



MATERIAL SAFETY DATA SHEET
Diphenylamine

Section 1 - Chemical Product and Company Identification

MSDS Name: Diphenylamine
Catalog Numbers: D/4600/48, D/4670, D/4700/48, D/4700/50
Synonyms: N-Phenylamine; Anilinobenzene; N-Phenylbenzeneamine; DPA
Company Identification: Fisher Scientific UK
 Bishop Meadow Road, Loughborough
 Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
122-39-4	Diphenylamine	100.0	204-539-4

Hazard Symbols: T N



Risk Phrases: 23/24/25 33 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Light sensitive.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: May cause irritation of the digestive tract. May cause effects similar to those of acute inhalation.

Inhalation: Inhalation of vapor may cause respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. May cause adverse central nervous system effects including headache, convulsions, and possible death. May cause bladder injury and hypertension.

Chronic: Prolonged or repeated skin contact may cause dermatitis. May cause reproductive and fetal effects. There is a danger of cumulative effects.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion:	Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation:	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician:	Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.

Section 5 - Fire Fighting Measures

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.
Extinguishing Media:	Water or foam may cause frothing. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.

Section 6 - Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling:	Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Store protected from light.
Storage:	Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 122-39-4:

United Kingdom, WEL - TWA: 10 mg/m³ TWA United Kingdom, WEL - STEL: 20 mg/m³ STEL

Belgium - TWA: 10 mg/m³ VLE

France - VME: 10 mg/m³ VME

Germany: 5 mg/m³ TWA (inhalable fraction) Germany: Skin absorber

Malaysia: 10 mg/m³ TWA

Netherlands: 0.7 mg/m³ MAC

Spain: 10 mg/m³ VLA-ED

Personal Protective Equipment

Eyes:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin:	Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Color: colorless to grayish

Odor: floral-like

pH: Not available

Vapor Pressure: 1 mm Hg @ 108 C

Viscosity: Not available

Boiling Point: 576 deg F (302.22°C)

Freezing/Melting Point: 129 - 131F

Autoignition Temperature: 634 deg C (1,173.20 deg F)

Flash Point: 153 deg C (307.40 deg F)

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

Decomposition Temperature: Not available

Solubility in water: Negligible in water.

Specific Gravity/Density: 1.160

Molecular Formula: C12H11N

Molecular Weight: 169.0837

Section 10 - Stability and Reactivity

Chemical Stability: Stable.

Conditions to Avoid: Incompatible materials, light, ignition sources, excess heat.

Incompatibilities with Other Materials: Oxidizing agents, strong acids, isocyanates, hexachloromelamine, organic anhydrides, aldehydes, trichloromelamine.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 122-39-4: JJ7800000

LD50/LC50: RTECS:
CAS# 122-39-4: Oral, mouse: LD50 = 1230 mg/kg;
Oral, rat: LD50 = 1120 mg/kg;

Carcinogenicity: Diphenylamine - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Bacteria: Phytobacterium phosphoreum: EC50 =4.77 mg/L; 5,15,30 minutes; Microtox test

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for

recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	TOXIC SOLID, ORGANIC, NOS(Diphenylamine)	TOXIC SOLID, ORGANIC, NOS(Diphenylamine)	TOXIC SOLID, ORGANIC, NOS(Diphenylamine)
Hazard Class:	6.1	6.1	6.1
UN Number:	2811	2811	2811
Packing Group:	II	II	II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T N

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 28 After contact with skin, wash immediately with...

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 122-39-4: 3

Canada

CAS# 122-39-4 is listed on Canada's DSL List

US Federal

TSCA

CAS# 122-39-4 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 6/16/1999

Revision #3 Date 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
