2,4-TOLUENEDIAMINE

0582

November 1998

CAS No: 95-80-7
RTECS No: XS9625000
UN No: 1709
EC No: 612-151-00-5

4-Methyl-m-phenylenediamine
2,4-Diaminotoluene
2,4-TDA
$C_7H_{10}N_2$ / $CH_3C_6H_3(NH_2)_2$
Molecular mass: 122.2

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray, foam, powder, carbon dioxide.
EXPLOSION			
EXPOSURE		**PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!**	
Inhalation	Cough. Sore throat. Blue lips or finger nails. Blue skin. Headache. Dizziness. Nausea. Vomiting. Confusion. Convulsions. Unconsciousness.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	MAY BE ABSORBED! Redness. Pain. (See Inhalation).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
Eyes	Redness. Pain. Severe deep burns.	Safety goggles, (if molten), face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Do NOT wash away into sewer. Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: chemical protection suit including self-contained breathing apparatus.	T Symbol N Symbol R: 45-20/21-25-36-43-51/53 S: 53-45-61 Note: E UN Hazard Class: 6.1 UN Pack Group: III

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-61GT2-III	

IPCS
International Programme on Chemical Safety

Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission

IMPORTANT DATA

Physical State; Appearance
COLOURLESS CRYSTALS. TURNS DARK ON EXPOSURE TO AIR.

Chemical dangers
The substance decomposes on burning producing toxic fumes of nitrogen oxides.

Occupational exposure limits
TLV not established.
MAK: skin absorption (H); sensitization of skin (Sh); Carcinogen category: 2; (DFG 2005).

Routes of exposure
The substance can be absorbed into the body by inhalation of its aerosol or vapour (when in molten state), through the skin and by ingestion.

Inhalation risk
No indication can be given about the rate in which a harmful concentration in the air is reached on evaporation of this substance at 20/C.

Effects of short-term exposure
The substance irritates the eyes, the skin and the respiratory tract. The hot liquid may cause severe skin burns. The substance may cause effects on the liver and blood, resulting in liver damage 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. This substance is possibly carcinogenic to humans. May cause genetic damage in humans.

PHYSICAL PROPERTIES

Boiling point: 292/C
Melting point: 99/C
Relative density (water = 1): see Notes
Solubility in water: good
Vapour pressure, kPa at 106.5/C: 0.13
Relative vapour density (air = 1): 4.2
Relative density of the vapour/air-mixture at 20/C (air = 1): 1.00
Flash point: 149/C
Octanol/water partition coefficient as log Pow: 0.35

ENVIRONMENTAL DATA

The substance is harmful to aquatic organisms.

NOTES

May be handled and shipped in the molten state. Density of the solid is unknown in literature, but density of the liquid (water = 1) at 100/C is 1.045.
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.
Azogen Developer H, Benzofur MT, Eucanine GB, Fouramine, Fourrine, Pelagol, Pontamine Developer TN, Tertral G, Zoba GKE, and Zogen Developer H are trade names.
Card has been partly updated in October 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.

ADDITIONAL INFORMATION