



SAFETY DATA SHEET

1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY /

Catalogue No : P 30417

Product Name : p-Phenylene diamine

Manufacture / Supplier Identification Company : **Nice Chemicals (P) Ltd.,**
PB No: 2217, Manimala Road,
Edappally, Kochi - 682 024, Kerala, India.

Contact for Information : **Tel:** 91-484-2800212, 2802755, 2802536, 2801583
Fax : 0484 2802483

Emergany Telephone No : 0484 2801583

TeleFax No : 0484 2802483

2 COMPOSITION / INFORMATION ON INGREDIENTS

Synonyms : 1,4 - Diaminobenzene
1,4 - Benzenediamine
1,4 - Phenylenediamine

CAS - No : 106 - 50 - 3

Molar Mass :

Molecular Weight : 108.14 g/mol

Molecular Formula : C₆H₈N₂

EC - INDEX No : 612-028-00-6

EC - No : 203-404-7

3 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EC-GHS/CLP] : Acute toxicity, Inhalation (Category 3) Acute toxicity, Dermal (Category 3) Acute toxicity (Category 3) Eye irritation (Category 2) Skin sensitization (Category 1) Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Toxic by inhalation, in contact with skin and if swallowed. Irritation to eyes. May cause sensitization by skin contact.
Very toxic to organic organisms, may cause long-term adverse effects in the aquatic environment.

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Label Elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram :  

Signal word : Danger

For the full text of the R-phrases mentioned in this Section, see Section 16.

Hazard statement(s)

H301 : Toxic if swallowed.

H311 : Toxic in contact with skin

H317 : May cause an allergic skin reaction.

H319 : Cause serious eye irritation

H331 : Toxic if inhaled

H410 : Very toxic to aquatic life with long lasting effects.

Precautionary Statement (s)

P261 : Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 : Avoid release to the environment

P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.


P305 + P351 + P338 : Call a POISON CENTER or doctor/ physician.

P311 : Call a POISON CENTER or doctor/ physician.

Supplemental Hazard Statements : None

Other Hazards : none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s) :  



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R-phrase(s)

R23/24/25 : Toxic by inhalation, in contact with skin and if swallowed.
R36 : Irritating to eyes.
R43 : May cause sensitization by skin contact.
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S28 : After contact with skin, wash immediately with plenty of soap and water.
S36/37 : Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S45 : This material and its container must be disposed of as hazardous waste.
S60 : Avoid release to the environment. Refer to special instructions/ Safety data sheets.
S61 :
Other hazards : None

4 FIRST AID MEASURES

General advice

: Consult a physician. Show this safety data sheet to the doctor in attendance.

After Inhalation

: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact

: Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After eye contact

: Flush eyes with water as a precaution.

After swallowing

: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most Important symptoms and effects, both acute and delayed

: Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

Indication of any immediate medical attention and special treatment needed

: no data available

5 FIRE - FIGHTING MEASURES



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Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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Special hazards arising from the substance or mixture : Carbon oxides, nitrogen oxides (NOx)

Advice for firefighters : Wear self contained breathing apparatus for fire fighting if necessary.

Further Information : No data available

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental-protection : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7 HANDLING AND STORAGE

Precautions for safe handling : Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage, including any incompatibilities : Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Specific end users : no data available

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameter : Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Exposure Controls

Appropriate engineering controls : Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection : Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).



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Skin Protection : Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection : Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection : Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance : **Form** : Solid

Odour : No data available

Odour Threshold : No data available

pH : 9 at 50 g/l at 20 °C

Melting Point/Freezing point : Melting point/range: 138 - 143 °C - lit.

Initial Boiling point and boiling range : 267 °C - lit.

Flash Point : 110 °C - closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper/lower flammability or explosive limits : Lower explosion limit: 1,5 %(V)



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Vapour Pressure : 1,44 hPa at 100 °C

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Vapour Density : No data available

Relative density : No data available

Water solubility : ca.10 g/l at 20 °C

Partition coefficient: noctanol/water : log Pow: -0,25

Autoignition temperature : No data available

Viscosity : No data available

Explosive properties : No data available

Oxidizing properties : No data available

Other Safety information : No data available

Bulk density : 0,600 g/l

10 STABILITY AND REACTIVITY

Reactivity : No data available

Chemical stability : No data available

Conditions to be avoided : No data available

Substance to be avoided : No data available

Hazardous decomposition products : Other decomposition products - no data available

Possibility of hazardous reactions : No data available

incompatible materials : acids, Acid chlorides, Acid anhydrides,
Chloroformates, Strong oxidizing agents

11 TOXICOLOGICAL INFORMATION

Acute Toxicity : LD50 Oral - rat - 80 mg/kg



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Further toxicological Information

Carcinogenicity : Carcinogenicity - rat - Subcutaneous
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Tumorigenic: Tumors at site or application.
: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (p-Phenylenediamine)

Skin corrosion/irritation : No data available

Eye Irritation test (rabbit) : No data available

Respiratory or skin Sensitization : May cause allergic skin reaction.

Germ cell mutagenicity : Genotoxicity in vitro - rat - Embryo
Morphological transformation.
: Genotoxicity in vitro - Hamster - ovary
Cytogenetic analysis
Genotoxicity in vivo - mouse - Oral
DNA inhibition

After Inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

After Skin contact : Toxic if absorbed through skin. May cause skin irritation.

Eyes : Causes serious eye irritation.

After swallowing : No data available

After swallowing of large amounts : No data available

Further data : No data available

Reproductive toxicity : May cause congenital malformation in the fetus.
: Presumed human reproductive toxicant
May cause reproductive disorders.

Specific target organ toxicity-single exposure : Causes damage to organs through prolonged or repeated exposure.

Signs and symptoms of Exposure : Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.



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Additional Information

: RTECS : SS8050000

12 ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	: LC50 - Pimephales promelas (fathead minnow) - 0,06 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 - Daphnia magna (Water flea) - 0,28 mg/l - 48 h
Persistence and degradability	: Biodegradability Biotic/Aerobic - Exposure time 28 d
Biodegradability	: No data available
Bioaccumulative potential	: No data available
Bioaccumulation	: No data available
Mobility in soil	: No data available
Results of PBT and vPvB assessment	: No data available
Other adverse effects	: No data available

13 DISPOSAL METHOD

Waste treatment methods

Product	: Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging	: Dispose of as unused product.

14 TRANSPORT INFORMATION

UN number	: ADR/RID: 1673 : 1673	IMDG: IATA: 1673
UN Proper shipping name	: ADR/RID: PHENYLENEDIAMINES : IMDG: PHENYLENEDIAMINES (o-, m-, p-) IATA: Phenylenediamines	
Transport hazard class(es)	: ADR/RID: - 6.1 : IMDG: - 6.1 : IATA: - 6.1	
Packaging group	: ADR/RID: III : III	IMDG: IATA: III



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Environmental group : ADR/RID: - Yes
pollutant: Yes IMDGMarine
IATA: - Yes

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Special precaution for user : No data available

15 REGULATORY INFORMATION

This safety datasheet compiles with the requirements of Regulation (EC) No. 1907/2006

Safety, health and environmental regulations/legislation
specific for the substance or mixture : No data available

16 OTHER INFORMATION

The information contained here in is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precaution. It does not represent a guarantee of the properties of the product.