



Safety Data Sheet

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical/Product Name	3,4'-Oxydianiline (3,4-ODA)、DAPE
Company Name	Shanghai Liluo Industrial Co.,Ltd.
Address	Room 5110, Building 5, No.735, Liyang Rd., Shanghai 200080, China
Telephone number	+86-21-5697-3112
Fax number	+86-21-5672-1121
Emergency phone number	+86-21-5697-3112
General Use	Starting material for functional polymer

2 HAZARDOUS IDENTIFICATION

GHS Classification (According to JIS 7252:2009)

Physical Hazards	Not classified
Health Hazards	
Acute toxicity (oral)	Category 4
Environmental Hazards	Not classified

GHS Label Elements

Pictogram



Signal word	Warning
Hazard statements	Harmful if swallowed
Precautionary statement	

[Prevention]

- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

- If swallowed: Call a poison center or doctor/physician if you feel unwell.
- Rinse mouth.
- If on skin: wash with plenty of soap and water.

[Storage]

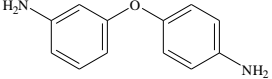
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[Disposal]

- Dispose of contents/container in accordance with local/regional regulations.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Discrimination of single substance or mixture

	Single substance
Common chemical name	3,4'-Diaminodiphenyl ether
Synonym	3,4'-Oxydianiline 3-(4-Aminophenoxy)aniline
Concentration/concentration range	≥ 99%
Chemical formula	C ₁₂ H ₁₂ N ₂ O
	
Molecular weight	200.24
CAS Number	2657-87-6
Class Reference number in the Gazetted List	(3)-3633: Chemical Substance Control Law 4-(12)-470: Industrial Safety and Health Law
EINECS Number	220-190-0
Impurities and ingredients contributing to classification	No information

4 FIRST-AID MEASURES

If inhaled

- Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Keep warm covering victim with a blanket.
- If effects on breathing occur, call a doctor.

If on skin

- Rinse immediately contacted area with plenty of soap and water.
- If effects occur, call a doctor.
- Wash contaminated clothing before reuse.
- If high temperature of products contacts on the skin, avoid progressing burn by cooling with water for enough time until no pain or heat can be felt. If get burnt, immediately seek medical advice.

If in eye

- Immediately rinse eyes with clean water for at least 15 minutes, and get medical advice/attention.

If swallowed

- If the victim is conscious, rinse mouth with plenty of water and give something to drink.
- If the victim loses consciousness, do not give anything from mouth.

- Get medical treatment immediately.

Expected acute and delayed effects

- May irritate skin and rash occur.

Most serious symptoms and effects

- No information

Protection of first-aiders

- Wear protective equipments which designated by the manufacturer.
- When take first-aid measures, attention not to contact on skin or in eyes.

5 FIRE-FIGHTING MEASURES**Extinguish agents**

- Water(spray), powder, carbon dioxide, fire foam, dry sand.

Prohibited agents

- No information

Special hazardous information

- Irritating or toxic fume or gases may produce.
- When fire-fighting, wear an appropriate protective equipment so as to prevent breathing smoke.

Special fire-fighting procedures

- Cut off fire source and extinguish with an appropriate agent.
- Take action from the windward as can as possible.
- Take precautionary measures so that contaminants will not enter the environment due to the fire-fighting.
- Move container and place it in a safe area if it is not dangerous. If it is not possible, keep cool by spraying water against the container.

Protection of fire-fighters

- Take action from the windward and avoid breathing toxic gases.
- Use protective respiratory equipment as appropriate.

6 ACCIDENTAL RELEASE MEASURES**Human health precaution**

- In case of indoor spillage, ventilate until after the treatment.
- Off-limits around the released area by stretching a rope.
- Wear an appropriate protective equipment (See 8 EXPOSURE CONTROLS/PERSONAL PROTECTION) and avoid contacting on skin or eye, or inhalation.
- Take action from the windward, and evacuate persons in leeward.

Environmental precautions

- Attention releasing products into rivers so as to avoid any effects may occur to the environment.
- Avoid releasing contaminated waste water into the environment without appropriate treatment.

Recovery and neutralisation

- Prevent dispersing by covering with a water-proof sheet when it is a powder form, and collect into a container.
- Stop spreading leakage by sand and wait until it becomes cool and solid when it is melted form. Collect into an enclosed empty container.

Methods for cleaning up, devices

- Stop leakage if it is not dangerous.

Prevention of secondary hazards

- Cut off immediately any combustion sources (No smoking and avoid sparks or flame).
- Treat frequently because the floor may be slippery if released product remains on the floor.

7 HANDLING AND STORAGE

Handling

Technical measures

- Avoid contacting a strong oxidizing agent because it may react and cause heating.
- Take facilitation measures described in "8 EXPOSURE CONTROLS/PERSONAL PROTECTION" and wear protective equipments.

Local/general ventilation

- Take local or overall ventilation described in "8 EXPOSURE CONTROLS/PERSONAL PROTECTION".

Precautions for safe handling

- Do not handle the container violently such as dropping or falling down, damaging or dragging.
- Locked up immediately after handling.
- Wash hands and face, and gargle after handling.
- Do not eat, drink or smoking where it is allowed to do so.
- Do not bring contaminated gloves or protective equipments into a resting place.
- Off limits around the handling area without responsible persons.
- Wear appropriate protective equipments so as to avoid breathing or contacting on the skin, clothing or eyes.
- Use local ventilation for indoor use.
- When handle of a liquid form by melting, attention not to contact on the skin and burn nor blockage of pipes by freezing.

Contact evasion

- See "10 STABILITY AND REACTIVITY".

Storage

Technical measures

- Install light and ventilation devices in a storage place so that it is necessary for handling.

Incompatible products

- See "10 STABILITY AND REACTIVITY".

Storage condition

- Store in a dark, cool and well ventilated place.
- Store apart from oxidizing agents.

Packaging materials

- Store in a closed container.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Administrative control level Not specified

Occupational exposure limit Not specified

Engineering measures

- Enclose the exposure source and use local ventilation if dust may produce.
- Install eye washer and safety shower near handling and storage area and display where they are.

Personal protective equipment

Respiratory protection

- If ventilation is insufficient, use a specified respiratory equipment (e.g. dust protective mask).

Hand protection

- Use appropriate protective gloves (e.g. impermeable protective gloves).

Eye protection

- Use eye and face protective equipments (e.g. protective glasses or goggle with side shields).

Skin and body protection

- Wear an appropriate protective clothing (e.g. long-sleeve shirts).

Hygiene measures

- Do not eat, drink or smoke when using this product.
- Wash hands well with soap after handling.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state (appearance, etc) Pale brown powder or solid (JFE Chemical Corporation measured)

Melting/freezing point 73~77°C (JFE Chemical Corporation measured)

Boiling point 232°C/0.67kPa (JFE Chemical Corporation measured)

252°C/1.33kPa (JFE Chemical Corporation measured)

Flash point 230°C (JFE Chemical Corporation measured)

Vapour pressure Not available

Solubility Soluble in alcohol and acetone. (JFE Chemical Corporation measured)

Octanol/water partition coefficient Not available

Other information Not available

10 STABILITY AND REACTIVITY

Stability

- Stable under normal handling condition.
- May ignite when heating.

Possible hazardous reactions

- May react when contacting with oxidizing agents.

Conditions to avoid

- Heat, direct sunlight.
- Contact with incompatible products.

Incompatible compounds

- Oxidizing agents

Hazardous decomposition products

- Carbon monoxide, carbon dioxide and nitrogen oxides may produce by fire.

11 TOXICOLOGICAL INFORMATION

Acute toxicity	No information
Skin corrosion/irritation	No information
Serious eye damage/eye irritation	No information
Germ cell mutagenicity	No information
Carcinogenicity	No information
Specific target organ toxicity	No information
Other toxicological information	May be harmful if swallowed or contact with skin or inhaled. May cause eye or skin irritation.

12 ECOLOGICAL INFORMATION

Aquatic toxicity	No information
Persistence/degradability	No information
Bioaccumulation	No information
Mobility in soil	No information
Other information	No information

13 DISPOSAL CONSIDERATIONS**Waste from residues**

- When incinerated: dissolve in a flammable solvent and spray into an incinerator equipped with a scrubber.
- Follow related regulations and standards of local authorities when disposing.
- Ask industrial waste disposal traders who are certificated by the local authorities, or consult to local government.
- When asking to a waste trader, inform them dangerous and hazard information.

Contaminated packaging

- Recycle containers after cleaning or dispose appropriately in accordance with laws and local regulations.
- Remove completely remaining products from a container before disposal.

14 TRANSPORT INFORMATION**International regulations**

UN number	Not applicable
Name and description	Not applicable
Class or division	Not applicable
UN packing group	Not applicable
Marine pollutants	Not applicable

National regulations in Japan

Ground transport	Not applicable
Marine transport	Not applicable
Air transport	Not applicable

Precautionary transport measures and conditions

- Loading so as to avoid treating violently such as giving damage or dragging. Do not containers falling off, dropping or damaging.
- When transporting, loading containers so as to avoid direct sunlight, damaging, corrosion or leakage. Make sure not falling off the containers.
- Avoid putting heavy products on the upper side.

15 REGULATORY INFORMATION (Japan)

(Other than below, refer to national regulations in your country/region)

- Not applicable

16 OTHER INFORMATION**References**

- National Institute of Technology and Evaluation, Chemical Risk Information Platform (CHRIP).
http://www.safe.nite.go.jp/japan/sougou/view/ComprehensiveInfoDisplay_jp.faces
(Last searched Aug., 2012)
- National Institute of Technology and Evaluation, Initial Risk Assessment.
<http://www.safe.nite.go.jp/risk/riskhykd01.html> (Last searched Aug., 2012)
- Ministry of Health, Labour and Welfare, Japan Existing Chemical Database.
http://dra4.nihs.go.jp/mhlw_data/jsp/SearchPage.jsp (Last searched Aug., 2012)
- Ministry of Environment, Ecotoxicity study data.
<http://www.env.go.jp/chemi/risk/index.html> (Last searched Aug., 2012)

- OECD, SIDS Initial Assessment Report.
<http://www.chem.unep.ch/irptc/sids/OECD/SIDS/sidspub.html>
(Last searched Aug., 2012)
- The Japan Society for occupational Exposure Limits, Recommendation of Occupational Exposure Limits (2011).
- IARC, Monographs Programme on the Evaluation of Carcinogenic Risk to Humans.
<http://monographs.iarc.fr> (Last searched Aug., 2012)

***[Note]** This SDS has been prepared based on the available product and hazard information. Please note that the contents may not cover all the possible situations/conditions. Descriptions in this SDS are subject to be updated when new information becomes available. Precautions only cover normal handling conditions and need to modify/adapt safety measures to meet the special use or handling conditions.*