SAFETY DATA SHEET

Preparation Date: 7/29/15 **Revision Date:** 7/29/15 **Revision Number:** G1

1. IDENTIFICATION

Product identifier

Product code: D1060
Product Name: DIPHENYLAMINE, REAGENT, ACS

Other means of identification

Synonyms:
Aniline, N-phenyl-
Anilinobenzene
Benzenamine, N-phenyl-
Benzene, (phenylamino)-
Benzene, anilino-
Big Dipper
C.I. 10355
CI 10355
DFA
DPA (VAN)
Deccoscald 282
Diphenylamine
N,N-Diphenylamine
N-Phenylaniline
N-Phenylbenzenamine
Naugalube 428L
No-Scald
No-Scald DPA 283
Phenylaniline
Scaldip

CAS #: 122-39-4
RTECS # JJ7800000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier:
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: https://www.spectrumchemical.com

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Warning

Hazard statements
Harmful if swallowed
Causes serious eye irritation
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response
Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Components	CAS-No.	Weight %	Trade Secret
Diphenylamine 122-39-4	122-39-4	100	*

4. FIRST AID MEASURES

First aid measures

General Advice: Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Harmful if swallowed. Causes serious eye irritation. May cause irritation of respiratory tract. May be harmful if inhaled. May cause damage to organs through prolonged or repeated exposure.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO2). Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon oxides

Specific hazards: May be combustible at high temperatures
When heated to decomposition it emits highly toxic of nitrogen oxide.
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Avoid dust formation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. All equipment used when handling the product must be grounded.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Use appropriate tools to put the spilled solid in a suitable waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials. Remove all sources of ignition.

Safe Handling Advice
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapours/dust. Avoid dust formation. Do not ingest. Do not smoke. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Sensitive to light. Store in light-resistant containers. Store under inert gas. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Store away from incompatible materials.

Incompatible Materials:
Oxidizing agents. Hexachloromelamine. Trichloromelamine.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Diphenylamine 122-39-4	None	= 10 mg/m^3 TWA	= 10 mg/m^3 TWA	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Diphenylamine 122-39-4	= 10 mg/m^3 TWA	= 10 mg/m^3 TWA	10 mg/m^3 TWA	10 mg/m^3 TWAEV

Australia and Mexico

Components	Australia	Mexico
Diphenylamine 122-39-4	10 mg/m^3 TWA	= 10 mg/m^3 TWA

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Safety glasses with side-shields

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Wear respirator with dust filter. Be sure to use an approved/certified respirator or equivalent..

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state:
Solid.

Appearance:
Crystalline solid.

Color:
White. Off-white.

Odor:
Floral. Pleasant.

Taste
No information available

Molecular/Formula weight:
169.23 g/mole

Formula:
C12H11N

Flammability:
No information available

Flash point (°C):
153

Flashpoint (°C/°F):
153°C (307.4°F)

Flash Point Tested according to:
Closed cup

Autoignition Temperature (°C/°F):
634°C (1173.2°F)

Lower Explosion Limit (%):
No information available

Upper Explosion Limit (%):
No information available

pH:
No information available

Melting point/range(°C/°F):
52.5-54°C (127-129.2°F)

Boiling point/range(°C/°F):
302°C (575.6°F)

Bulk density:
No information available

Decomposition temperature(°C/°F):
No information available

Density (g/cm3):
No information available

Specific gravity:
1.16

Vapor pressure @ 20°C (kPa):
No information available

Evaporation rate:
No information available

Vapor density:
5.82

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

Partition coefficient (n-octanol/water):
3.5

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Easily soluble in diethyl ether
Easily soluble in acetone
Insoluble in cold water
Insoluble in hot water
Freely soluble in Benzene
Freely soluble in glacial acetic acid
Freely soluble in carbon disulfide
1g dissolves in 2.2 mL alcohol
1 g dissolves in 4.5 mL of propyl alcohol
Soluble in ethyl acetate
Soluble in Carbon tetrachloride
Very soluble in pyridine
Soluble in Petroleum Ether
Slightly soluble in chloroform

10. STABILITY AND REACTIVITY

Reactivity
May discolor on exposure to light
Reactive with oxidizing agents
Incompatible with hexachloromelamine and trichloromelamine

Chemical stability

Stability: Sensitive to light. Exposure to light accelerates decomposition. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials. Exposure to light.

Incompatible Materials: Oxidizing agents. Hexachloromelamine. Trichloromelamine.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Eyes. Inhalation. Ingestion.

Acute Toxicity

Component Information

Diphenylamine - 122-39-4

LD50/oral/rat = 1120 mg/kg Oral LD50 Rat (Loli)
1120-1165 mg/kg Oral LD50 Rat (RTECS)
LD50/oral/mouse = 1230-1750 mg/kg Oral LD50 Mouse
LD50/dermal/rat = No information available
LD50/dermal/rabbit = 2000 mg/kg Dermal LD50Rabbit (Loli)
>5000 mg/kg Dermal LD50 Rabbit (RTECS)
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = 300 mg/kg Oral LD50 Guinea Pig
3200 mg/kg Oral LD50 Mammal

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 1120mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 1230mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = 2000mg/kg

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation. Absorption through the skin may cause systemic effects similar to those of inhalation or ingestion.

Eye Contact: Causes serious eye irritation.

Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Symptoms may include coughing and sneezing.

Ingestion May cause digestive (gastointestinal) tract irritation. May cause anorexia. May affect behavior/central nervous system (somnolence). May affect the cardiovascular system (tachycardia). May affect the cardiovascular system (hypertension). May affect respiration (dyspnea, respiratory depression). May cause cyanosis. May affect the blood (anemia). May cause Methemoglobinemia.

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion may affect the urinary system. Prolonged or repeated ingestion may affect the kidneys (acute renal failure, acute tubular necrosis). Prolonged or repeated ingestion may affect metabolism (cause anorexia, weight loss).

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Diphenylamine	Not listed	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: May cause birth defects (teratogenic effects) based on animal test data

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.
Target Organs: Kidneys. Liver. Bladder.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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Ecotoxicity effects: Aquatic environment.

Diphenylamine - 122-39-4

Freshwater Algae Data: 1.5 mg/L EC50 Scenedesmus subspicatus 72 h
Freshwater Fish Species Data: 3.47-4.14 mg/L LC50 Pimephales promelas 96 h flow-through 1
Water Flea Data: 1.69 - 2.46 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Diphenylamine	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Subsidiary Risk:
Packing Group: III
ERG No: 171
Marine Pollutant No data available
DOT RQ (lbs): No information available
Symbol(s): G

TDG (Canada)

UN-No: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

ADR

UN-No: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9

14. TRANSPORT INFORMATION

Packing Group: III
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
Description: No information available
IMDG Page: No information available
Marine Pollutant No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

IATA

UN-No: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 9L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Diphenylamine	Present	Present KE-28303	Present	Present (3)-133	Present	Present	Present 204-539-4

U.S. Regulations

Diphenylamine

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0796
New Jersey (EHS) List: 0796 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Pennsylvania RTK - Special Hazardous Substances Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Diphenylamine	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting *de minimis*
Diphenylamine	None	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Diphenylamine	Not Applicable	03/11/199406/30/1998

Canada

WHMIS hazard class:
Non-controlled

Diphenylamine

Uncontrolled product according to WHMIS classification criteria

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Diphenylamine	0.1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Diphenylamine	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting
Diphenylamine	Not listed	Not listed

EU Classification

R-phrase(s)
R33 - Danger of cumulative effects.
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.

S -phrase(s)
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.
S28 - After contact with skin, wash immediately with plenty of water
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60 - This material and its container must be disposed of as hazardous waste.
S 1/2 - Keep locked up and out of the reach of children.
S36/37 - Wear suitable protective clothing and gloves.

Components	Classification	Concentration Limits:	Safety Phrases
Diphenylamine	T; R23/24/25 R33 N; R50-53	No information	S1/2 S28 S36/37 S45 S60 S61

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
T - Toxic
N - Dangerous for the environment.

16. OTHER INFORMATION

16. OTHER INFORMATION

Preparation Date: 7/29/15
Revision Date: 7/29/15
Prepared by: Sonia Owen

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet