

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **Nitrobenzene**
Product Code 094600
CAS Number 98-95-3
Other Names
IUPAC
MFCD Number MFCD00007043
EC/EINECS 202-716-0
REACH Number Index-No

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

Research and Development

3. Details of the supplier of the safety data sheet

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Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
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Email: sds@fluorochem.co.uk



4. Emergency telephone number

+44(0)7855 268577 -

2. Hazards Identification

1. Classification of the substance or mixture

H301	Acute Tox. 3	
H311	Acute Tox. 3	
H331	Acute Tox. 3	
H351	Carc. 2	
H360F	Repr. 1B	
H372	STOT RE 1	
H412	Aquatic Chronic 3	

2. Label elements

Signal Word **Danger**



Hazard Statements

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H351	Suspected of causing cancer cancer..
H360F	May damage fertility
H372	Causes damage to organs through prolonged or repeated exposure..
H412	Harmful to aquatic life with long lasting effects.

Precautionary Phrases

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.

P361	Remove/Take off immediately all contaminated clothing.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to hazardous or special waste collection point.

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

Product Name	Hazards	Concentration
Nitrobenzene		
CAS Number: 98-95-3 EC/EINECS: 202-716-0	H301, H311, H331, H351, H360F, H372, H412 Acute Tox. 3, Aquatic Chronic 3, Carc. 2, Repr. 1B, STOT RE 1	<=100%

4. First Aid Measures

1. Description of first aid measures

Skin Contact P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

Eye Contact Rinse opened eye for several minutes under running water.

Ingestion P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330: Rinse mouth.

Inhalation P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

2. Most important symptoms and effects

P308 + P313: IF exposed or concerned: Get medical advice/attention.
There may be irritation and redness.
May cause permanent damage.

3. Indication of any immediate medical attention

No additional measures required

5. Firefighting measures

1. Extinguishing Media

Suitable Carbon dioxide.
Dry chemical powder.

Unsuitable no data

2. Special Hazards arising from the substance or mixture

Toxic.
In combustion toxic fumes may form.

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Do not attempt to take action without suitable protective clothing – see section 8 of SDS.
Do not create dust.
Evacuate the area immediately.

2. Environmental Precautions

Do not discharge into drains or rivers.
Contain the spillage using bunding.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

No Special Measures Required

7. Handling and Storage

1. Personal Precautions

Safe Handling Ensure there is sufficient ventilation of the area.
P201: Obtain special instructions before use.
P264: Wash hands and face thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.

Protection against explosions and fires P361: Remove/Take off immediately all contaminated clothing.
P363: Wash contaminated clothing before reuse.

2. Conditions for safe storage, including any incompatibilities

Managing Storage Risks Store in cool, well ventilated area.
Keep container tightly closed.

Storage Controls No special requirements

Maintaining Integrity Store away from oxidising agents

Other advice P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

Nitrobenzene - 98-95-3

EU 2009/161/EU - Indicative occupational exposure limits	TWA: 1 mg TWA: 0.2 ppm		
UK EH40 WEL - Workplace Exposure Limits	TWA: 1 mg TWA: 0.2 ppm		

2. Exposure Controls

General protective and hygiene measures P280: Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands during breaks and at the end of handling the material
Immediately remove any contaminated clothing

Engineering measures P271: Use only outdoors or in a well-ventilated area.

Eye / Face Protection Safety Glasses with side-shields.

Hand protection Protective gloves.

Respiratory protection P260: Do not breathe dust/fume/gas/mist/vapours/spray.
Use breathing protection with high concentrations

Skin protection Handle with gloves.
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice.
Wash and dry hands.
Protective clothing.

Other personal protection advice no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	Liquid
Odour	No Data Available
Odour threshold	No Data Available
PH	No Data Available
Melting point / Freezing point	5.26°C
Initial boiling point and boiling range	210.8°C
Flash point	88°C closed cup
Evaporation rate	No Data Available
Flammability(solid,gas)	No Data Available
Upper/lower flammability or explosive limits	No Data Available
Vapour pressure	No Data Available
Vapour density	No Data Available
Relative density	1.2
Solubility(ies):	No Data Available
Partition coefficient: n-octanol/water	No Data Available
Auto-ignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	No Data Available
Oxidising properties	No Data Available

2. Other Information

No additional information available

10. Stability and Reactivity

1. Reactivity

Reacts with water.

2. Stability

Stable under normal conditions.

3. Possibility of Hazardous Reactions

no hazardous reactions known

4. Conditions to Avoid

Moisture

5. Incompatible Materials

Oxidising agents.
Strong reducing agents.
Strong bases.
Water

6. Hazardous Decomposition Products

In combustion emits toxic fumes.
In combustion emits toxic fumes of carbon dioxide / carbon monoxide.
In combustion emits toxic fumes of nitrogen oxides.
In combustion emits toxic fumes of nitric oxides.

11. Toxicology information

1. Information

Acute Toxicity

Oral LD50 (rat) 349mg/kg
Remarks: Behavioral:Altered sleep time (including change in righting reflex). Lungs, Thorax, or Respiration:Dyspnea.
Inhalation LC50 (rat) 4h - 556ppm
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation.
Behavioral:Tremor. Cyanosis
Dermal LD50 (rat) 2,100mg/kg

<i>Skin corrosion/irritation</i>	irritant for skin and mucous membranes Mild skin irritation (Rabbit) - 24h
<i>Serious eye Damage/irritation</i>	irritant effect Mild eye irritation (Rabbit) - 24h
<i>Respiratory or skin sensitisation</i>	No sensitizing effect known
<i>Germ Cell mutagenicity</i>	Causes damage to organs through prolonged or repeated exposure.
<i>Carcinogenicity</i>	Limited evidence of carcinogenicity in animal studies IARC: 2B - Group 2B: Possibly carcinogenic to humans (Nitrobenzene)
<i>Reproductive toxicity</i>	Suspected of damaging fertility or the unborn child.
<i>STOT-single exposure</i>	not known
<i>STOT-repeated exposure</i>	Causes damage to organs through prolonged or repeated exposure
<i>Aspiration hazard</i>	not known

2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

12. Ecological Information

1. Toxicity

Toxicity to fish
LC50 - Danio rerio (zebra fish) - 92 mg/l - 96.0 h
LC50 - Pimephales promelas (fathead minnow) - 44 mg/l - 96.0 h
NOEC - Cyprinodon variegatus (sheepshead minnow) - 22 mg/l - 96.0 h
Growth inhibition LOEC - Pimephales promelas (fathead minnow) - 10.2 mg/l - 7.0 d
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 50.00 mg/l - 24 h
LC50 - Daphnia magna (Water flea) - 27 mg/l - 48 h
Toxicity to algae
EC50 - Pseudokirchneriella subcapitata (gr

2. Persistence and degradability

not known

3. Bio-Accumulative Potential

Bioaccumulation Leuciscus idus (Golden orfe) - 3 d -0.05 mg/l
Bioconcentration factor (BCF): < 10

4. Mobility and Soil

not known

5. Results of PBT & vPvB assessment

not known

6. Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Harmful to aquatic life with long lasting effects.

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

1. **UN Number:** 1662
2. **Shipping Name:** Nitrobenzene
3. **Transport hazard class(es):** : 6.1 Sub Class :



4. **Packing group:** II
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Road (ADR)

1. **UN Number:** 1662
2. **Shipping Name:** NITROBENZENE
3. **Transport hazard class(es):** : 6 Sub Class :



4. **Packing group:** II
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Sea (IMDG)

1. **UN Number:** 1662
2. **Shipping Name:** Nitrobenzene
3. **Transport hazard class(es):** : 6.1 Sub Class :



4. **Packing group:** II
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:** IBCINS: IBC02

TANKPROV: TP2

15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)
RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association
ICAO:International Civil Aviation Organization
ICAO-TI: Technical Instructions by the ICAO
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS:Chemical Abstracts Service

3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.