### > Details of the Supplier of the Safety Data Sheet

Applicant Name	Jiangsu Toppen Technology Co., Ltd.
Application Address	Yangkou Port Industrial Area, Changsha Town, Rudong Country, Nantong City, Jiangsu Province, China
Applicant Post Code	226413
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Supplier Name	Jiangsu Toppen Technology Co., Ltd.
Supplier Address	Yangkou Port Industrial Area, Changsha Town, Rudong Country, Nantong City, Jiangsu Province, China
Supplier Post Code	226413
Supplier Telephone	+86-513-84525256
Supplier Fax	+86-513-84525256
Supplier E-mail	dingwei.cui@toppen.com.cn

#### > Emergency Phone Number

Emergency Phone Number	+86-513-84525256
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### Section 2 Hazards Identification

Hazard class and label elements of the product according to GB30000 series:

H-azepin-2-one and 1,6-hexanediamine									
Xylene	✓	×	×	×	×	×	×	×	×
Butan-1-ol	✓	×	×	×	×	×	×	×	×

【A】 Catalog of Hazardous Chemicals(2015 Edition), Notice 5th 2015, China State Administration of Work Safety.

【B】Catalog of Priority Hazardous Chemicals for Environment Management, Notice 33th 2014, Ministry of Environmental Protection of PRC.

【C】 List of Toxic Chemicals Restricted to be Imported/Exported in China, Notice 85th 2013, Ministry of Environmental Protection of PRC.

【D】 Catalog of Stupefacient and Psychotropic Substances(2013Edition), Notice 230th 2013, China Food and Drug Administration.

【E】Catalog of Hazardous Chemicals for Priority Management(First and Second batches), Notice 95th, 2011, Notice 12th 2013, China State Administration of Work Safety.

【F】List of Ozone Depletion Chemicals Controlled to be Imported/Exported in China (First to Sixth batches) , Notice from 2000 to 2012 Ministry of Environmental Protection of PRC.

【G】 Dangerous Chemicals Directory Used to Manufacture Exploder(2011 Edition), Notice 25th Nov. 2011, Ministry of Public Security of PRC1.

【H】 Catalog of National Dangerous Wastes Annex A, Notice 1th 2008, Ministry of Environmental Protection of PRC.

【I】 Catalog of Highly Toxic Chemicals, Notice 142th 2003, China Ministry of Health.

#### Note

"✓" Indicates that the substance included in the regulations

"×" That no data or included in the regulations

## Section 16 Additional Information

**Creation Date** 2018/04/25

**Revision Date** 2018/04/25

**Reason for Revision** -

### > Disclaimer

This Safety Data Sheet (SDS) was prepared according to GB/T16483-2013 and GB/T17519-2008. The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

**> Emergency overview**

Liquid. Flammable, its vapor and air mixture can form explosive mixture. Slightly harmful if swallowed. Slightly harmful in contact with skin. Irritating to skin. Risk of serious damage to eyes. Irritating to respiratory system. Vapours may cause drowsiness and dizziness. Danger of damage to health by prolonged exposure.

**> GHS Hazard Class**

<b>Flammable Liquids</b>	Category 3
<b>Acute Toxicity – Oral</b>	Category 5
<b>Acute Toxicity – Dermal</b>	Category 5
<b>Skin</b>	Category 2
<b>Corrosion/Irritation</b>	Category 1
<b>Serious Eye</b>	Category 1
<b>Damage/Irritation</b>	Category 1
<b>Specific Target Organ Toxicity-Single</b>	
<b>Exposure: Criteria for respiratory tract irritation</b>	Category 3
<b>Specific Target Organ Toxicity-Single</b>	
<b>Exposure: Criteria for narcotic effects</b>	Category 3
<b>Specific Target Organ Toxicity-Repeated Exposure</b>	Category 2

**> GHS Label Elements**

Pictogram



Signal Word

**Danger****> Hazard Statements**

<b>H226</b>	Flammable liquid and vapour
<b>H303</b>	May be harmful if swallowed
<b>H313</b>	May be harmful in contact with skin
<b>H315</b>	Causes skin irritation
<b>H318</b>	Causes serious eye damage
<b>H335</b>	May cause respiratory irritation
<b>H336</b>	May cause drowsiness or dizziness
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure

**> Precautionary Statements****Prevention**

<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P233</b>	Keep container tightly closed.
<b>P240</b>	Ground and bond container and receiving equipment.
<b>P241</b>	Use explosion-proof [electrical/ventilating/lighting] equipment.
<b>P242</b>	Use non-sparking tools.

<b>P243</b>	Take action to prevent static discharges.
<b>P260</b>	Do not breathe dust/fume/gas/mist/vapours/spray.
<b>P264</b>	Wash thoroughly after handling.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection
<b>Response</b>	
<b>P312</b>	Call a POISON CENTER/doctor, if you feel unwell.
<b>P314</b>	Get medical advice/attention if you feel unwell.
<b>P304+P340</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
<b>P332+P313</b>	If skin irritation occurs: Get medical advice/attention.
<b>P362+P364</b>	Take off contaminated clothing and wash it before reuse.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Storage</b>	
<b>P405</b>	Store locked up.
<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P403+P235</b>	Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	
<b>P501</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

**> Hazard description****Physical and chemical hazards**

Flammable liquids, its vapor and air mixture can form explosive mixture.

**Health hazards****Inhaled**

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Inhalation of vapours, especially for prolonged periods, may produce respiratory irritation and occasionally, distress. Inhalation of the product may produce adverse health effects or irritation of the respiratory tract following discomfort.

**Ingestion**

Accidental ingestion of the product may be harmful to the health of the individual.

**Skin Contact**

The product can cause skin irritation following direct contact with the skin. May be harmful in contact with skin. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

**Eye**

The product can produce severe chemical burns to the eye following direct contact. This product may cause temporary discomfort following direct contact with the eye.

**Environmental hazards**

Please refer to 12th chapter of SDS.

### Section 3 Composition/Information on Ingredients

Component	Concentration (weight percent, %)	CAS No.	EC No.
Dodecanedioic acid, polymer with azacyclotridecan-2-one, hexahydro-2H-azepin-2-one and 1,6-hexanediamine	50	63428-84-2	-



Xylene	30	1330-20-7	215-535-7
Butan-1-ol	20	71-36-3	200-751-6

## Section 4 First Aid Measures

### > Description of First Aid Measures

<b>General Advice</b>	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
<b>Skin Contact</b>	Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
<b>Inhalation</b>	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
<b>Protecting of First-aiders</b>	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

### > Most Important Symptoms and Effects, both Acute and Delayed

- 1 Remove all sources of ignition and increase ventilation.
- 2 Avoid contact with skin and eyes.
- 3 Avoid inhalation of vapor or mist.
- 4 Use personal protective equipment including respirator.

### > Indication of Any Immediate Medical Attention and Special Treatment Needed

- 1 Treat symptomatically.
- 2 Symptoms may be delayed.

## Section 5 Fire Fighting Measures

### > Extinguishing Media

<b>Suitable Extinguishing Media</b>	Dry chemical, carbon dioxide or alcohol-resistant foam.
<b>Unsuitable Extinguishing Media</b>	Do not use a solid water stream as it may scatter or spread fire.

### > Specific Hazards Arising from the Substance or Mixture

- 1 Will form explosive mixtures with air.
- 2 Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
- 3 Vapours may travel to source of ignition and flash back.
- 4 Liquid and vapour are flammable.
- 5 Containers may explode when heated.
- 6 Fire exposed containers may vent contents through pressure relief valves.
- 7 May expansion or decompose explosively when heated or involved in fire.

### > Advice for Firefighters

- 1 As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- 2 Fight fire from a safe distance, with adequate cover.

- 3 Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Section 6 Accidental Release Measure

### > Personal Precautions, Protective Equipment and Emergency Procedures

- 1 Avoid breathing vapors and contacting with skin and eye.
- 2 Beware of vapours accumulating to form explosive concentrations.
- 3 Vapours can accumulate in low areas.
- 4 Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
- 5 Ensure adequate ventilation. Remove all sources of ignition.
- 6 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- 7 Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

### > Environmental Precautions

- 1 Prevent further leakage or spillage if safe to do so.
- 2 Discharge into the environment must be avoided.

### > Methods and Materials for Containment and Cleaning Up

- 1 Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
- 2 Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
- 3 Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## Section 7 Handling and Storage

### > Precautions for Handling

- 1 Avoid inhalation of vapors.
- 2 Use only non-sparking tools.
- 3 To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
- 4 Use explosion proof equipment.
- 5 Handling is performed in a well ventilated place.
- 6 Wear suitable protective equipment.
- 7 Avoid contact with skin and eyes.
- 8 Keep away from heat/sparks/open flames/ hot surfaces.
- 9 Take precautionary measures against static discharges.

### > Precautions for Storage

- 1 Keep containers tightly closed.
- 2 Keep containers in a dry, cool and well-ventilated place.
- 3 Keep away from heat/sparks/open flames/ hot surfaces.
- 4 Store away from incompatible materials and foodstuff containers.

## Section 8 Exposure Controls/Personal Protection

**> Control Parameters****Occupational Exposure Limit Values**

Component	Standard	Type	Standard value	remark
Xylene	GBZ 2.1-2007	PC-TWA	50 mg/m <sup>3</sup>	-
		PC-STEL	100 mg/m <sup>3</sup>	
Butan-1-ol	GBZ 2.1-2007	PC-TWA	100 mg/m <sup>3</sup>	-
		PC-STEL	-	

**Biological Limit Values**

No information available

**Monitoring Methods**

- 1 EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
- 2 GBZ/T 160.1~GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard) .

**> Engineering Controls**

- 1 Ensure adequate ventilation, especially in confined areas.
- 2 Ensure that eyewash stations and safety showers are close to the workstation location.
- 3 Use explosion-proof electrical/ventilating/lighting/equipment.
- 4 Set up emergency exit and necessary risk-elimination area.

**> Personal Protection Equipment**

<b>Eye Protection</b>	Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US).
<b>Hand Protection</b>	Wear protective gloves (such as butyl rubber) , passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.
<b>Respiratory protection</b>	If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
<b>Skin and Body Protection</b>	Wear fire/flamm resistant/retardant clothing and antistatic boots.

## Section 9 Physical and Chemical Properties

<b>Appearance:</b> Light yellow liquid	<b>Odor:</b> No information available
<b>Odor Threshold:</b> No information available	<b>pH:</b> No information available
<b>Melting Point/Freezing Point (°C):</b> No information available	<b>Initial Boiling Point and Boiling Range (°C):</b> No information available
<b>Flash Point (°C)( Closed Cup):</b> 30	<b>Evaporation Rate:</b> No information available
<b>Flammability:</b> Not applicable	<b>Upper/lower explosive limits[% (v/v)]:</b> Upper limit: No information available; Lower limit: No information available
<b>Vapor Pressure (MPa):</b> No information available	<b>Relative Vapour Density(Air = 1):</b> No information available
<b>Relative Density(Water=1):</b> No information available	<b>Solubility:</b> No information available
<b>n-Octanol/Water Partition Coefficient:</b> No information available	<b>Auto-Ignition Temperature(°C):</b> No information available
<b>Decomposition Temperature (°C):</b> No information available	<b>Kinematic Viscosity (mm<sup>2</sup>/s):</b> No information available

## Section 10 Stability and Reactivity



<b>Reactivity</b>	Contact with incompatible substances can cause decomposition or other chemical reactions.
<b>Chemical Stability</b>	Stable under proper operation and storage conditions.
<b>Possibility of Hazardous Reactions</b>	No information available
<b>Conditions to Avoid</b>	Incompatible materials, heat, flame and spark.
<b>Incompatible Materials</b>	No information available
<b>Hazardous Decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11 Toxicological Information

### > Acute Toxicity

Component	CAS No.	LD <sub>50</sub> (Oral)	LD <sub>50</sub> (Dermal)	LC <sub>50</sub> (Inhalation, 4h)
Butan-1-ol	71-36-3	790mg/kg(Rat)	3400mg/kg(Rabbit)	24.252mg/L(Rat)
Xylene	1330-20-7	4300mg/kg(Rat)	> 1700mg/kg(Rabbit)	21.712mg/L(Rat)

### > Skin Corrosion/Irritation

Causes skin irritation(Category 2)

### > Serious Eye Damage/Irritation

Causes serious eye damage(Category 1)

### > Skin Sensitization

No information available

### > Respiratory Sensitization

No information available

### > Germ Cell Mutagenicity

No information available

### > Carcinogenicity

ID	CAS No.	Component	IARC	NTP
1	63428-84-2	Dodecanedioic acid,polymer with azacyclotridecan-2-one,hexahydro-2H-azepin-2-one and 1,6-hexanediamine	Not Listed	Not Listed
2	1330-20-7	Xylene	Category 3	Not Listed
3	71-36-3	Butan-1-ol	Not Listed	Not Listed

### > Reproductive Toxicity



No information available

### > Reproductive Toxicity (Additional)

No information available

### > STOT-Single Exposure

May cause respiratory irritation(Category 3)

### > STOT-Repeated Exposure

May cause damage to organs through prolonged or repeated exposure(Category 2)

### > Aspiration Hazard

No information available

## Section 12 Ecological Information

### > Acute Aquatic Toxicity

Component	CAS No.	Fish	Crustaceans	Algae
Butan-1-ol	71-36-3	LC <sub>50</sub> : 1910mg/L (96h)(Fish)	EC <sub>50</sub> : 1980mg/L (48h)	ErC <sub>50</sub> : >1000mg/L (72h)
Xylene	1330-20-7	LC <sub>50</sub> : 15.7mg/L (96h)(Fish)	No information available	No information available

### > Chronic Aquatic Toxicity

Component	CAS No.	Fish	Crustaceans	Algae
Butan-1-ol	71-36-3	No information available	NOEC: 4.1mg/L	NOEC: 180mg/L

### > Others

**Persistence and Degradability**  
**Bioaccumulative Potential**  
**Mobility in Soil**

No information available

No information available

No information available

**Results of PBT and vPvB Assessment**

Dodecanedioic acid,polymer with azacyclotridecan-2-one,hexahydro-2H-azepin-2-one and 1,6-hexanediamine does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.  
 Xylene does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.  
 Butan-1-ol does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

## Section 13 Disposal Considerations

**Waste Chemicals**

Before disposal should refer to the relevant national and local laws and

**Contaminated  
Packaging  
Disposal  
Recommendations**

regulation. Recommend the use of incineration disposal.

Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible. Refer to section 13.1 and 13.2.

## Section 14 Transport Information

**Transporting Label**



**Marine pollutant**

None

**UN Number**

1263

**UN Proper Shipping  
Name**

PAINT RELATED MATERIAL

**Transport Hazard Class**

3

**Transport Subsidiary  
Hazard Class**

None

**Packing Group**

III

## Section 15 Regulatory Information

### > International Chemical Inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS	ENCS
Dodecanedioic acid, polymer with azacyclotridecan-2-one, hexahydro-2H-azepin-2-one and 1,6-hexanediamine	x	x	x	x	x	x	x	x	x
Xylene	✓	✓	✓	✓	✓	✓	✓	✓	✓
Butan-1-ol	✓	✓	✓	✓	✓	✓	✓	✓	✓

【EINECS】 European Inventory of Existing Commercial Chemical Substances.

【TSCA】 United States Toxic Substances Control Act Inventory.

【DSL】 Canadian Domestic Substances List.

【IECSC】 China Inventory of Existing Chemical Substances.

【NZIoC】 New Zealand Inventory of Chemicals.

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances.

【KECI】 Existing and Evaluated Chemical Substances.

【AICS】 Australia Inventory of Chemical Substances.

【ENCS】 Existing And New Chemical Substances.

### > Chinese chemical inventory

Component	A	B	C	D	E	F	G	H	I
Dodecanedioic acid, polymer with azacyclotridecan-2-one, hexahydro-2	x	x	x	x	x	x	x	x	x