



Bringing you products for innovative research.

Preparation / Revision Date 4/1/2011

Expiry Date 3/30/2014

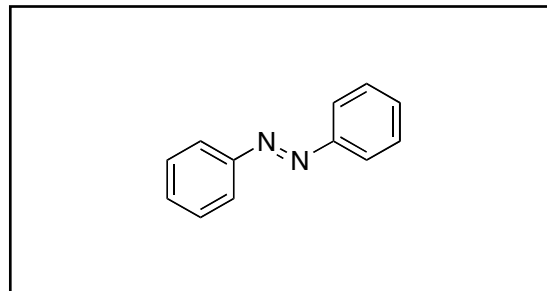
1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name Azobenzene

Catalogue # A931000

Company Toronto Research Chemicals
2 Brisbane Road
Toronto, ON M3J 2J8
CANADA

Telephone +14166659696
FAX +14166654439
Emergency# +14166659696
Email orders@trc-canada.com



2. HAZARDS IDENTIFICATION

WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Mutagen

HMIS Classification

Health hazard: 1
Chronic Health Hazard: *
Flammability: 1
Physical hazards: 0

Target Organs

Liver, Spleen

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin Harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion Harmful if swallowed.

GHS Classification

Acute toxicity, Inhalation (Category 4)
Acute toxicity, Oral (Category 4)
Germ cell mutagenicity (Category 2)
Carcinogenicity (Category 1B)
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Signal word Danger

Hazard statements

H302/H332 Harmful if swallowed or if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H400 Very toxic to aquatic life.

Precautionary statements

P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P281 Use personal protective equipment as required.
P301/P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Toronto Research Chemicals - A931000



3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Formula: $C_{12}H_{10}N_2$

Molecular Weight: 182.22

CAS Registry #: 103-33-3

EC#:

1,2-Diphenyldiazene; A 15073; Azobenzide; Azobenzol; Azobisbenzene;
Benzeneazobenzene; Diphenyldiazene; Diphenyldiimide; NSC 2102;
Phenylazobenzene;

Synonyms:

4. FIRST AID MEASURES

General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust or aerosol formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust or aerosols. Provide appropriate exhaust ventilation at places where dust/aerosol is formed. Normal measures for preventative fire protection.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Store at 2-8°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand 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.

Eye 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 and 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.

Hygiene measures

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

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Red solid

Safety data

pH	N/A	Melting point	62-65°C
Boiling point	N/A	Flash point	N/A
Ignition temperature	N/A	Lower explosion limit	N/A
Upper explosion limit	N/A	Vapour pressure	N/A
Density	N/A	Water solubility	N/A

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

not data available

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 (oral - rat) 1000 mg/kg

Irritation and corrosion
no data available

Sensitization
no data available

Reproductive toxicity/Teratogenicity
no data available

Additional Information
RTECS: CN1400000

Germ Cell Mutagenicity
Laboratory results have shown mutagenicity in animal models.

Carcinogenicity
Tumorigenic by RTECS criteria.
IARC: Group 3: Not classifiable as to its carcinogenicity in humans (Azobenzene)

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin Harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion Harmful if swallowed.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Toxicity
Toxic to fish, aquatic invertebrates and algae

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
Very toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

UN-Number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Azobenzene)
Marine pollutant: Marine pollutant

IATA

UN-Number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Azobenzene)

15. REGULATORY INFORMATION

DSL Status

Product is on the Canadian DSL list.

WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Mutagen

16. OTHER INFORMATION

Toronto Research Chemicals - A931000

Further information

Copyright 2010 Toronto Research Chemicals Inc. Copies may be made for internal use only. The above information is believed to be correct to the best of our knowledge, but is not to be deemed as all-inclusive and is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.