

#### Heynova (Shanghai) New Material Technology CO., Ltd

Building 3, Zhangjiang Microelectronics Port, No. 690 Bibo Road, Pudong New Area, Shanghai

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## CERTIFICATE OF ANALYSIS

### **Product Features**

$H_2N$ $O$ $NH_2$	CAS No.	101-80-4
	Product name	4,4'-Oxydianiline
	Abbreviation	ODA
	Appearance	White powder
	Purity(HPLC)	≥99.5%
	Molecular formula	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> O
	Molecular weight	200.24
	Package	In Aluminum foil bag, cartons outside.
	Storage	Preserve in a well-closed container and keep in cool,
		dry place, avoid light.

# **Application**

- ➤ 4,4'-Oxydianiline is one of the important raw materials for new special engineering plastics such as polyimide, polyetherimide, polyesterimide, polymaleimide, polyarylamide and other high-temperature resistant resins. Polyimide as a special engineering materials, with high temperature resistance, radiation resistance and mechanical strength and other advantages, used in films, coatings, fibers, aerospace, electrical and electronic industry, foam and photoresist, etc., 4,4'-Oxydianiline is one of the main raw materials.
- ➤ 4,4'-Oxydianiline is also the raw material for the synthesis of 3,3',4,4'-tetraamino diphenyl ether, the latter is the main monomer for the preparation of a series of aromatic heterocyclic heat-resistant polymer materials.
- ➤ 4,4'-Oxydianiline is also used as the raw material and crosslinking agent of high performance heat-resistant epoxy resin, polyurethane and other synthetic polymers.
- At the same time, 4,4'-Oxydianiline is also widely used in the production of azo dyes and reactive dyes as a substitute for carcinogenic benzidine. At present, different color grades of direct dyes have been developed by using diaminodiphenyl ether as raw material, which can be used for dyeing silk, wool, cotton, linen and other fabrics, and its color fastness and exhaustion rate are superior to that of benzidine dyes.



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## **Company Profile**

Heynova (Shanghai) New Material Technology co., Ltd. located in Shanghai is a technologically innovative company with integrated development of R&D, production and sales of high-end Electronic Materials and Specialty Polymer Materials. Meanwhile we are the agent of PI Resin, PI Engineering Plastics and 3D Printing materials.

- As technology R&D, the company has maintained close cooperation with a number of domestic research institutes for a long time, focusing on the design of the molecular structure of electronic materials, with a number of invention patents, the core formulations and processes independently controllable, with the ability to customize the development of the materials.
- As production and supply, our company has cooperative production bases in Shandong, Jiangsu, Sichuan and Northeast China, which can produce materials from gram to tonnage level, and has all the capabilities of small, medium and large-scale production.

### **Business Classification**

- Polyimide Materials: Including PI Monomers, PI Resin, PI Engineering Plastics. PI monomers are mainly Dianhydride and Diamine special monomers, which have been widely used in the production of colorless and transparent Flexible Polyimide Films, Flexible Display Materials, 5G New Materials, Photosensitive Polyimide and Semiconductor Materials, New Energy Automobile Special Insulating Materials, Aerospace Composites, and many other high-tech field products.
- ➤ Photoresist Materials: Including Photoresist monomer, PAG, PAC, Photoinitiators, Solvents and so on. At present, our company's Photoresist Monomer is mainly based on KrF, ArF Gel monomer, focusing on the provision of Display Photoresist, Semiconductor Photoresist and special Photoresist materials for Semiconductors, Panels, PCB and other fields.
- > OLED Display Materials: Specialized in providing OLED Display Intermediate materials for cell phones, TVs, flat panels, wearable devices, in-vehicle devices and other fields.
- Lithium Battery Materials: Specialized in providing Lithium Battery Diaphragm materials for transportation, electric power storage, mobile communication, new energy storage, aerospace military and other fields.
- > 3D Printing Materials: Specialized in providing 3D Printing Organic Resin materials and high-end Metal materials for aerospace, marine, nuclear industry, medical and other fields.
- > Customized services: We can customize the development of products according to customer needs, and continuously optimize the material properties and key indicators, developed in collaboration with customers, established the direct channel of "R & D Validation Mass production".