



Material Safety Data Sheet Diphenylamine, 0.3% Aqueous

Section 1 - Chemical Product and Company Identification

MSDS Name:

Diphenylamine, 0.3% Aqueous

Catalog Numbers:

LC13640

Synonyms:

None

Company Identification:

LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:

(412) 826-5230

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number:

(800) 424-9300

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	balance
7664-93-9	Sulfuric acid	50
122-39-4	Diphenylamine	0.3

Section 3 - Hazards Identification

Emergency Overview

Appearance: *Light tan solution*

Danger! Corrosive. Causes severe skin burns and serious eye damage. Causes respiratory and gastrointestinal tract burns. May cause liver and kidney damage. May cause allergic skin reaction. May cause methemoglobinemia. Vapor and liquid are harmful. May be fatal if inhaled or swallowed. Corrosive to metal. Strong inorganic acid mists containing sulfuric acid may cause cancer.

Target Organs: *Eyes, skin, respiratory tract, liver, kidneys, teeth, central nervous system, red blood cells, bladder*

Potential Health Effects

Eye:

Causes severe eye burns. May cause irreversible eye injury. May cause blindness. May cause permanent corneal opacification. The severity of injury depends on the concentration of the solution and the duration of exposure.



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Skin:

Causes skin burns. The severity of injury depends on the concentration of the solution and the duration of exposure.

Ingestion:

May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood.

Inhalation:

May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Exposure may impair lung function and cause mucostasis (reduced mucous clearance). May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. May cause adverse central nervous system effects including headache, convulsions, and possible death. May cause bladder injury and hypertension.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Effects may be delayed. Workers chronically exposed to sulfuric acid mists may show various lesions of the skin, tracheobronchitis, stomatitis, conjunctivitis, or gastritis. Occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans. Adverse reproductive effects have been reported in animals.

Section 4 - First Aid Measures

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid at once. Do NOT allow victim to rub or keep eyes closed.

Skin:

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid at once. Wash clothing before reuse.

Ingestion:

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid at once.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Monitor arterial blood gases, chest x-ray, and pulmonary function tests if respiratory tract irritation or respiratory depression is evident. Treat dermal irritation or burns with standard topical therapy. Effects may be delayed. Do NOT use sodium bicarbonate in an attempt to neutralize the acid. Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.



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Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Contact with water can cause liberation of heat and splattering of the material. Contact with metals may evolve flammable hydrogen gas. Runoff from fire control or dilution water may cause pollution. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Oxides of sulfur may be produced in fire.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Do not use water if it can enter the containers because it can generate heat and possible spatter chemical over a wider area.

Autoignition Temperature:

Not available.

Flash Point:

Not applicable.

NFPA Rating:

CAS# 7732-18-5: Health- 0, Flammability- 0, Instability- 0.

CAS# 7664-93-9: Health- 3, Flammability- 0, Instability- 2.

CAS# 122-39-4: Health- 2, Flammability- 1, Instability- 0.

Explosion Limits:

Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Avoid runoff into storm sewers and ditches that lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Carefully scoop up and place into appropriate container labeled for disposal. Provide ventilation. Do not get water inside containers.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not allow water to get into the container because of violent reaction. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Discard contaminated shoes. Use only with adequate ventilation. Do not breathe spray or mist. Do not use with metal spatula or other metal items. Inform laundry personnel of contaminant's hazards.

Storage:

Do not store near combustible materials. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store near alkaline substances. Store protected from light. Keep from contact with oxidizing materials.



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Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Water	none listed	none listed	none listed
Sulfuric acid	0.2 mg/m ³ TWA (thoracic fraction)	1 mg/m ³ TWA 15 mg/m ³ IDLH	1 mg/m ³ TWA
Diphenylamine	10 mg/m ³ TWA	10 mg/m ³ TWA	none listed

OSHA Vacated PELs:

Sulfuric acid: 1 mg/m³ TWA; Diphenylamine, reagent ACS: 10 mg/m³ TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:	Liquid
Color:	Light tan
Odor:	Odorless
pH:	Strongly acidic (<1)
Vapor Pressure:	Not available
Vapor Density:	Not available
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	Not available
Freezing/Melting Point:	Not available
Decomposition Temperature:	Not available
Solubility in water:	Soluble (exothermic reaction)
Specific Gravity/Density:	1.48 – 1.50
Molecular Formula:	Not applicable
Molecular Weight:	Not applicable



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Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, exposure to light and heat.

Incompatibilities with Other Materials:

Metals, oxidizing agents, reducing agents, bases, acrylonitrile, chlorates, finely powdered metals, nitrates, perchlorates, permanganates, epichlorohydrin, aniline, carbides, fulminates, picrates, organic materials, flammable liquids.

Hazardous Decomposition Products:

Sulfur oxides (SO_x), including sulfur oxide and sulfur dioxide, nitrogen oxides, carbon monoxide, carbon dioxide. Explosive hydrogen gas is evolved from contact with metals.

Hazardous Polymerization:

Has not been reported.

Section 11 - Toxicological Information

RTECS:

CAS# 7732-18-5: ZC0110000

CAS# 7664-93-9: WS5600000.

CAS# 122-39-4: JJ7800000.

LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = 99999 mg/kg

CAS# 7664-93-9:

Inhalation, mouse: LC50 = 320 mg/m³/2H

Inhalation, rat: LC50 = 510 mg/m³/2H

Oral, rat: LD50 = 2140 mg/kg.

CAS# 122-39-4:

Oral, mouse: LD50 = 1230 mg/kg

Oral, rat: LD50 = 1120 mg/kg.

Carcinogenicity:

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 7664-93-9:

ACGIH: A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists)

OSHA: Select carcinogen

IARC: Group 1 carcinogen

CAS# 122-39-4: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:

Diphenylamine may cause allergic skin reactions.

Teratogenicity:

No information found

Reproductive:

Adverse reproductive effects have been reported in animals.



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Mutagenicity:

No information found

Neurotoxicity:

No information found

Section 12 - Ecological Information

No information found

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Sulfuric acid solution

Hazard Class: 8

UN Number: UN1830

Packing Group: PGII

Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 7664-93-9 is listed on the TSCA Inventory.

CAS# 122-39-4 is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ):

CAS# 7664-93-9: final RQ = 1000 pounds (454 kg)

CERCLA/SARA Section 313:

This material contains Sulfuric acid (CAS# 7664-93-9, 50%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Diphenylamine is not at a high enough concentration to be reportable under Section 313.

OSHA - Highly Hazardous:

None of the chemicals in this product are considered highly hazardous by OSHA.

US State

State Right to Know:

Sulfuric acid can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Diphenylamine can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.



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California Regulations:

None.

European/International Regulations

Canadian DSL/NDSL:

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 7664-93-9 is listed on Canada's DSL List.

CAS# 122-39-4 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 7732-18-5 is not listed on the Canadian Ingredient Disclosure List.

CAS# 7664-93-9 is listed on Canada's Ingredient Disclosure List.

CAS# 122-39-4 is listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: September 27, 1998

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