

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

#### 1.1. Product identifier

Product form : Substance  
 Substance name : Diphenylamine  
 Chemical name : diphenylamine  
 CAS No : 122-39-4  
 Product code : LC13610  
 Formula : C12H11N

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

Use of the substance/mixture : For laboratory and manufacturing use only.

#### 1.3. Details of the supplier of the safety data sheet

LabChem Inc  
 Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
 Zelienople, PA 16063 - USA  
 T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Acute Tox. 4 (Oral) H302  
 STOT RE 2 H373  
 Aquatic Acute 1 H400  
 Aquatic Chronic 1 H410

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

GHS08

GHS09

Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H302 - Harmful if swallowed  
 H373 - May cause damage to organs (liver, kidneys, blood) through prolonged or repeated exposure  
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

P260 - Do not breathe mist, vapors, spray  
 P264 - Wash exposed skin thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P273 - Avoid release to the environment  
 P301+P312 - If swallowed: Call a poison center/doctor if you feel unwell  
 P330 - If swallowed, rinse mouth  
 P391 - Collect spillage  
 P501 - Dispose of contents/container to comply with local, state and federal regulations

#### 2.3. Other hazards

Other hazards not contributing to the classification

: None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS-US)

Not applicable

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Substance type : Mono-constituent

Name	Product identifier	%	Classification (GHS-US)
Diphenylamine (Main constituent)	(CAS No) 122-39-4	100	Acute Tox. 4 (Oral), H302 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

#### 3.2. Mixture

Not applicable

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell.

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

- Symptoms/injuries : Causes damage to organs.
- Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Methemoglobinemia.
- Chronic symptoms : Decreased renal function. Enlargement/affection of the liver.

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

Obtain medical assistance.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- 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

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- 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

##### 6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Protective clothing. Gloves.
- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

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### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing mist, vapors, spray.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use.
- Incompatible products : Strong oxidizers. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Diphenylamine (122-39-4)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
OSHA	Not applicable	

### 8.2. Exposure controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled in a laboratory hood whenever possible.
- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Wear protective gloves.
- Eye protection : Chemical goggles or safety glasses.
- Respiratory protection : Wear appropriate mask.
- Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Crystalline powder.
- Molecular mass : 169.22 g/mol
- Color : white
- Odor : None.
- Odor threshold : No data available
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : 50 - 53 °C
- Freezing point : No data available
- Boiling point : 302 °C
- Flash point : 153 °C
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : 1 hPa 108°C
- Relative vapor density at 20 °C : No data available
- Relative density : No data available

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Specific gravity / density	: 1.16 g/cm <sup>3</sup>
Solubility	: Insoluble in water.
Log Pow	: 3.5
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing 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

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong oxidizers.

### 10.6. Hazardous decomposition products

Nitrogen oxides. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

Diphenylamine ( f )122-39-4	
LD50 oral rat	1120 mg/kg
ATE US (oral)	1120.000 mg/kg body weight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: May cause damage to organs (liver, kidneys, blood) through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Methemoglobinemia.
Chronic symptoms	: Decreased renal function. Enlargement/affection of the liver.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

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Diphenylamine (122-39-4)	
LC50 fish 1	3.79 mg/l 96 hr., Pimephales promelas
EC50 Daphnia 1	0.27 - 0.36 48 hr., Daphnia magna
EC50 other aquatic organisms 1	0.048 mg/l 72 hr., Desmodesmus subspicatus

### 12.2. Persistence and degradability

Diphenylamine (122-39-4)	
Persistence and degradability	Not readily biodegradable in water.

### 12.3. Bioaccumulative potential

Diphenylamine (122-39-4)	
Bioconcentration factor (BCF REACH)	253
Log Pow	3.5
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on ozone layer :

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT

Not regulated for transport

### Additional information

Other information : No supplementary information available.

### ADR

No additional information available

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

Diphenylamine (122-39-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

### 15.2. International regulations

#### CANADA

Diphenylamine (122-39-4)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects

### EU-Regulations

No additional information available

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

Acute Tox. 3 (Inhalation) H331  
Acute Tox. 3 (Dermal) H311  
Acute Tox. 3 (Oral) H301  
STOT RE 2 H373  
Aquatic Acute 1 H400  
Aquatic Chronic 1 H410  
Full text of H-phrases: see section 16

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

T; R23/24/25  
R33  
N; R50/53

Full text of R-phrases: see section 16

### 15.2.2. National regulations

#### Diphenylamine (122-39-4)

Listed on the Canadian IDL (Ingredient Disclosure List)

### 15.3. US State regulations

No additional information available

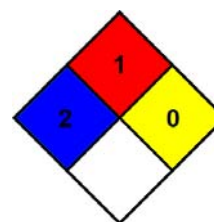
## SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.  
NFPA fire hazard : 1 - Must be preheated before ignition can occur.  
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur  
Flammability : 1 Slight Hazard  
Physical : 0 Minimal Hazard  
Personal Protection : C

SDS US (GHS HazCom 2012)

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