

| | |
|-----------------------------------|------------------------|
| Material Safety Data Sheet | Dichlorobenzene |
|-----------------------------------|------------------------|

1 Product And Company Identification :

| | |
|---------------------------|---|
| Product Name | : Dichlorobenzene |
| Other/Generic Names | : DiChlorobenzene |
| Product use | : agricultural chemicals (pesticide) |
| Supplier | Deepak Nitrite Ltd. Aaditya-I, National Highway No. 8, Chhani Road, Vadodara - 390 024, India Manufacturing facilities at : Vadodara, Roha, Taloja & Hyderabad. Contact no. : +91-9904406400 |
| For Chemical Emergency | Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-527-3887 |

2 Hazard Identification :

GHS classification (Classification according to Regulation (EC) No 1272/2008)

Hazard statement (s)

May be harmful if swallowed
 Causes mild skin irritation
 Causes eye irritation
 May cause an allergic skin reaction
 Suspected of causing genetic defects
 Suspected of causing cancer
 May damage fertility or the unborn child
 May damage fertility or the unborn child
 Causes damage to hematopoietic system, liver
 Causes damage to respiratory, liver, nervous system through prolonged or repeated exposure
 May cause damage to kidney through prolonged or repeated exposure
 Very toxic to aquatic life

Precaution :

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood
 Use ventilation system or personal protective equipment as required.
 [Response]
 IF ON SKIN: Wash with plenty of soap and water.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
 Immediately call a POISON CENTER or doctor /physician.

Hazard pictograms



Signal word

Danger

3 Composition / Information On Ingredients :

Chemical formula : C₆H₄Cl₂
Common Name : Dichlorobenzene (DCB)
Synonyms : -
Molecular weight : 147 g/mol
CAS No. : 1817-47-6
Index No. : -
UN No. : 1591
EINECS No. : 217-326-6
 ICSC number : 37
 EC No: 203-400-5
 EC Index No: 602-035-00-2
 EC Classification Xi; R36 Carc. Cat. 3; R40 N; R50-53
 EC Labeling Xn; N R: 36-40-50/53 S: (2-)36/37-46-60-61
 Concentration

| Sr. No | Component | CAS No | % w/w |
|--------|-----------|----------|----------|
| 01 | MCB | 108-90-7 | 2 to 4 |
| 02 | PDCB | 106-46-7 | 54 to 59 |
| 03 | ODCB | 95-50-1 | 35 to 40 |

4 First Aid Measures :

4.1 Description of necessary measures, subdivided according to the different routes of exposure, ie, inhalation, skin and eye contact, and ingestion

IF ON SKIN: Wash with plenty of soap and water.

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

4.2 Most important symptoms/effects, acute and delayed

May be harmful if swallowed (Acute toxicity (Oral) Category 5)

Causes mild skin irritation (Skin corrosion/irritation Category 3)

Causes eye irritation (Serious eye damage/eye irritation Category 2B)

May cause an allergic skin reaction (Skin sensitization Category 1)

Suspected of causing genetic defects (Germ cell mutagenicity Category 2)

Suspected of causing cancer (Carcinogenicity Category 2)

May damage fertility or the unborn child (Reproductive toxicity Category 1B)

Causes damage to hematopoietic system, liver (Specific target organ toxicity - Single exposure Category 1(hematopoietic system, liver))

Causes damage to respiratory, liver, nervous system through prolonged or repeated exposure May cause damage to kidney through prolonged or repeated exposure (Specific target organ toxicity - Repeated exposure Category 1(respiratory, liver, nervous system), 2(kidney))

Please refer to "11 Toxicological information" in detail.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

5 Fire Fighting Measures:

Acute hazards/symptoms in Fire : Combustible. Gives off irritating or toxic fumes (or gases) in a fire.

Prevention in Fire : NO open flames

First AID/Fire Fighting in Fire : Powder, water spray, foam, carbon dioxide.

Acute hazards/symptoms in Explosion : Above 66 degree C explosive vapour/air mixtures may be formed.

Prevention in Explosion : Above 66 degree C use a closed system, ventilation, and explosion-proof electrical equipment.

First AID/Fire Fighting in Explosion : In case of fire: keep drums, etc., cool by spraying with water.

Deepak Nitrite Limited

6 Accidental Release Measures :

Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Personal protection: filter respirator for organic gases and vapours. Do NOT let this chemical enter the environment.

7 Handling & Storage :

.7.1 Precautions for safe handling

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
Use ventilation system or personal protective equipment as required.
Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

8 Exposure Control / Personal Protection :

8.1 Control parameters, eg, occupational exposure limit values or biological limit Values ACGIH 2005, TLV-TWA 10ppm

8.2 Appropriate engineering controls (Please refer to engineering controls described in "7.1 Precautions for safe handling".)

8.3 Individual protection measures, such as personal protective equipment (Please refer to Individual protection measures described in "7.1 Precautions for safe handling".)

9 Physical And Chemical Properties :

| | |
|--------------------------------------|------------------------------|
| 9.1 Appearance | Dark brown colour liquid |
| 9.2 odor | Specific odor |
| 9.3 odor threshold | No data |
| 9.4 pH | No data |
| 9.5 Melting point and Freezing point | No data |
| 9.6 Boiling point | 174 degree C(Boiling point) |
| 9.7 Flash point | 66 degree C |
| 9.8 Evaporation rate | No data |
| 9.9 Flammability(solid, gas) | Combustible |

Deepak Nitrite Limited

| | |
|--------------------------------|--|
| 9.10 Explosive limits | Lower limit: 6.2 vol % Upper limit 16% |
| 9.11 Vapor pressure | 170 Pa (20 degree C) |
| 9.12 Vapor density | 5.08 |
| 9.13 relative Density | 1.01 (20 degree C) |
| 9.14 Solubility(ies) | 80mg/L (water 25 degree C) |
| 9.15 Partition coefficient | n-octanol/water: log Pow=3.37 |
| 9.16 Auto ignition temperature | No data |
| 9.17 Decomposition temperature | No data |
| 9.18 GHS classification | Physical hazards |

10 Stability And Reactivity :

10.1 Chemical stability : flammable liquid

10.2 Possibility of hazardous reactions : React with strong oxidizing reagent.

10.3 Conditions to avoid (e.g., static discharge, shock or vibration) : Heat

10.4 Incompatible materials : strong oxidizing reagent

10.5 Hazardous decomposition products : CO, CO₂, hydrogen chloride

11 Toxicological Information :

11.1 Acute toxicity (Oral)

Based on the rat LD₅₀ (oral route) value of 2,512 mg/kg representing the lower of the two testing data, 2,512 mg/kg (NICNAS (2000)) and 2,515mg/kg (DFGOT vol. 4 (1992)).

May be harmful if swallowed (Acute toxicity (Oral) Category 5)

11.2 Acute toxicity (Dermal)

Insufficient data available

11.3 Acute toxicity (Inhalation: Gases)

Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected.

11.4 Acute toxicity (Inhalation: Vapours)

No data available

11.5 Acute toxicity (Inhalation: Dusts / Mist)

Because the rat LC₅₀ (4-hour inhalation) value of 5.07mg/L (equivalent to 845ppm) (CERINITE Hazard Assessment No.76 (2005)) was higher than 110% of the saturated vapour concentration (790ppm, 20degree C), the substance was considered as "dust exposure

Deepak Nitrite Limited

containing vapour" and was classified based on the dust classification.

11.6 Skin corrosion / irritation

Based on the description in the report on rabbit skin irritation tests (4-hour application) performed in accordance with OECD Guidelines (CERI-NITE Hazard Assessment No.76 (2005)): Mildly irritating.

Causes mild skin irritation (Skin corrosion/irritation Category 3)

11.7 Serious eye damage / eye irritation

Based on the description in the report on rabbit eye irritation tests performed in accordance with OECD Guidelines (CERI-NITE Hazard Assessment No.76 (2005)): Redness and edema of the conjunctiva are observed in one out of three specimens, both of which disappear after 72 hours of exposure; mild eye irritation is observed, with no effects on the iris and cornea. The substance is considered "mildly irritating" to the eyes.

Causes eye irritation (Serious eye damage/eye irritation Category 2B)

11.8 Respiratory sensitization / Skin sensitization

Respiratory sensitizer: No data available Skin sensitizer: based on the description in CERI-NITE Hazard Assessment No.76 (2005) - Nine out of 24 specimens (Score: 1), four out of 24 specimens (Score: 2) and one out of 24 specimens (Score: 3) (all scored based on the maximization method). The substance is considered to cause skin sensitization.

May cause an allergic skin reaction (Skin sensitization Category 1)

11.9 Germ cell mutagenicity

Based on the negative data on multi-generation mutagenicity tests (dominant lethal tests), the absence of data on germ cell mutagenicity tests in vivo, positive data on somatic cell mutagenicity tests in vivo (micronucleus tests), and the absence of data on germ cell genotoxicity tests in vivo, described in EU-RAR No.48 (2004) and IARC 73 (1999).

Suspected of causing genetic defects (Germ cell mutagenicity Category 2)

11.10 Carcinogenicity

Due to the fact that the substance is classified as Category A3 by ACGIH (2005), Category R by NTP (2005), Category 3 by EU (2004) and 2B by IARC (1999).

Suspected of causing cancer (Carcinogenicity Category 2)

11.11 Reproductive toxicity

Based on the description in the report on two-generation reproductive toxicity tests (oral route) (EU-RAR No.48 (2004), CERI-NITE Hazard Assessment No.76 (2005)): A decrease in the number and body weight of alive newborns is observed at dosing levels not toxic to parental animals.

May damage fertility or the unborn child (Reproductive toxicity Category 1B)

11.12 Specific target organ toxicity - Single exposure

Based on the human evidence including "hypochromia, microcytic anemia, methemoglobinuria" (CERI Hazard Data 96-47 (1998)), "jaundice, hemolytic anemia, methemoglobinuria" (CERI-NITE Hazard Assessment No.76 (2005)).

Deepak Nitrite Limited

Causes damage to hematopoietic system, liver (Specific target organ toxicity - Single exposure Category 1(hematopoietic system, liver))

11.13 Specific target organ toxicity - Repeated exposure

Based on the human evidence including "pulmonary granulomatosis, hepatic atrophy/cirrhosis, ataxia, speech disorder, tremor in the fingers, an increase of muscular reflexes" (CERI Hazard Data 96-47 (1998)) and the evidence from animal studies including "pulmonary interstitial edema, congestion, alveolar hemorrhage, cloudy swelling in the liver, focal necrosis, cirrhosis, an increase in the kidney weight, hyaline droplet accumulation in the renal tubular epithelium" (CERI Hazard Data 96-47 (1998)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2.

Causes damage to respiratory, liver, nervous system through prolonged or repeated exposure
May cause damage to kidney through prolonged or repeated exposure (Specific target organ toxicity - Repeated exposure Category 1(respiratory, liver, nervous system), 2(kidney))

11.14 Aspiration hazard

No data available

12 Ecological Information :

12.1 Acute toxicity to the aquatic environment

It was classified into Category 1 from 48-hour EC50=0.7mg/L of Crustacea (Daphnia magna) (CERI-NITE hazard assessment, 2005).

Very toxic to aquatic life (Acute toxicity to the aquatic environment Category 1)

12.2 Chronic toxicity to the aquatic environment

Since there was rapidly degrading (28-days decomposition based on OECD Test Guideline 301D: 67% (EU-RAR, 2004)) and bio-accumulation is low (BCF=190 (existing chemical safety inspections data)), it was classified as Out of Category.

12.3 Other adverse effects

Deepak Nitrite Limited

13 Disposal Considerations :

13.1 Description of waste residues and information on their safe handling and methods of disposal

If you would like to dispose of this chemical, you should properly dispose of this by yourself or ask qualified specific agents dispose of this according to related legislations and local regulations. If you would like to ask the agents dispose of this chemical, you should provide sufficient information on dangerousness and hazard of this chemical.

13.2 the disposal of any contaminated packaging

Container should be recycled after cleaning or if you would like to dispose of container of this chemical, you should properly dispose of this by yourself or ask qualified specific agents dispose of this according to related legislations and local regulations. If you would like to ask the agents dispose of this container, you should provide sufficient information on dangerousness and hazard of this chemical in this container and information on ingredient and notice of container

14 Transport Information :

14.1 UN Number : 1591

14.2 UN Proper shipping name : TOXIC LIQUID, ORGANIC, N.O.S.

14.3 Transport Hazard class(es) : Class 9: Miscellaneous dangerous substances and articles

14.4 Packing group, if applicable : III

14.5 Marine pollutant (Yes)

14.6 Special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises

15 Regulatory Information :

15.1 Safety, health and environmental regulations specific for the product in question
(under survey)

16 Other Information:

DISCLAIMER : Deepak Nitrite Ltd. provides the information contained herein in good faith but makes no representation as to comprehensiveness or accuracy. This document is only as a guide to a properly trained person, for the appropriate precautions and handling of the material. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. The data does not signify any warranty with regard to the product's properties.