GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
	Health Hazard 2 Fire Hazard 1 Reactivity 0	 See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Piperazine Dihydrochloride**
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248
Commercial Name(s)	Dihydro Pip Wormer; Dowzene DHC; Piperazine wormer premix
Synonym	Diethylenediamine dihydrochloride; Dihydrochloride salt of diethylenediamine
Chemical Name	Piperazine, dihydrochloride
Chemical Family	Not available.
Chemical Formula	C4-H10-N2.HCl
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

Catalog Number(s).	P1489
CAS#	142-64-3
RTECS	TL4025000
TSCA	TSCA 8(b) inventory: No products were found.
CI#	Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	**CAS #**	**TWA (mg/m^3)**	**STEL (mg/m^3)**	**CEIL (mg/m^3)**	**% by Weight**
1) Piperazine Dihydrochloride	142-64-3	5			100

Toxicological Data on Ingredients

Piperazine Dihydrochloride:
ORAL (LD50): Acute: 4900 mg/kg [Rat].

Section 3. Hazards Identification

Potential Acute Health Effects

Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion, of inhalation.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to upper respiratory tract, skin, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

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Section 4. First Aid Measures

Eye Contact	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.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	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 if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of heat.
Explosion Hazards in Presence of Various Substances	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.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	Material in powder form, capable of creating a dust explosion. As with most organic solids, fire is possible at elevated temperatures. When heated to decomposition it emits very toxic fumes nitrous oxide and hydrogen chloride.
Special Remarks on Explosion Hazards	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Do not ingest. Do not breathe dust. Wear suitable protective clothing. 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.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	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.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	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.
Exposure Limits	TWA: 5 (mg/m^3) from ACGIH (TLV) [United States] TWA: 5 (mg/m^3) from OSHA (PEL) [United States] TWA: 5 (mg/m^3) from NIOSH [United States] TWA: 0.1 STEL: 0.3 (mg/m^3) [United Kingdom (UK)] TWA: 5 (mg/m^3) [Canada] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Powdered solid. Crystalline powder.)	**Odor**	Not available.
Molecular Weight	159.06 g/mole	**Taste**	Not available.
pH (1% soln/water)	Not available.	**Color**	White. White to yellowish.
Boiling Point	Not available.		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	Not available.		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Soluble in cold water. Solubility in Water: 35% @ 0 deg. C.; 41% @ 20 deg. C; 48% @ 50 deg. C. Insoluble in organic solvents.		

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Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, incompatible materials, dust generation
Incompatibility with various substances	Reactive with oxidizing agents.
Corrosivity	Not available.
Special Remarks on Reactivity	Hygroscopic; keep container tightly closed.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 4900 mg/kg [Rat].
Chronic Effects on Humans	May cause damage to the following organs: upper respiratory tract, skin, central nervous system (CNS).
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant). Slightly hazardous in case of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: Causes mild to moderate skin irritation. Eyes: Causes moderate eye irritation. No corneal injury expected. Inhalation: Can cause respiratory tract irritation. Inhalation may also cause asthmatic allergic reaction with dyspnea (difficulty breathing), wheezing, severe hacking cough in sensitized individuals. Ingestion: May cause abdominal pain, nausea, vomiting, diarrhea, lethargy, tremor, confusion, euphoria, hallucinations, headache, muscular weakness, ataxia, incoordination, seizures, coma. May also affect vision (nystagmus, visual disturbances). Chronic Potential Health Effects: Ingestion: Prolonged or repeated ingestion can have similar effects to acute ingestion. Skin: Prolonged or repeated skin contact may cause allergic contact dermatitis. Prolonged or repeated inhalation may cause hypersensitivity to material and result in hypersensitivity (allergic) reactions.

Section 12. Ecological Information

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

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Section 13. Disposal Considerations

Waste Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification Not a DOT controlled material (United States).

Identification Not applicable.

Special Provisions for Transport Not applicable.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

Illinois toxic substances disclosure to employee act: Piperazine Dihydrochloride
Rhode Island RTK hazardous substances: Piperazine Dihydrochloride
Pennsylvania RTK: Piperazine Dihydrochloride
Minnesota: Piperazine Dihydrochloride
Massachusetts RTK: Piperazine Dihydrochloride
New Jersey: Piperazine Dihydrochloride
California Director's List of Hazardous Substances: Piperazine 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. 205-551-2).
Canada: Listed on Canadian Non-Domestic Substance List (NDSL), but not on Canadian Domestic Substances List (DSL)
China: Not listed on National Inventory.
Japan: Not listed on National Inventory (ENCS).
Korea: Not listed on National Inventory (KECI).
Philippines: Listed on National Inventory (PICCS).
Australia: Listed on AICS.

Other Classifications

WHMIS (Canada) Not controlled under WHMIS (Canada).

DSCL (EEC)

R36/37/38- Irritating to eyes, respiratory system and skin.
R42/43- May cause sensitization by inhalation and skin contact.

S22- Do not breathe dust.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37- Wear suitable protective clothing and gloves.

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

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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.

Splash goggles.

Section 16. Other Information

MSDS Code	**P3921**
References	Not available.
Other Special Considerations	Uses: Medication (anthelmintic use); chemical intermediate for antihistamines; used in making insecticides and fibers.

Validated by Sonia Owen on 5/10/2007.	**Verified by Sonia Owen.** **Printed 5/23/2007.**

CALL (310) 516-8000

Notice to Reader

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