

MATERIAL SAFETY DATA SHEET (SDS/MSDS)

1-CHLORO-4-NITROBENZENE 99% FOR SYNTHESIS

CAS-No.: 100-00-5

Product Code: 00777

Molecular Formula : $C_6H_4ClNO_2$

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	1-Chloro-4-Nitrobenzene 99% For Synthesis
EC-No.	:	202-809-6
CAS No	:	100-00-5

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company : Chemnovo Synthesis Pvt Ltd.
N-226 Near Kumbhavali Naka
Tarapur MIDC, Boisar-401 506
Palghar, Maharashtra
Telephone : +91 7400096089
Email: export@chemnovo.in

1.4. Emergency telephone number

Emergency number : + 91 7400096089 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (dermal), Category 3	H311
Acute toxicity (inhal.), Category 3	H331
Acute toxicity (oral), Category 3	H301
Carcinogenicity, Category 2	H351
Germ cell mutagenicity, Category 2	H341
Specific target organ toxicity – Repeated exposure, Category 2	H373
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

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Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.3; R40

Muta.Cat.3; R68

T; R23/24/25

Xn; R48/20/21/22

N; R51/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS06

GHS08

GHS09

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled

H341 - Suspected of causing genetic defects.

H351 - Suspected of causing cancer.

H373 - May cause damage to organs through prolonged or repeated exposure.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P261 - Avoid breathing vapours, spray, dust, fume, gas.

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, eye protection, face protection.

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor

P311 - Call a POISON CENTER/doctor

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : 1-Chloro-4-Nitrobenzene 99% For Synthesis

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Full text of R- and H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Suspected of causing cancer.
First-aid measures after inhalation : Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact : Immediately call a POISON CENTER/doctor. Take off immediately all contaminated clothing. Wash with plenty of water/.... Wash contaminated clothing before reuse.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Suspected of causing genetic defects. Causes damage to organs.
Symptoms/effects after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin.
Symptoms/effects after ingestion : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.
Unsuitable extinguishing media : Do not use a heavy water stream

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighter

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe vapours. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection : protective gloves
Eye protection : Chemical goggles or safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Molecular mass : 157.56 g/mol
Colour : Lemon yellow.

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Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	80 - 83 °C
Freezing point	:	No data available
Boiling point	:	242 °C
Flash point	:	124 °C
Auto-ignition temperature	:	510 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.298 g/cm ³
Solubility	:	Water: Insoluble
Log Pow	:	2.6
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Moisture. Heat.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

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11.1. Information on toxicological effects

Acute toxicity	:	Dermal: Toxic in contact with skin. Inhalation: Toxic if inhaled. Oral: Toxic if swallowed.
Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Suspected of causing genetic defects.
Carcinogenicity	:	Suspected of causing cancer.
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Toxic if swallowed. Toxic in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	:	Toxic to aquatic life with long lasting effects.
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12.2. Persistence and degradability

1-CHLORO-4-NITROBENZENE FOR SYNTHESIS (100-00-5)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

1-CHLORO-4-NITROBENZENE FOR SYNTHESIS (100-00-5)	
Log Pow	2.6

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	:	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Ecology - waste materials	:	Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA /AND

14.1. UN number

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UN-No. (ADR)	:	1578
UN-No. (IMDG)	:	1578
UN-No.(IATA)	:	1578
UN-No.(AND)	:	1578
UN-No. (RID)	:	1578

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	CHLORONITROBENZENES, SOLID
Proper Shipping Name (IMDG)	:	CHLORONITROBENZENES, SOLID
Proper Shipping Name (IATA)	:	Chloronitrobenzenes, solid
Proper Shipping Name (ADN)	:	CHLORONITROBENZENES, SOLID
Proper Shipping Name (RID)	:	CHLORONITROBENZENES, SOLID
Transport document description (ADR)	:	UN 1578 CHLORONITROBENZENES, SOLID, 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	:	UN 1578 CHLORONITROBENZENES, SOLID, 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	:	UN 1578 Chloronitrobenzenes, solid, 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	:	UN 1578 CHLORONITROBENZENES, SOLID, 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	:	UN 1578 CHLORONITROBENZENES, SOLID, 6.1, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR	
Transport hazard class(es) (ADR)	: 6.1
Danger labels (ADR)	: 6.1



IMDG	
Transport hazard class(es) (IMDG)	: 6.1
Danger labels (IMDG)	: 6.1



MATERIAL SAFETY DATA SHEET (SDS/MSDS)**1-CHLORO-4-NITROBENZENE 99% FOR SYNTHESIS****CAS-No.: 100-00-5****IATA**Transport hazard class(es) (IATA) : 6.1
Hazard labels (IATA) : 6.1**AND**Transport hazard class(es) (ADN) : 6.1
Danger labels (ADN) : 6.1**RID**Transport hazard class(es) (RID) : 6.1
Danger labels (RID) : 6.1**14.4. Packing group**Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II**14.5. Environmental hazards**Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

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14.6. Special precautions for user

- Overland transport

Classification code (ADR)	:	T2
Special provisions (ADR)	:	279
Limited quantities (ADR)	:	500g
Excepted quantities (ADR)	:	E4
Packing instructions (ADR)	:	P002, IBC08
Special packing provisions (ADR)	:	B4
Mixed packing provisions (ADR)	:	Mp10
Portable tank and bulk container instructions (ADR)	:	T3
Portable tank and bulk container special provisions (ADR)	:	Tp33
Tank code (ADR)	:	SGAH
Tank special provisions (ADR)	:	TU15, Te19
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2
Special provisions for carriage - Packages (ADR)	:	V11
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV13, Cv28
Special provisions for carriage - Operation (ADR)	:	S9, S19
Hazard identification number (Kemler No.)	:	60
Orange plates	:	

60

1578

Tunnel restriction code (ADR)	:	D/E
EAC code	:	2X
- Transport by sea		
Special provisions (IMDG)	:	279
Packing instructions (IMDG)	:	P002
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B21, B4
Tank instructions (IMDG)	:	T3
Tank special provisions (IMDG)	:	Tp33
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-A
Stowage category (IMDG)	:	A
Properties and observations (IMDG)	:	Yellow crystals. Melting point: approximately 30°C to 80°C. Toxic if swallowed, by skin contact or by dust inhalation.

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MFAG-No	:	152
- Air transport		
PCA Excepted quantities (IATA)	:	E4
PCA Limited quantities (IATA)	:	Y644
PCA limited quantity max net quantity (IATA)	:	1kg
PCA packing instructions (IATA)	:	669
PCA max net quantity (IATA)	:	25kg
CAO packing instructions (IATA)	:	676
CAO max net quantity (IATA)	:	100kg
Special provisions (IATA)	:	A113
ERG code (IATA)	:	6L
- Inland waterway transport		
Classification code (ADN)	:	T2
Special provisions (ADN)	:	279, 802
Limited quantities (ADN)	:	500 g
Excepted quantities (ADN)	:	E4
Carriage permitted (AND)	:	T
Equipment required (ADN)	:	PP, EP, TOX, A
Ventilation (ADN)	:	Ve02
Number of blue cones/lights (ADN)	:	2
- Rail transport		
Classification code (RID)	:	T2
Special provisions (RID)	:	279
Excepted quantities (RID)	:	E4
Packing instructions (RID)	:	P002, IBC08
Special packing provisions (RID)	:	B4
Mixed packing provisions (RID)	:	Mp10
Portable tank and bulk container instructions (RID)	:	T3
Portable tank and bulk container special provisions (RID)	:	Tp33
Tank codes for RID tanks (RID)	:	SGAH
Special provisions for RID tanks (RID)	:	Tu15
Transport category (RID)	:	2
Special provisions for carriage – Packages (RID)	:	W11
Special provisions for carriage – Loading, unloading and handling (RID)	:	CW13, CW28, Cw31
Colis express (express parcels) (RID)	:	Ce9
Hazard identification number (RID)	:	60

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

1-Chloro-4-Nitrobenzene 99% For Synthesis is not on the REACH Candidate List

1-Chloro-4-Nitrobenzene 99% For Synthesis is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV; ID No. 233)

12th Ordinance Implementing the Federal

Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen –

Vruchtbaarheid

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen – Ontwikkeling

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product .

Pregnant/breastfeeding women working with the product must not be in direct contact with the product

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-statements:

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Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Carc. 2	Carcinogenicity, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R40	Limited evidence of a carcinogenic effect
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R68	Possible risk of irreversible effects
N	Dangerous for the environment
T	Toxic
Xn	Harmful

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Chemnovo Synthesis Pvt Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.chemnovo.in for additional terms and conditions of sale.

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