

GARDENA, CA  
NEW BRUNSWICK, NJ

# Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>2</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	2	Fire Hazard	1	Reactivity	0	 See Section 15.
Health Hazard	2							
Fire Hazard	1							
Reactivity	0							

## Section 1. Chemical Product and Company Identification

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Common Name/ Trade Name	<b>p-Phenylenediamine Dihydrochloride</b>	Catalog Number(s).	P2301
		CAS#	624-18-0
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	ST0350000
		TSCA	TSCA 8(b) inventory: p-Phenylenediamine Dihydrochloride
Commercial Name(s)	C.I. 76061; Durafur Black RC; Fournine 64; Fournine DS; Pelagol CD; Pelagol Grey CD; p-PD HCl; p-Pda HCl	CI#	Not available.
Synonym	1,4-Diaminobenzene dihydrochloride 1,4-Phenylenediamine dihydrochloride 4-Aminoaniline dihydrochloride p-Aminoaniline dihydrochloride p-Benzenediamine dihydrochloride p-Diaminobenzene dihydrochloride p-Phenylenediamine hydrochloride	<b><u>IN CASE OF EMERGENCY</u></b> <b><u>CHEMTREC (24hr) 800-424-9300</u></b>  CALL (310) 516-8000	
Chemical Name	1,4-Benzenediamine, dihydrochloride		
Chemical Family	Not available.		
Chemical Formula	C <sub>6</sub> H <sub>4</sub> (NH <sub>2</sub> ) <sub>2</sub> ·2HCl		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

## Section 2. Composition and Information on Ingredients

Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) {p-}Phenylenediamine Dihydrochloride	624-18-0				100

### Toxicological Data on Ingredients

#### p-Phenylenediamine Dihydrochloride:

ORAL (LD50): Acute: 147 mg/kg [Rat]. 316 mg/kg [Mouse].

## Section 3. Hazards Identification

### Potential Acute Health Effects

Hazardous in case of skin contact (irritant, sensitizer, permeator), of eye contact (irritant), of ingestion, of inhalation. Severe over-exposure can result in death.

### Potential Chronic Health Effects

**CARCINOGENIC EFFECTS:** Not available.  
**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.  
**TERATOGENIC EFFECTS:** Not available.  
**DEVELOPMENTAL TOXICITY:** Not available.  
Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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**Section 4. First Aid Measures**

<b>Eye Contact</b>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
<b>Serious Skin Contact</b>	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
<b>Serious Inhalation</b>	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
<b>Ingestion</b>	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Serious Ingestion</b>	Not available.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Auto-Ignition Temperature</b>	Not available.
<b>Flash Points</b>	Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ...).
<b>Fire Hazards in Presence of Various Substances</b>	Slightly flammable to flammable in presence of heat.
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Special Remarks on Fire Hazards</b>	When heated to decomposition it emits very toxic fumes of nitrogen oxides and Hydrogen Chloride.
<b>Special Remarks on Explosion Hazards</b>	Not available.

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
<b>Large Spill</b>	Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

**Section 7. Handling and Storage**

<b>Precautions</b>	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

**Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	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.
<b>Personal Protection</b>	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
<b>Exposure Limits</b>	Not available.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Solid. (Crystals solid.)	<b>Odor</b>	Odorless.
<b>Molecular Weight</b>	181.07 g/mole	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	Not available.	<b>Color</b>	White to slightly Red.
<b>Boiling Point</b>	Not available.		
<b>Melting Point</b>	Not available.		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	>1 (Water = 1)		
<b>Vapor Pressure</b>	Not applicable.		
<b>Vapor Density</b>	Not available.		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	Not available.		
<b>Water/Oil Dist. Coeff.</b>	Not available.		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	See solubility in water, diethyl ether.		
<b>Solubility</b>	Easily soluble in cold water. Partially soluble in diethyl ether. Slightly soluble in alcohol.		

**Section 10. Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Excess heat, incompatible materials, dust generation.
<b>Incompatibility with various substances</b>	Reactive with oxidizing agents.
<b>Corrosivity</b>	Not available.

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<b>Special Remarks on Reactivity</b>	Not available.
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Will not occur.

**Section 11. Toxicological Information**

<b>Routes of Entry</b>	Inhalation. Ingestion.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 147 mg/kg [Rat].
<b>Chronic Effects on Humans</b>	<b>MUTAGENIC EFFECTS:</b> Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
<b>Other Toxic Effects on Humans</b>	Hazardous in case of skin contact (irritant, sensitizer, permeator), of ingestion, of inhalation.
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	May affect genetic material (mutagenic)
<b>Special Remarks on other Toxic Effects on Humans</b>	<p>Acute Potential Health Effects:</p> <p>Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction. It may be absorbed through skin in harmful amounts.</p> <p>Eyes: Causes eye irritation. May cause eye injury (corneal ulceration with loss of vision).</p> <p>Inhalation: Harmful if inhaled. May cause respiratory tract irritation. May cause anoxia due to formation of methemoglobin. May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, shortness of breath, cyanosis (a bluish discoloration of the skin and lips due to deficient oxygenation of the blood), rapid heart rate, unconsciousness, and possible death.</p> <p>Ingestion: Harmful if swallowed. Causes vomiting, followed by swelling of face, neck, and pharynx, which may lead to shortness of breath, laryngeal edema, cyanosis, and respiratory failure or airway obstruction. It may also affect the kidneys (acute tubular necrosis), liver (hepatotoxicity), metabolism (hypocalcemia, metabolic acidosis). It may also cause methemoglobinemia which can affect the cardiovascular system (hypotension, rapid heart rate), behavior/central nervous system (seizures, tremors, dizziness, drowsiness, headache), respiration (shortness of breath), and result in cyanosis, and chocolate-brown colored blood.</p> <p>Chronic Potential Health Effects:</p> <p>Skin: Prolonged or repeated skin contact may cause allergic reaction.</p>

**Section 12. Ecological Information**

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Products of Biodegradation</b>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<b>Toxicity of the Products of Biodegradation</b>	The products of degradation are less toxic than the product itself.
<b>Special Remarks on the Products of Biodegradation</b>	Not available.

**Section 13. Disposal Considerations**

<b>Waste Disposal</b>	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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**Section 14. Transport Information****DOT Classification** CLASS 6.1: Poisonous material.**Identification** UNNA: 2811 : Toxic Solid, organic, n.o.s. (p-Phenylenediamine Dihydrochloride) PG: III**Special Provisions for Transport** Not available.**DOT (Pictograms)****Section 15. Other Regulatory Information and Pictograms****Federal and State Regulations**

New Jersey spill list: p-Phenylenediamine Dihydrochloride  
 TSCA 8(b) inventory: p-Phenylenediamine Dihydrochloride  
 TSCA 8(d) H and S data reporting: p-Phenylenediamine Dihydrochloride: Effective date: 4/29/83; Sunset date: 4/29/93  
 SARA 313 toxic chemical notification and release reporting: p-Phenylenediamine Dihydrochloride

**California Proposition 65 Warnings**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.  
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).  
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 210-834-9).  
 Canada: Listed on Canadian Domestic Substance List (DSL).  
 China: Listed on National Inventory.  
 Japan: Listed on National Inventory (ENCS).  
 Korea: Listed on National Inventory (KECI).  
 Philippines: Listed on National Inventory (PICCS).  
 Australia: Listed on AICS.

**Other Classifications****WHMIS (Canada)** CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).**DSCL (EEC)**

R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.  
 R36- Irritating to eyes.  
 R43- May cause sensitization by skin contact.  
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S28- After contact with skin, wash immediately with plenty of water.  
 S36/37- Wear suitable protective clothing and gloves.  
 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.  
 S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

**HMIS (U.S.A.)**

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

**National Fire Protection Association (U.S.A.)**

Health



Flammability

Reactivity

Specific hazard

**WHMIS (Canada) (Pictograms)**

DSCL (Europe)  
(Pictograms)TDG (Canada)  
(Pictograms)ADR (Europe)  
(Pictograms)

## Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

## Section 16. Other Information

## MSDS Code

P3556

## References

Not available.

Other Special  
Considerations

Major Uses: Developers for Black-and-White and Color photography; analytical reagent

Validated by Sonia Owen on 8/10/2009.

Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) 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 MSDS. 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 MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.