

**m-PHENYLENEDIAMINE****1302**

March 1999

**CAS No: 108-45-2**  
 RTECS No: SS7700000  
 UN No: 1673  
 EC No: 612-147-00-3

m-Diaminobenzene  
 1,3-Benzenediamine  
 3-Aminoaniline  
 1,3-Phenylenediamine  
 $C_6H_8N_2 / C_6H_4(NH_2)_2$   
 Molecular mass: 108.14

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames.	Water spray, powder.
<b>EXPLOSION</b>			

EXPOSURE		STRICT HYGIENE!	IN ALL CASES CONSULT A DOCTOR!
<b>Inhalation</b>	Blue lips or finger nails. Blue skin. Confusion. Convulsions. Dizziness. Headache. Nausea. Unconsciousness.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
<b>Skin</b>	MAY BE ABSORBED! Redness. (Further see Inhalation).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
<b>Eyes</b>	Redness. Pain.	Safety goggles, face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	(See Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: complete protective clothing including self-contained breathing apparatus.	T Symbol N Symbol R: 23/24/25-36-43-50/53-68 S: (1/2-)28-36/37-45-60-61 UN Hazard Class: 6.1 UN Pack Group: III  Do not transport with food and feedstuffs.

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-61S1673-S	Separated from strong oxidants, food and feedstuffs. Keep in the dark. Well closed.

## IMPORTANT DATA

**Physical State; Appearance**

WHITE CRYSTALS, TURNS RED ON EXPOSURE TO AIR.

**Chemical dangers**

The substance decomposes on burning producing toxic fumes including nitrogen oxides. Reacts with strong oxidants.

**Occupational exposure limits**

TLV: 0.1 mg/m<sup>3</sup> as TWA; A4 (not classifiable as a human carcinogen); (ACGIH 2004).

MAK: skin absorption (H); Carcinogen category: 3B; (DFG 2004).

**Routes of exposure**

The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion.

**Inhalation risk**

A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20/C; on spraying or dispersing, however, much faster.

**Effects of short-term exposure**

The substance is irritating to the eyes and the skin. The substance may cause effects on the kidneys and blood, resulting in renal failure and formation of methaemoglobin. The effects may be delayed. Medical observation is indicated.

**Effects of long-term or repeated exposure**

Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the kidneys, resulting in renal failure.

## PHYSICAL PROPERTIES

Boiling point: 284-287/C

Melting point: 62-63/C

Density: 1.14 g/cm<sup>3</sup>

Solubility in water: soluble

Vapour pressure, Pa at 99.8/C: 133

Relative vapour density (air = 1): 3.7

Flash point: 187/C c.c.

Auto-ignition temperature: 560/C

Octanol/water partition coefficient as log Pow: -0.33

## ENVIRONMENTAL DATA

The substance is toxic to aquatic organisms.

## NOTES

Depending on the degree of exposure, periodic medical examination is suggested.

Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.

Direct Brown BR, Direct Brown GG, Developer C, Developer H, Developer M, Developer 11 are trade names.

See also ICSC0805 p-Phenylenediamine.

Card has been partly updated in October 2004 and April 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.

## ADDITIONAL INFORMATION

## LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible