



Issuing Date 8/27/2013

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product name DIPHENYLAMINE INDICATOR
Product Code(s) 5114
Recommended Use Laboratory chemicals. Industrial (not for food or food contact use). Test kit reagent.
Company LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620
USA
Emergency telephone number 24 Hour Emergency Number (CHEM-TEL):
USA, Canada, Puerto Rico 1-800-255-3924
Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

DANGER

EMERGENCY OVERVIEW
Corrosive
Liquid and mist can cause severe burns to all body tissue
May be fatal if swallowed
Harmful if inhaled or absorbed through skin
Reacts with water, bases, and other materials

Appearance colorless **Physical state** liquid **Odor** odorless

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential health effects
Principle Routes of Exposure Skin Contact, Ingestion, Inhalation.

Acute toxicity

EYES Corrosive to the eyes and may cause severe damage including blindness. Causes burns. Causes irritation, redness, and pain.

skin Corrosive. Can cause redness, pain, and severe skin burns. MAY BE FATAL IF ABSORBED THROUGH SKIN.

Inhalation Depending on exposure, the effects from inhalation of corrosive mists can vary from mild irritation to serious damage to respiratory tract. Inhalation of corrosive mist may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate.

Ingestion Corrosive. MAY BE FATAL IF SWALLOWED. Can cause immediate pain and burning in the mouth, throat, esophagus and GI tract. May cause nausea, vomiting, and diarrhea, and in severe cases death.

Chronic effects Chronic exposure to corrosive mists or vapors may cause erosion of the teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Aggravated Medical Conditions Hypersensitivity may occur in those with preexisting skin disorders. Respiratory disorders. Preexisting eye disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Diphenylamine	122-39-4	0.2
Water	7732-18-5	<5
Sulfuric acid	7664-93-9	>95

4. FIRST AID MEASURES

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Excess acid on skin can be neutralized with a 2% solution of sodium bicarbonate in water. Call a physician immediately.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.
Ingestion	Do NOT induce vomiting. Call a physician immediately. Clean mouth with water. Never give anything by mouth to an unconscious person.
Protection of First-aiders	Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flash point	Not Applicable
Suitable extinguishing media	DO NOT USE WATER. CO ₂ , dry chemical, dry sand, alcohol-resistant foam.
Unsuitable extinguishing media	Water.
Hazardous combustion products	Contact with metals may evolve flammable hydrogen gas.
Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating and/or toxic gases and vapors.

NFPA	Health hazard 3	flammability 0	Stability 1	Physical and Chemical Hazards W
HMIS	Health hazard 3	flammability 0	Stability 2	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Refer to Section 8. Keep people away from and upwind of spill/leak. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid contact with skin, eyes, and inhalation of vapors.
Methods for containment	Contain and collect spillage 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). Absorb/Cover spill with sodium bicarbonate or sodium carbonate to neutralize, then place in a chemical waste container for later disposal. Do not flush to sewer.
Methods for cleaning up	Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling	Refer to Section 8. Use only in area provided with appropriate exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. When diluting always add acid to water, NEVER add water to acid. Do not eat, drink, or smoke when using this product.
Storage	Keep containers tightly closed in a dry, cool, and well-ventilated place. Store away from strong bases or metals. Keep away from incompatible materials such as cyanides or sulfides. Keep away from direct sunlight. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Keep away from water. Ensure that leaks or spills cannot reach drains, sewers or surface waters.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diphenylamine 122-39-4	TWA: 10 mg/m ³	None known	TWA: 10 mg/m ³
Water 7732-18-5	None known	None known	None known
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures	Showers Eyewash stations Ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use only under a chemical fume hood.
Personal protective equipment	
Eye/face Protection	Safety glasses with side-shields. Face-shield.
Skin and body protection	Impervious clothing. Impervious gloves. Gloves & Lab Coat. Chemical resistant apron.
Respiratory protection	Use mechanical ventilation (fume hood). Use only with adequate ventilation. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	colorless	Odor	odorless
Physical state	liquid	pH	<1
Flash point	Not Applicable	Autoignition temperature	Not Applicable
Boiling Point/Range	337 °C (638.6 °F) for 98% Sulfuric acid	Freezing Point	3°C (-32°F) for 93% Sulfuric acid

Specific gravity	1.84@20°C (98% Sulfuric acid)	Water solubility	Miscible with water Liberates much heat
Vapor pressure	1 @ 145.8°C (295°F)	Vapor density	3.4 (air=1) for conc. Sulfuric Acid

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of use and storage. Reacts violently with water.
Incompatible Products	Water. Strong oxidizing agents. Strong reducing agents. Metals. Organic material. Combustible materials.
Conditions to avoid	Excessive heat. Moisture. Incompatible products.
Hazardous decomposition products	Sulfur oxides (SO _x). Hydrogen gas. Carbon oxides (CO _x). Reacts with sulfides and cyanides to form toxic hydrogen cyanide and hydrogen sulfide respectively.
Hazardous Reactions	Reacts violently with many compounds e.g. (strong) reducers, combustible materials, organic material with risk of spontaneous ignition. Reacts violently with water.
Hazardous polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diphenylamine	1165 mg/kg (Rat)	2000 mg/kg (Rabbit)	None known
Water	90 mL/kg (Rat)	None known	None known
Sulfuric acid	2140 mg/kg (Rat)	None known	510 mg/m ³ (Rat) 2 h

Chronic toxicity

Chronic toxicity Chronic exposure to corrosive mists or vapors may cause erosion of the teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Chemical name	ACGIH	IARC	NTP	OSHA
Diphenylamine	None known	None known	None known	None known
Water	None known	None known	None known	None known
Sulfuric acid	A2	Group 1	Known	X

IARC: (International Agency for Research on Cancer)

Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions

Target organ effects skin.

Other adverse effects Inhalation of vapor can cause pulmonary edema.

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Diphenylamine	None known	None known	None known
Water	None known	None known	None known
Sulfuric acid	None known	None known	None known

12. ECOLOGICAL INFORMATION

Ecotoxicity

Large amounts will affect pH and harm aquatic organisms. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Diphenylamine	EC50 = 1.5 mg/L 72 h	LC50 3.47 - 4.14 mg/L Pimephales promelas 96 h	None known	None known
Water	None known	None known	None known	None known
Sulfuric acid	None known	LC50 > 500 mg/L Brachydanio rerio 96 h	None known	EC50 = 29 mg/L 24 h

Persistence and degradability Based on components, product is expected to be readily biodegradable.

Bioaccumulation/Accumulation Sulfuric acid - When released into the soil, this material may leach into ground water. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet or dry deposition.

Chemical name	Log Pow
Diphenylamine	None known
Water	None known
Sulfuric acid	None known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations. This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment.

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Diphenylamine - 122-39-4	None known	None known	None known	None known
Water - 7732-18-5	None known	None known	None known	None known
Sulfuric acid - 7664-93-9	None known	None known	None known	None known

14. TRANSPORT INFORMATION

DOT

Proper shipping name SULFURIC ACID >51% ACID
 Hazard Class 8
 UN-No 1830
 Packing group II
 Reportable Quantity (RQ) 1000

IATA

UN-No 1830
 Proper shipping name SULPHURIC ACID >51%
 Hazard Class 8
 Packing group II

IMDG/IMO

Proper shipping name SULPHURIC ACID >51%
 Hazard Class 8
 UN-No 1830
 Packing group II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Diphenylamine 122-39-4 (0.2)	Present	X	X	Present	X	KE-28303	X	X
Water 7732-18-5 (<5)	Present	X	X	ENCS	X	KE-35400	X	X
Sulfuric acid 7664-93-9 (>95)	Present	X	X	1-430; 1-724	X	KE-32570	X	X

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Diphenylamine	122-39-4	0.2	None known
Water	7732-18-5	<5	None known
Sulfuric acid	7664-93-9	>95	1.0

SARA 311/312 Hazard Categories

Acute health hazard	yes
Chronic Health Hazard	yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	yes

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Diphenylamine 122-39-4 (0.2)	None known	None known	None known	None known
Water 7732-18-5 (<5)	None known	None known	None known	None known
Sulfuric acid 7664-93-9 (>95)	1000 lb	None known	None known	X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:.

Chemical name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Diphenylamine	122-39-4	0.2	None known	Group III	None known	None known
Water	7732-18-5	<5	None known	None known	None known	None known
Sulfuric acid	7664-93-9	>95	None known	None known	None known	None known

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ
Diphenylamine	None known	None known
Water	None known	None known
Sulfuric acid	1000 lb	1000 lb

U.S. State Regulations

California Proposition 65

WARNING! California Proposition 65 has classified "strong inorganic acid mists containing sulfuric acid" as a chemical known to the State of California to cause cancer. This classification applies only to "mists" containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions, as in this solution.

Chemical name	CAS-No	California Prop. 65
Diphenylamine	122-39-4	None known
Water	7732-18-5	None known
Sulfuric acid	7664-93-9	Carcinogen

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Diphenylamine	X	X	X	None known	None known
Water	None known	None known	None known	None known	None known
Sulfuric acid	X	X	X	X	X

International Regulations

Mexico - Grade

Chemical name	Carcinogen Status	Exposure Limits
Diphenylamine	None known	Mexico: TWA 10 mg/m ³ Mexico: STEL 20 mg/m ³
Water	None known	None known
Sulfuric acid	A2	Mexico: TWA= 1 mg/m ³

CANADA

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR LaMotte classifies as a Laboratory Supply House per section 10 and 17 of the CPR and is exempt

Component	WHMIS Hazard Class
Diphenylamine 122-39-4 (0.2)	0.1 % Uncontrolled product according to WHMIS classification criteria
Water 7732-18-5 (<5)	Uncontrolled product according to WHMIS classification criteria
Sulfuric acid 7664-93-9 (>95)	1 % D1A E



Chemical name	NPRI
Sulfuric acid	X

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol						
	<table border="1"> <tr> <td>Health Hazard</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Fire Hazard</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Reactivity</td> <td style="text-align: center;">2</td> </tr> </table>	Health Hazard	3	Fire Hazard	0	Reactivity	2		
Health Hazard	3								
Fire Hazard	0								
Reactivity	2								

Prepared by Regulatory Affairs Department

Issuing Date 8/27/2013
Revision date -
Revision note Update to Format.

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS