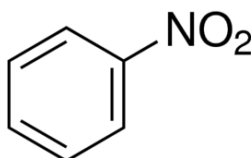


MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
 :
 EC index no : 609-003-00-7
 EC no : 202-716-0
 CAS No : 98-95-3
 Product code : 04936
 Chemical structure :



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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.
 107 Wode House Road, Jehangir Villa, Colaba
 400005 Mumbai - INDIA
 T +91 22 6663 6663 - F +91 22 6663 6699
info@lobachemie.com - www.lobachemie.com

1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (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), H311
 Category 3
 Acute toxicity (inhal.), H331
 Category 3
 Acute toxicity (oral), H301
 Category 3
 Specific target organ H372
 toxicity — Repeated
 exposure, Category 1
 Carcinogenicity, Category H351
 2

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Reproductive toxicity, Category 2 H361f
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

Full text of classification categories and H statements : see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.3; R40
Repr.Cat.3; R62
T; R23/24/25
T; R48/23/24
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) :

-

Hazard statements (CLP) :

H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H351 - Suspected of causing cancer
H361f - Suspected of damaging fertility
H372 - Causes damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P201 - Obtain special instructions before use
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 or doctor/physician
P311 - Call a POISON CENTER or doctor/physician

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : NITROBENZENE FOR SYNTHESIS

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CAS No : 98-95-3
EC no : 202-716-0
EC index no : 609-003-00-7

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

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : If you feel unwell, seek medical advice. Rinse mouth out with water.

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

Symptoms/injuries : Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure.

Symptoms/injuries after inhalation : Toxic if inhaled.

Symptoms/injuries after skin contact : Toxic in contact with skin.

Symptoms/injuries after ingestion : Harmful if swallowed.

Chronic symptoms : Suspected carcinogen.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

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 firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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 : Stop release.

6.2. Environmental precautions

Toxic to aquatic life with long lasting effects.

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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 get in eyes, on skin, or on clothing.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed. Store in a dry place.

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 : Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Colour : Pale yellow.
Odour : almond odor.
Odour threshold : No data available
pH : 8 - 8.5 at 1,00000 g/l at 20°C
Relative evaporation rate (butylacetate=1) : No data available
Melting point : 5 - 6
Freezing point : No data available
Boiling point : 210 - 211
Flash point : 88 °C

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Auto-ignition temperature	: 482 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.3 hPa at 20°C
Relative vapour density at 20 °C	: 4.3
Relative density	: No data available
Density	: 1.2 g/cm ³
Solubility	: Water: Practically insoluble in water
Log Pow	: 1.85
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.018 - 0.4 vol %

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. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

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
pH: 8 - 8.5 at 1,00000 g/l at 20°C

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Serious eye damage/irritation	: Not classified pH: 8 - 8.5 at 1,00000 g/l at 20°C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Suspected of damaging fertility.
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Causes 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.

12.2. Persistence and degradability

NITROBENZENE FOR SYNTHESIS (98-95-3)

Persistence and degradability	May cause long-term adverse effects in the environment.
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12.3. Bioaccumulative potential

NITROBENZENE FOR SYNTHESIS (98-95-3)

Log Pow	1.85
---------	------

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

NITROBENZENE FOR SYNTHESIS (98-95-3)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to ...

Ecology - waste materials : Hazardous waste due to toxicity.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : 1662

UN-No. (IMDG) : 1662

UN-No.(IATA) : 1662

UN-No.(ADN) : 1662

UN-No. (RID) : 1662

14.2. UN proper shipping name

Proper Shipping Name (ADR) : NITROBENZENE

Proper Shipping Name (IMDG) : NITROBENZENE

Proper Shipping Name (IATA) : NITROBENZENE

Proper Shipping Name (ADN) : NITROBENZENE

Proper Shipping Name (RID) : NITROBENZENE

Transport document description (ADR) : UN 1662 NITROBENZENE, 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS

Transport document description (IMDG) : UN 1662 NITROBENZENE, 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS

Transport document description (IATA) : UN 1662 NITROBENZENE, 6.1, II, ENVIRONMENTALLY HAZARDOUS

Transport document description (ADN) : UN 1662 NITROBENZENE, 6.1, II, ENVIRONMENTALLY HAZARDOUS

Transport document description (RID) : UN 1662 NITROBENZENE, 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



IATA

Transport hazard class(es) (IATA) : 6.1

Hazard labels (IATA) : 6.1

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ADN

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

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : T1

Special provision (ADR) : 279

Limited quantities (ADR) : 100ml

Excepted quantities (ADR) : E4

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP15

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP2

Tank code (ADR) : L4BH

Tank special provisions (ADR) : TU15, TE19

Vehicle for tank carriage : AT

Transport category (ADR) : 2

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28

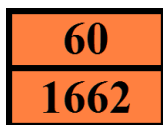
NITROBENZENE FOR SYNTHESIS

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Special provisions for carriage - Operation (ADR) : S9, S19

Hazard identification number (Kemler No.) : 60

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : 2X

- Transport by sea

Special provision (IMDG) : 279

Limited quantities (IMDG) : 100 ml

Excepted quantities (IMDG) : E4

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP2

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-A

Stowage category (IMDG) : A

Stowage and handling (IMDG) : SW2

MFAG-No : 152

- Air transport

PCA Excepted quantities (IATA) : E4

PCA Limited quantities (IATA) : Y641

PCA limited quantity max net quantity (IATA) : 1L

PCA packing instructions (IATA) : 654

PCA max net quantity (IATA) : 5L

CAO packing instructions (IATA) : 662

CAO max net quantity (IATA) : 60L

Special provision (IATA) : A113

ERG code (IATA) : 6L

- Inland waterway transport

Classification code (ADN) : T1

Special provisions (ADN) : 279, 802

Limited quantities (ADN) : 100 ml

Excepted quantities (ADN) : E4

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EP, TOX, A

Ventilation (ADN) : VE02

Number of blue cones/lights (ADN) : 2

- Rail transport

Classification code (RID) : T1

Special provision (RID) : 279

Limited quantities (RID) : 100ml

Excepted quantities (RID) : E4

Packing instructions (RID) : P001, IBC02

Mixed packing provisions (RID) : MP15

Portable tank and bulk container instructions (RID) : T7

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Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L4BH
Special provisions for RID tanks (RID)	: TU15
Transport category (RID)	: 2
Special provisions for carriage – Loading and unloading (RID)	: CW13, CW28, CW31
Colis express (express parcels) (RID)	: CE5
Hazard identification number (RID)	: 60

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

Not applicable

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

Nitrobenzene is on the REACH Candidate List

NITROBENZENE FOR SYNTHESIS is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 3, strongly hazardous to water (KBwS-Beschluss; WGK No 163)

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

Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

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

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

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
Repr. 2	Reproductive toxicity, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H351	Suspected of causing cancer
H361f	Suspected of damaging fertility
H372	Causes 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
R48/23/24	Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R62	Possible risk of impaired fertility
N	Dangerous for the environment
T	Toxic

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product