MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name:	**DOA**
Chemical Name / Family:	Di 2-ethylhexyl adipate
Supplier:	Zhejiang Tsingyan Chemical Co., Ltd.
Address:	No.558 Taikang Zhong Road, Shounan Street, Yinzhou District, Ningbo City, Zhejiang, China
Post code:	315100
E-mail:	info@tsingyanchem.com
Tel:	0086 15888110454
Molecular Formula:	Not Applicable
CAS #	103-23-1
EC No:	203-090-1
Product Use:	Plasticizer
OSHA Status	Not Hazardous

For emergency health, safety, and environmental information, calls 0086 15888110454

2. Hazard(s) Identification

OSHA Hazards: Irritant

GHS Label elements, including precautionary statements

Pictogram:

Signal word: Warning

Hazard statement(s): H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statement(s): P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazard classification: The product has not been classified as hazardous according to the legislation in force.

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: May be harmful if swallowed.

3. Composition / Information on Ingredients

Chemical name	Concentration	Additional identification
bis(2-ethylhexyl) adipate	99.5% Min	CAS-No.: 103-23-1

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
# This substance has workplace exposure limit(s).

4. First Aid Measures

Inhalation:	Move to fresh air. Treat symptomatically, Ge medical attention if symptoms persist.
Eyes:	Rinse immediately with plenty of water for at least 15 minutes. If eye irritation persists, seek medical attention.
Skin:	Wash off with soap and plenty of water. If skin irritation persists seek medical attention.
Ingestion:	Do not induce vomiting. Seek medical attention.
Most important symptoms and effects, Both acute and delayed:	No known chronic or acute.

5. Fire-Fighting Measures

Suitable extinguishing media:	Water spray. Dry chemical. Carbon Dioxide. Foam
Unsuitable extinguishing media:	None known.
Special Fire Fighting Equipment:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special firefighting procedures:	None known.

6. Accidental Release Measures

Personal precautions:	Wear appropriate personal protection during cleanup, such as impervious gloves, boots and coveralls.
Environmental precautions:	The product should not be allowed to enter drains, water courses or the soil. Material should not be released into the environment.
Methods for cleaning up:	Absorb spill with vermiculite or other inert material, then place in a container for chemical water. Large Spillages: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

7. Handling and Storage:

Handling:	No special precautions are necessary beyond normal good hygiene practices.
Storage:	Keep container tightly closed in a dry and well-ventilated place.

8. Exposure Controls / Personal Protection

Exposure Controls/Engineering controls:	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Respiratory Protection:	If engineering controls do not maintain airborne concentration below recommended exposure limits (where applicable) or to an acceptable level. (in countries where exposure limits have not been established), an approved respirator or must be worn. In the United States of America, fi respirators are used, a program should be instituted to assure compliance with OSHA Standard 63FR 1152, January 8 1998. Respirator type: Air purifying respirator with an appropriate, government approved (where applicable,) air-purifying filer, cartridge or canister. Contact health and safety professional or manufacture for specific information.
Protective Gloves:	Protective gloves.
Eye Protection:	Safety glasses with side-shields
Skin and Body Protection:	It is a good industrial hygiene practice to minimize skin contact.
Other Precautions:	No data available.
General hygiene Considerations:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical and Chemical Properties

Appearance	
Physical State:	Liquid
Form:	Liquid
Color:	Colorless
Odor:	Slight
Odor Threshold:	Not determined.
pH:	No data available.
Melting Point	-67.8 °C
Boiling Point:	417 °C (1,013.25 hPa)
Flash Point:	196 °C (Closed Cup)
Evaporation Rate:	Not determined.
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%)–:	No data available.
Flammability Limit - Lower (%)–:	0.38 %(V)
Vapor pressure:	0.0000003 hPa (20 °C)
Vapor density (air=1):	12.8
Specific Gravity:	0.9249 (20 °C)
Solubility(ies)	
Solubility in Water:	< 0.0032 g/l (22 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	log Pow: 8.94
Autoignition Temperature:	377 °C (ASTM D2155)
Decomposition Temperature:	(DTA) No exotherm to 400°C
Dynamic Viscosity:	13.7 mPa.s (20 °C)
Kinematic viscosity:	14.8 mm2/s (20 °C, Estimated)
Explosive properties:	No data available.
Oxidizing properties:	Not classified

10. Stability and Reactivity

Stability:	This product is stable if stored and handled as prescribed.
Incompatibility (Materials to Avoid):	Incompatible with oxidizing agents.
Conditions to Avoid:	None at ambient temperatures.
Reactivity:	None known.
Hazardous decomposition products:	Carbon Dioxide. Carbon Monoxide.

11. Toxicological Information

Information on toxicological effects Acute Toxicity:

Oral Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	Oral LD-50: (Rat, Male.): 45,000 mg/kg Oral LD-50: (Rat, Female.): 24,600 mg/kg
Dermal Product:	No data available.
Specified substance(s) bis(2-ethylhexyl) adipate: InhalationProduct:	Dermal LD-50: (Rat): > 2,000 mg/kg No data available.
Specified substance(s); bis(2-ethylhexyl) adipate;	LC50 (Rat, 4 h): > 5.7 mg/l (highest concentration tested)
Repeated dose toxicity Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	NOAEL (Rat, Oral Study): 200 mg/kg
Skin corrosion/irritation: Product:	No data available
Specified substance(s) bis(2-ethylhexyl) adipate:	(Rabbit, 24 h): none
Serious eye damage/eye irritation: Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	(Rabbit, 24 h): none
Respiratory or skin sensitization: Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	Skin Sensitization:, (Guinea Pig) - Not a skin sensitizer.

Mutagenicity	
In vitro Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	Salmonella typhimurium assay (Ames test), Bacterial Reverse Mutation Assay :negative +/- activation
In vivo Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	No data available.
Carcinogenicity Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	No data available.
Reproductive toxicity Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	No data available.
Specific target organ toxicity - single exposure Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate;	No data available.
Specific target organ toxicity - repeated exposure Product:	No data available.
Specified substance(s) bis(2-ethylhexyl) adipate	No data available.
Aspiration hazard Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	No data available.
Other adverse effects:	No data available.

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Bis(2-ethylhexyl) adipate)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Toxicity

Acute toxicity Fish Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	NOEC: (golden orfe, 48 h): > 10,000 mg/l
Aquatic invertebrates Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	EC-50 (Water Flea, 48 h): > 500 mg/l
Chronic Toxicity	
Fish Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	No data available.
Aquatic invertebrates Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	NOEC (Water Flea, 21 d): > 0.77 mg/l
Toxicity to Aquatic Plants Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate:	EC-50 (Scenedesmus subspicatus, 72 h): > 500 mg/l
Persistence and degradability	
Biodegradation Product:	No data available.
Specified substance(s) bis(2-ethylhexyl) adipate	90 - 100 % (28 d, Ready Biodegradability: Manometric Respirometry Test) Readily biodegradable
Biological Oxygen Demand: Product	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	No data available.
Chemical Oxygen Demand: Product	No data available.
Specified substance(s) bis(2-ethylhexyl) adipate:	No data available.
BOD/COD ratio Product :	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	No data available.

Bioaccumulative potential Product:	No data available.
Specified substance(s): bis(2-ethylhexyl) adipate	No data available.
Mobility in soil:	No data available.

Known or predicted distribution to environmental compartments

bis(2-ethylhexyl) adipate:	No data available.
Results of PBT and vPvB assessment:	No data available.
bis(2-ethylhexyl) adipate:	No data available.
Other adverse effects:	No data available.

13. Disposal Considerations

General information:	No Data available.
Disposal methods:	Dispose of waste and residues in accordance with local, federal authority requirements. Incinerate. Since emptied containers retain product residue , follow lable warnings even after container is emptied.

14. Transport Information

Important Note: shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Material/dangerous goods experts for information specific to your situation.

D.O.T. Shipping Name	Not regulated for transportation.
Air - ICAO (international Civil Aviation Organization)	Not regulated for transportation.
Sea - IMDG (International Maritime Dangerous Goods)	Not regulated for transportation.

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: non-controlled

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List: NONE

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards: Acute Health Hazard
OSHA Hazards: Irritant

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.

Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

Massachusetts Right To Know Components: Bis(2-ethylhexyl) adipate, CAS-No. 103-23-1

Pennsylvania Right To Know Components: Bis(2-ethylhexyl) adipate, CAS-No. 103-23-1

New Jersey Right To Know Components: Bis(2-ethylhexyl) adipate, CAS-No. 103-23-1

16. Other Information

HMIS® Hazard Ratings: Health - 1, Flammability - 1, Chemical Reactivity - 0

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by Tsingyan Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of anyTsingyan Chemical supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.