FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

MSDS #: 593.00

Revision Date: November 25, 2002

Section 1 — Chemical Product and Company Identification

p-Phenylenediamine

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

p-Phenylenediamine

Synonym: 1,4-phenylenediamine

CAS#: 106-50-3

Section 3 — Hazards Identification

White to light purple crystals; darkens in air. Odorless. Highly toxic by ingestion. Irritating to body tissues. Sensitizer. Avoid all body contact.

FLINN AT-A-GLANCE

Health-3 Flammability-1 Reactivity-1 Exposure-3 Storage-3

0 is low hazard, 3 is high hazard

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Rinse out mouth, give 1 to 2 cups of water or milk, induce vomiting. After vomiting, give mixture of 2 Tbs. of activated charcoal mixed with one cup of water. Call a physician or poison control at once.

Section 5 — Fire Fighting Measures

Class IIIB Combustible solid.

Flash Point: 312 F

NFPA CODE

None Established

Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #3. Store with hydrocarbons, esters and aldehydes. Store in a cool dry place. Store in a Flinn Chem-Saf bag. Store in poison cabinet. Use and dispense in a hood.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use exhaust ventilation to keep airborne concentrations low.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

p-Phenylenediamine

MSDS #: 593.00

Revision Date: November 25, 2002

Section 9 — Physical and Chemical Properties

White to light purple crystals; darkens in air. Odorless. Solubility: Soluble in alcohol, ether and water.

Formula: C6H4(NH2)2 Formula Weight: 108.15 Melting Point: 147 C Boiling Point: 267 C

Vapor Pressure: 1.08mm (100 C)

Vapor Density: 3.7

Section 10 — Stability and Reactivity

Avoid contact with acids, acid chlorides, acid anhydrides, strong oxidizing agents, chloroformates. Shelf life: Oxidizes and turns black.

Section 11 — Toxicological Information

Acute effects: Toxic, irritant, sensitizer

Chronic effects: Possible mutagen

Target organs: Liver, kidneys

ORL-RAT LD50: 80 mg/kg

IHL-RAT LC50: N.A.

SKN-RBT LD50: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations. Flinn Suggested Disposal Method #5 is one option.

Section 14 — Transport Information

Shipping Name: Not regulated

Hazard Class: N/A UN Number: N/A N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (203-404-7).

Section 16 — Other Information

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals. This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Reduce Science Accidents--Use Flinn Chemicals

flinn@flinnsci.com www.flinnsci.com P.O. Box 219 Batavia IL 60510 (800) 452-1261 Fax (866) 452-1436