1,4-Diamino-2-nitrobenzene (cas 5307-14-2) MSDS

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers
Product name: 2-nitro-1,4-phenylenediamine
Product Number: N21200
Brand: Anonymous
CAS-No.: 5307-14-2

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
Skin sensitization (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
May cause sensitization by skin contact.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word: Warning
Hazard statement(s)
H317 May cause an allergic skin reaction.
Precautionary statement(s)
P280 Wear protective gloves.
Supplemental Hazard Statements
none

Hazard symbol(s)

R-phrase(s)
R43 May cause sensitization by skin contact.

S-phrase(s)
S36/37 Wear suitable protective clothing and gloves.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms: 2-Nitro-p-phenylenediamine
1,4-Diamino-2-nitrobenzene

Formula: C6H7N3O2
Molecular Weight: 153.14 g/mol

Component

2-Nitro-p-phenylenediamine
CAS-No.: 5307-14-2
EC-No.: 226-164-5

4. FIRST AID MEASURES

4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
4.3 Indication of any immediate medical attention and special treatment needed
no data available

5. FIREFIGHTING MEASURES
5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, nitrogen oxides (NOx)
Nature of decomposition products not known.
Carbon oxides, nitrogen oxides (NOx)

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
no data available

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE
7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment
Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under
appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body Protection**
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. **PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>a) Appearance</th>
<th>Form: solid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Colour: dark brown</td>
</tr>
<tr>
<td>b) Odour</td>
<td>no data available</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>d) pH</td>
<td>no data available</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>Melting point/range: 135 - 138 °C - lit.</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>no data available</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>no data available</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
<td>no data available</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
<td>no data available</td>
</tr>
<tr>
<td>k) Vapour pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>l) Vapour density</td>
<td>no data available</td>
</tr>
<tr>
<td>m) Relative density</td>
<td>no data available</td>
</tr>
<tr>
<td>n) Water solubility</td>
<td>no data available</td>
</tr>
<tr>
<td>o) Partition coefficient: n-octanol/water</td>
<td>log Pow: 0,117</td>
</tr>
<tr>
<td>p) Autoignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>q) Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>r) Viscosity</td>
<td>no data available</td>
</tr>
<tr>
<td>s) Explosive properties</td>
<td>no data available</td>
</tr>
<tr>
<td>t) Oxidizing properties</td>
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</tr>
</tbody>
</table>

9.2 Other safety information
no data available

10. **STABILITY AND REACTIVITY**

10.1 Reactivity
no data available

10.2 Chemical stability
no data available

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
Incompatible materials
Strong oxidizing agents

Hazardous decomposition products
Other decomposition products - no data available

TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity
LD50 Oral - rat - 2.100 mg/kg
Remarks: Kidney, Ureter, Bladder: Other changes in urine composition.

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
May cause allergic skin reaction.
Causes sensitization.

Germ cell mutagenicity
Genotoxicity in vitro - mouse - lymphocyte
DNA damage
Host-mediated assay
Genotoxicity in vitro - mouse - lymphocyte
Mutation in mammalian somatic cells.
Genotoxicity in vitro - mouse - Embryo
Morphological transformation.
Genotoxicity in vitro - Hamster - fibroblast
Cytogenetic analysis
Genotoxicity in vitro - Hamster - Lungs
Cytogenetic analysis
Genotoxicity in vitro - Hamster - ovary
Cytogenetic analysis
Genotoxicity in vitro - Hamster - Embryo
Morphological transformation.
Genotoxicity in vitro - Hamster - ovary
Sister chromatid exchange
Genotoxicity in vitro - rat - liver
Unscheduled DNA synthesis
Genotoxicity in vitro - Human - lymphocyte
Cytogenetic analysis
Genotoxicity in vitro - Human - HeLa cell
Unscheduled DNA synthesis
Genotoxicity in vivo - mouse - Intraperitoneal
Micronucleus test
Genotoxicity in vivo - Hamster - Oral
Sister chromatid exchange

Carcinogenicity
Carcinogenicity - mouse - Oral
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors.
Carcinogenicity - mouse - Oral
Tumorigenic: Neoplastic by RTECS criteria. Liver: Tumors.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Reproductive toxicity - mouse - Subcutaneous
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Eye, ear.
Developmental Toxicity - mouse - Subcutaneous
Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental
Abnormalities: Musculoskeletal system.

Developmental Toxicity - mouse - Subcutaneous Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Cardiovascular (circulatory) system.

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects
- **Inhalation**: May be harmful if inhaled. May cause respiratory tract irritation.
- **Ingestion**: May be harmful if swallowed.
- **Skin**: May be harmful if absorbed through skin. May cause skin irritation.
- **Eyes**: May cause eye irritation.

Additional Information
RTECS: ST3000000

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
no data available

12.6 Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number

<table>
<thead>
<tr>
<th>ADR/RID:</th>
<th>IMDG:</th>
<th>IATA:</th>
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<tbody>
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14.2 UN proper shipping name

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<th>ADR/RID:</th>
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<th>IATA:</th>
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<tbody>
<tr>
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<td>Not dangerous goods</td>
<td>Not dangerous goods</td>
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14.3 Transport hazard class(es)

<table>
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<th>IMDG:</th>
<th>IATA:</th>
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</table>

14.4 Packaging group

<table>
<thead>
<tr>
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<th>IMDG:</th>
<th>IATA:</th>
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</thead>
<tbody>
<tr>
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14.5 Environmental hazards

<table>
<thead>
<tr>
<th>ADR/RID:</th>
<th>IMDG Marine pollutant:</th>
<th>IATA:</th>
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</thead>
<tbody>
<tr>
<td>no</td>
<td>no</td>
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</tr>
</tbody>
</table>

14.6 Special precautions for user
no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
no data available

16. OTHER INFORMATION

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 this document is based on the resent 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. guidechem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.