SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-M-58176
Product Name	2,4-Dichloro-1-nitrobenzene
CAS No.	611-06-3
Category	Building Blocks
Synonyms	4-Nitro-1,3-dichlorobenzene
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Skin irritation (Category 2)
Serious eye damage/eye irritation (Category 2)
Acute toxicity (Category 4)

2.2 Label Elements

Signal Word: Warning



Hazard Statement(s)

Code	Statement
H302	Harmful if swallowed.
H311	Not available

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	Not available
H341	Not available
H350	Not available
H411	Toxic to aquatic life with long lasting effects.
H351	Not available
H361	Not available
H373	Not available
H312	Harmful in contact with skin.

Precautionary Statement(s)

Code	Statement
P203	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Not available
P264	Wash hands thoroughly after handling.
P264+P265	Not available
P270	Not available
P271	Use only outdoors or in a well-ventilated area.
P272	Not available
P273	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P317	Not available
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen
P316	Not available
P318	Not available

P319	Get medical help if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Not available
P332+P317	If skin irritation occurs: Get medical help.
P333+P317	Not available
P337+P317	If eye irritation persists: Get medical help.
P361+P364	Not available
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P260	Not available
P317	Not available

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : 2,4-Dichloro-1-nitrobenzene
CAS Number : 611-06-3
Molecular Formula : C6H3Cl2NO2
Molecular Weight : 192.00
Parent Chemical : -
Synonyms : 4-Nitro-1,3-dichlorobenzene
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
- General advice: Remove contaminated clothing and shoes. Seek medical attention if symptoms persist or are severe.
- Inhalation: Move person to fresh air. Keep at rest. If breathing is difficult, seek medical attention.
- Skin contact: Wash with plenty of soap and water. Get medical attention if irritation develops or persists.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
- Ingestion: Rinse mouth. Do NOT induce vomiting unless directed by medical personnel. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed
- Not available.

4.3 Indication of any immediate medical attention and special treatment needed
- Treat symptomatically.
- No data available.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
- Suitable extinguishing media: Use extinguishing measures appropriate to surrounding fire (e.g., water spray, alcohol-resistant foam, dry chemical, carbon dioxide).
- Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance or mixture
- May emit hazardous decomposition products under fire conditions.
- Hazardous combustion products: Not available.

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Cool containers with water spray to prevent rupture.
- Avoid inhalation of combustion fumes.
- Prevent fire-fighting water from entering drains or waterways.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Evacuate unnecessary personnel.
- Avoid breathing dust/vapors and avoid contact with skin and eyes.
- Use appropriate personal protective equipment (see Section 8).
- Ensure adequate ventilation.

6.2 Environmental precautions
- Avoid release to the environment.
- Prevent entry into drains, surface water, and soil.

6.3 Methods and material for containment and cleaning up
- Avoid generating dust.
- Collect spilled material using inert absorbent or by careful sweeping/shoveling into suitable, labeled containers.
- Clean contaminated area with suitable cleaning methods; avoid wash-down to drains.

6.4 Reference to other sections
- See Section 8 for personal protective equipment.
- See Section 13 for disposal considerations.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Handle in accordance with good industrial hygiene and safety practice.
- Avoid breathing dust/vapors.
- Avoid contact with skin, eyes, and clothing.
- Use only with adequate ventilation.
- Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
- Store in tightly closed container in a cool, dry, well-ventilated place.
- Protect from moisture and incompatible materials.
- Incompatible materials: Not available.

7.3 Specific end use(s)
- Building block / laboratory and industrial use.
- No data available for specific risk management measures.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
- Occupational exposure limits: Not available.

8.2 Exposure controls
- Engineering controls: Use local exhaust ventilation or general ventilation to minimize exposure.
- Personal protective equipment (PPE):
- Eye/face protection: Safety glasses with side shields or chemical goggles.
- Skin protection: Protective gloves and protective clothing appropriate to the task.
- Respiratory protection: If ventilation is inadequate or exposure is possible, use an appropriate NIOSH/EN-approved respirator.
- Hygiene measures: Wash hands after handling. Remove and wash contaminated clothing before reuse.
- Environmental exposure controls: Avoid release to the environment; use appropriate containment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

10.1 Reactivity
- No data available.

10.2 Chemical stability
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- No data available.

10.4 Conditions to avoid
- Heat, open flames, and sources of ignition.
- Avoid dust generation.
- Other conditions: Not available.

10.5 Incompatible materials

- Not available.

10.6 Hazardous decomposition products
- Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: LD50 Rat oral 379 mg/kg LD50 Rat oral 990 mg/kg
- Skin corrosion/irritation: /LABORATORY ANIMALS: Acute Exposure/ Slightly irritating in the acute dermal irritation test in the rabbit.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: /LABORATORY ANIMALS: Acute Exposure/ The fate of 2,4-dinitrochlorobenzene, a potent contact sensitizing chemical, and 2,4-dichloronitrobenzene, a non-sensitizer, was compared following their application to the skin of BALB/c mice. Although both chemicals were able to bind to protein in vitro and were capable of being absorbed across mouse skin in vivo, only 2,4-dinitrochlorobenzene was able to bind to cells in the skin and to induce the movement of these cells from the epidermis into the dermis and ultimately into the draining lymph nodes. The sensitization potential of a chemical may therefore be dependent on its ability to associate with and stimulate the efflux of cutaneous antigen-presenting cells. /ALTERNATIVE and IN VITRO TESTS/ ... the effect of a strong sensitizer, 2,4-dinitrofluorobenzene (DNFB) on the activity of MAPKs in a dendritic cell (DC) line generated from fetal mouse skin (FSDC) /was examined/, and the results were correlated with the expression of a co-stimulating molecule upregulated upon DC maturation, CD40. Phosphorylation of ERK1/2 (pERK1/2) and p38 MAPK (pp38 MAPK), and CD40 protein levels, were determined by Western blot. Cellular localization of pERK1/2 and pp38 MAPK were determined by immunocytochemistry using phospho-specific antibodies. Although with different kinetics, DNFB activated ERK1/2 and p38 MAPK, and induced the translocation of the phosphorylated forms of the kinases to the nucleus. In addition, DNFB upregulated significantly CD40 protein levels in FSDC. However, 2,4-dichloronitrobenzene (DCNB), an inactive analogue of DNFB, did not affect significantly the phosphorylation of MAPKs and CD40 protein levels. SB203580 and SB202190, inhibitors of the p38 MAPK activity, inhibited DNFB-induced CD40 upregulation, although this effect did not reach statistical significance. In contrast, PD 98059 and U0126, inhibitors of mitogen or extracellular signal-regulated kinase (MEK), had no effect on the CD40 upregulation induced by DNFB.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: No data available.
- Reproductive toxicity: /LABORATORY ANIMALS: Developmental or Reproductive Toxicity/ 2,4-Dichloronitrobenzene was studied for oral toxicity ... in rats at doses of 0, 8, 40 and 200 mg/kg/day. 2,4-Dichloronitrobenzene showed no effects on mating, fertility or the estrus cycle. One female given 200 mg/kg died during delivery. All pups were stillborn with two females and pups dying during the lactation period with three females given 200 mg/kg. In addition, the number of live pups born decreased, and number of stillborn pups tended to increase. The live birth index, viability index of pups at day 4 after birth and delivery index were decreased or showed a tendency for decrease in the same group, suggesting functional disturbances in delivery or lactation caused by the test substance. The NOEL for reproductive toxicity was considered to be 40 mg/kg/day for parental animals and offspring.
- STOT-single exposure: No data available.
- STOT-repeated exposure: No data available.
- Aspiration hazard: No data available.

Likely routes of exposure
- No data available.

Symptoms related to the physical, chemical and toxicological characteristics
- /LABORATORY ANIMALS: Developmental or Reproductive Toxicity/ 2,4-Dichloronitrobenzene was studied for oral toxicity ... in rats at doses of 0, 8, 40 and 200 mg/kg/day. 2,4-Dichloronitrobenzene showed no effects on mating, fertility or the estrus cycle. One female given 200 mg/kg died during delivery. All pups were stillborn with two females and pups dying during the lactation period with three females given 200 mg/kg. In addition, the number of live pups born decreased, and number of stillborn pups tended to increase. The live birth index, viability index of pups at day 4 after birth and delivery index were decreased or showed a tendency for decrease in the same group, suggesting functional disturbances in delivery or lactation caused by the test substance. The NOEL for reproductive toxicity was considered to be 40 mg/kg/day for parental animals and offspring.

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
- No data available.

12.2 Persistence and degradability
- No data available.

12.3 Bioaccumulative potential
- No data available.

12.4 Mobility in soil
- No data available.

12.5 Results of PBT and vPvB assessment
- Not available.

12.6 Endocrine disrupting properties
- No data available.

12.7 Other adverse effects
- No data available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains or the environment.
- Dispose of as hazardous waste if required by applicable regulations.
- Contaminated packaging: Dispose of as unused product or according to local requirements.
- Waste codes: Not available.

SECTION 14: Transport information

SECTION 14: Transport information

- UN number: Not available.

- UN proper shipping name: Not available.
- Transport hazard class(es): Not available.
- Packing group: Not available.
- Environmental hazards: Not available.
- Special precautions for user: Not available.
- Transport in bulk according to IMO instruments: Not available.

Note: Transport classification may vary by mode (ADR/RID, IMDG, IATA). Verify with current regulations and carrier requirements.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Regulatory listings (e.g., TSCA, REACH, DSL, EINECS/ELINCS, IECSC, ENCS, AICS): Not available.

15.2 Chemical safety assessment
- No data available.

SECTION 16: Other information

SECTION 16: Other information

- Product name: 2,4-Dichloro-1-nitrobenzene
- Synonyms: 4-Nitro-1,3-dichlorobenzene
- CAS No.: 611-06-3
- Catalog No.: CS-M-58176
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Disclaimer: The information provided is believed to be accurate based on available data, but no warranty is expressed or implied. Users are responsible for determining suitability for their particular application and for compliance with applicable laws and regulations.
- Revision date: Not available
- Version: Not available

DISCLAIMER

This MSDS is system-generated. Please verify and confirm all data, statements, and values with the Support Team before use or distribution.