

DISTRIBUTED BY  
R. E. CARROLL, INC.  
1570 NORTH OLDEN AVENUE  
TRENTON, NJ 08638-3204  
609-695-6211 / 800-257-9365

**MATERIAL SAFETY DATA SHEET**  
According to EC-directive 93/112/EC

**LINKWELL 445**

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

**Product label name** 4,4' - Di (  $\alpha$  ,  $\alpha$  ' -dimethylbenzyl ) diphenylamine  
**Supplier** Linkwell Rubber Chemicals (Qingdao) Co., Ltd.  
Room 600-602, Times Square  
52 Hong kong Middle Road, Qingdao 266071,China  
Tel: +86 532 85786642  
Fax: +86 532 85786840  
Email:market@rubberchem.com  
Http://www.rubberchem.com

**2.COMPOSITION/ INFORMATION ON INGREDIENTS**

This product is to be considered as a substance in conformance to EC directives.

Information on hazardous ingredients

**Chemical description** 4,4' - Di (  $\alpha$  ,  $\alpha$  ' -dimethylbenzyl ) diphenylamine

**Composition / information on ingredients**

Number	% w/w	CAS-number	Chemical name
1	>94.0	10881-67-1	4,4' - Di ( $\alpha$ , $\alpha$ ' -dimethylbenzyl ) diphenylamine

**Other information** Formula: C30H31N.

**3. HAZARDS IDENTIFICATION**

N/A.

**4. FIRST AID MEASURES**

<b>Symptoms and effects</b>	N/A.
<b>First aid</b>	
<b>Inhalation</b>	Remove to fresh air.
<b>Skin</b>	Wash thoroughly with soap and water.
<b>Eye</b>	Flush with water 15 minutes.
<b>Advice to physician</b>	No specific recommendations.

**5. FIRE-FIGHTING MEASURES**

<b>Flash point:</b>	531°F (278.7 °C ) TCC.
<b>Autoignition temp:</b>	569°F(298°C) Fire point.
<b>Flammable limits:</b>	Not Determined.
<b>Extinguishing media:</b>	Water spray, dry chemical.
<b>Special fire fighting procedure:</b>	Protect against inhalation of combustion products.
<b>Unusual hazards:</b>	May form explosive dust-air mixture.

**6. ACCIDENTAL RELEASE MEASURES**

Procedure to be followed in case of leak or spill. Sweep or vacuum up. Shovel into secure containers for proper disposal. Avoid creating dust.

<b>Personal precautions</b>	Use personal protective equipment as outlined above.
<b>Environmental information</b>	Environmental effects have not been determined.
<b>Methods for cleaning up</b>	In accordance with any applicable local, state, or federal regulation regarding organic waste.

**MATERIAL SAFETY DATA SHEET**

According to EC-directive 93/112/EC

**LINKWELL 445****7. HANDLING AND STORAGE**

<b>Handling</b>	N/A.
<b>Storage requirements</b>	Store away from sources of direct heat in a dry area. Keep containers closed when not in use.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Engineering controls</b>	Sufficient ventilation to minimize dust exposure. Protect closed handling systems against possible dust explosion. Avoid dust accumulation on building or equipment surfaces.
<b>Personal protection</b>	Avoid all personal contact. Observe good personal hygiene. Impervious gloves and goggles should be worn when handling. In the absence of adequate ventilation, use niosh certified dust cartridge respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance and Odor</b>	White to off-white powder, characteristic odor
<b>Property</b>	Value
<b>Molecular Weight</b>	405.6 AMU
<b>pH</b>	N/A
<b>BP/BP Range</b>	N/A
<b>MP/MP Range</b>	203°F (95°C)
<b>Freezing Point</b>	N/A
<b>Vapor Pressure</b>	Not Determined 20°C
<b>Vapor Density(Air=1)</b>	Not Determined
<b>Saturated Vapor Conc.</b>	N/A
<b>SG/Density(H2O=1)</b>	1.14
<b>Bulk Density</b>	N/A
<b>Odor Threshold</b>	N/A
<b>Volatile%</b>	Low 70°C
<b>VOC Content</b>	N/A
<b>Water Content</b>	N/A
<b>Solvent Content</b>	N/A
<b>Evaporation Rate</b>	N/A
<b>Viscosity</b>	N/A
<b>Surface Tension</b>	N/A
<b>Partition Coefficient</b>	N/A
<b>Decomposition Temp.</b>	N/A
<b>Flash Point</b>	531°F (278.7 °C )
<b>Explosion Limits</b>	N/A
<b>Flammability</b>	N/A
<b>Autoignition Temp</b>	N/A
<b>Refractive Index</b>	N/A
<b>Optical Rotation</b>	N/A
<b>Miscellaneous Data</b>	N/A
<b>Solubility</b>	Insoluble in water Soluble in most organic compounds

**10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable: Stable at ambient temperatures and pressures. Incompatible(Materials to Avoid): Strong oxidizing agents.
<b>Decomposition products</b>	Oxides of carbon and nitrogen under burning condition.

**MATERIAL SAFETY DATA SHEET**  
According to EC-directive 93/112/EC

**LINKWELL 445**

**11. TOXICOLOGICAL INFORMATION**

**Special Hazard(S)** No acute or chronic health hazards have been identified. There are no known medical conditions aggravated by exposure to this material.

**Primary Route(S) Of Entry** Inhalation, skin absorption.

**Toxicology Information**

**Oral toxicity: LD50(rats)** >10g/kg

**Irritation: eye(rabbits)** negative

**skin(rabbits)** negative

**Mutagenicity: Ames Salmonella** negative

No significant adverse effects have been noted with long-term production and use of this material

Eyes  
Rabbit  
0.75 mg  
24H

**12. ECOLOGICAL INFORMATION**

No data available.

**13. DISPOSAL CONSIDERATIONS**

Appropriate method of disposal of substance or preparation

**14. TRANSPORT INFORMATION**

*Land transport (ADR/ RID)*

<b>ADR class</b>	N/A	<b>ADR item number</b>	N/A
<b>RID class</b>	N/A	<b>RID item number</b>	N/A
<b>Hazard Identification No.</b>	N/A	<b>Substance Identification No.</b>	N/A
<b>TREM-Card</b>	N/A	<b>UN number</b>	N/A
<b>Proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (4,4' - Di ( $\alpha$ , $\alpha$ ' -dimethylbenzyl ) diphenylamine) Environmentally hazardous substance, solid, n.o.s. (4,4' - Di ( $\alpha$ , $\alpha$ ' -dimethylbenzyl ) diphenylamine)		

*Sea transport (IMDG-code/ IMO)*

<b>IMO/IMDG code</b>	N/A	<b>Class</b>	N/A
<b>Packing group</b>	N/A	<b>UN number</b>	N/A
<b>EMS</b>	N/A	<b>MFAG</b>	N/A
<b>Proper shipping name</b>	N/A		

*Air transport (ICAO-TI/ IATA-DGR)*

<b>ICAO-TI/IATA-DGR</b>		<b>UN number</b>	N/A
<b>Class</b>	N/A	<b>Packing group</b>	N/A
<b>Proper shipping name</b>	N/A		

**15. REGULATORY INFORMATION**

N/A

**16. OTHER INFORMATION**

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.