



MATERIAL SAFETY DATA SHEET

DIPHENYLAMINE

SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name:
DIPHENYLAMINE

Synonyms : N-phenylaniline; anilinobenzene; benzenamine, N-phenyl-
CAS No. : 122-39-4
Molecular Weight : 169.24
Chemical Formula : (C₆H₅)₂ NH
Product Codes : Un Listed
J.T. Baker : 1944
Mallinckrodt : 4938

Company Information:
LEONID CHEMICALS
62/A-2 1st Stage, Yeshwanthpur Industrial Suburb
Ashokpuram School Road
Bangalore-560 022, Karnataka, INDIA
Ph: +91-80-2337 8354, Fax: +91-80-2357 4827

SECTION 2- COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient : Diphenylamine
CAS No. : 122-39-4
% : 100 %
Hazardous : Yes

SECTION 3- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS THE BLOOD. MAY CAUSE METHEMOGLOBINEMIA.

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating : 1 - Slight
Flammability Rating : 1 - Slight
Reactivity Rating : 1 - Slight
Contact Rating : 2 - Moderate
Lab Protective Equip : GOGGLES; LAB COAT
Storage Color Code : Orange (General Storage)

Potential Health Effects

Inhalation:

May cause irritation to the mucous membranes. Inhalation of dust may cause systemic poisoning, symptoms may parallel those from ingestion exposure. May cause

methemoglobinemia.

Ingestion:

May cause anoxia, headache, fatigue, anorexia, cyanosis, vomiting, diarrhea, emaciation, hypothermia, bladder irritation, kidney, heart, and liver damage. May cause methemoglobinemia.

Skin Contact:

May cause skin irritation. Liquid material may be absorbed through the skin. Symptoms may parallel those from ingestion exposure. May cause methemoglobinemia.

Eye Contact:

May cause irritation, redness, pain, and corneal damage.

Chronic Exposure:

Prolonged or repeated exposure from inhalation or skin absorption of liquid may cause damage to the nervous system, liver, kidneys, and bone marrow. May also cause weight loss, anemia, weakness, and irritability.

Aggravation of Pre-existing Conditions:

No information found.

SECTION 4- FIRST AID MEASURES

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

SECTION 5- FIRE FIGHTING MEASURES

Fire:

Flash point : 150C (302F)

Autoignition temperature : 634C (1173F)

May pose a slight fire hazard when exposed to heat or flame.

Explosion:

Contact with hexachloromelamine or trichloromelamine may cause an explosive reaction.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide. Water stream or foam may cause frothing.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6- ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

SECTION 7 - HANDLING and STORAGE

Protect against physical damage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Separate from oxidizing materials. Storage and use areas should be No Smoking areas. Protect from light. Isolate from incompatible substances. Can be stored in containers for extended periods when temperature is below 65C. Prolonged storage above this point accelerates discoloration.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Airborne Exposure Limits:

-ACGIH Threshold Limit Value (TLV): 10 mg/m³ (TWA)

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. An OV/particulate (NIOSH type N95 filter or better) respirator may be preferable when odor is a problem.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	White to yellow crystals.
Odor	:	Floral odor.
Solubility	:	Negligible.
Density	:	1.16
pH	:	No information found.
% Volatiles by volume @ 21C (70F)	:	0
Boiling Point	:	302C (576F)
Melting Point	:	52C (126F)
Vapor Density (Air=1)	:	5.82
Vapor Pressure (mm Hg)	:	1 @ 108C (226F)
Evaporation Rate (BuAc=1)	:	No information found.

SECTION 10 - STABILITY AND REACTIVITY

Stability:

Stable under ordinary conditions of use and storage. Discolors on exposure to light.

Hazardous Decomposition Products

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Hexachloromelamine, trichloromelamine, and oxidizing agents.

Conditions to Avoid:

Light and heat.

SECTION 11 - TOXICOLOGICAL INFORMATION

Oral rat LD50: 2000 mg/kg; investigated as a mutagen and reproductive effector.

NTP Carcinogen

Ingredient	:	Diphenylamine (122-39-4)
Known	:	No
Anticipated	:	No
IARC Category	:	None

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate:

Theoretical oxygen demand (THOD) is 2.39. Chemical ox. in a 0.05N K₂Cr₂O₇ solution is 90% of THOD. Chemical demand in a 0.01N KMnO₄ solution is 88% of THOD.

Environmental Toxicity:

No information found.

SECTION 13 - DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product

may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 - TRANSPORT INFORMATION

Not regulated.

SECTION 15 - REGULATORY INFORMATION

Chemical Inventory Status - Part 1

Ingredient : Diphenylamine (122-39-4)
TSCA : Yes
EC : Yes
Japan : Yes
Australia : Yes

Chemical Inventory Status - Part 2

Ingredient : Diphenylamine (122-39-4)

Canada :
Korea : Yes
DSL : Yes
NDSL : No
Phil : Yes

Federal, State & International Regulations - Part 1

Ingredient : Diphenylamine (122-39-4)

SARA 302

RQ : No
TPQ : No

SARA 313

List : Yes
Chemical Catg: No

Federal, State & International Regulations - Part 2

Ingredient : Diphenylamine (122-39-4)
CERCLA : No

RCRA

261.33 : No

TSCA

8(d) : Yes

Chemical Weapons Convention : No TSCA 12(b): No CDTA: No
SARA 311/312 : Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity : No (Pure / Solid)

Australian Hazchem Code : None allocated.

Poison Schedule : None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products

Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16 - OTHER INFORMATION

NFPA Ratings: Health: 3 Flammability: 1 Reactivity: 0

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS THE BLOOD. MAY CAUSE METHEMOGLOBINEMIA.

Label Precautions:

Avoid breathing dust.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.
Avoid contact with eyes, skin and clothing.
Keep away from heat and flame.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases call a physician.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

DISCLAIMER:

Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.