

## SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Product Name: Piperazine anhydrous 99%

Product Code: P19820

Supplier: Pfaltz & Bauer, Inc.  
172 E. Aurora Street  
Waterbury, CT 06708 USA

Phone: 203-574-0075

FAX: 203-574-3181

Emergency Phone: INFOTRAC, US: 1-800-535-5053  
INFOTRAC, INTERNATIONAL: +1-352-323-3500

## SECTION 2: HAZARDS IDENTIFICATION

Statement of Hazard: Corrosive, Irritant, Respiratory sensitizer

Acute Health Hazard: Not Available

Chronic Health Hazard: Teratogen

HMIS Rating: H: 3 F: 0 P: 0

NFPA Rating: H: 3 F: 0 R: 0

To the best of our knowledge, the toxicological properties of this chemical have not been thoroughly investigated. Use appropriate procedures and precautions to prevent or minimize exposure.

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):

GHS Classification in accordance with Regulation (EC) No 1272/2008:

Acute toxicity, oral (Category 4), H302  
Reproductive toxicity (Category 2), H361  
Sensitization, respiratory (Category 1), H334  
Serious eye damage/eye irritation (Category 1), H318  
Skin corrosion/irritation (Category 1A), H314

Pictogram:



Signal Word:

Danger

Hazard Statement(s):

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H361 Suspected of damaging fertility or the unborn child.

Precautionary Statement(s):

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302+P352 IF ON SKIN: wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332+P313 IF SKIN irritation occurs: Get medical advice/attention.

### **SECTION 3: COMPOSITION/INFORMATION on INGREDIENTS**

<u>Chemical Name:</u>	Piperazine anhydrous 99%
<u>Synonyms:</u>	1,4-Diazacyclohexane; Diethylenediamine; Hexahydropyrazine; Hexahydro-1,4-diazine
<u>CAS Number:</u>	110-85-0
<u>MDL Number:</u>	MFCD00005953
<u>EINECS Number:</u>	203-808-3
<u>Beilstein Registry Number:</u>	102555
<u>Molecular Formula:</u>	C <sub>4</sub> H <sub>10</sub> N <sub>2</sub>
<u>Molecular Weight:</u>	86.14
<u>Content:</u>	As specified in product name.

### **SECTION 4: FIRST AID MEASURES**

<u>Eye Contact:</u>	Flush eyes with large amounts of water for fifteen minutes. Separate eyelids with fingers. If irritation persists, seek medical attention.
<u>Skin Contact:</u>	Wash skin with soap and water. If irritation persists, seek medical attention.
<u>Ingestion:</u>	Do not induce vomiting. Seek medical attention.
<u>Inhalation:</u>	Move to a fresh air environment. Contact a physician if breathing becomes difficult.

## **SECTION 5: FIRE FIGHTING MEASURES**

<u>Flash Point (°C):</u>	88
<u>Explosion Limits:</u>	Lower, % by volume: Not Available Upper, % by volume: 14.
<u>Auto Ignition Temperature (°C):</u>	Not Available
<u>Extinguishing Media:</u>	Carbon dioxide, dry chemical powder, alcohol-resistant foam, or water spray
<u>Protective Equipment:</u>	Wear self-contained respirator and fully protective impervious suit.
<u>Specific Hazards:</u>	May emit hazardous fumes under fire conditions.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

<u>Personal Protection:</u>	Wear a self-contained breathing apparatus, rubber boots and gloves, and disposable coveralls. Dispose of coveralls after use. Remove from ignition sources if safe to do so. Follow emergency response plan and contact proper authorities if needed. Keep unprotected persons away.
<u>Environmental Protection:</u>	Keep spills out of sewers and bodies of water. Dike and contain the spill with inert material. Absorb on sand, vermiculite or diatomite. Transfer material to a container for disposal or recovery. Ventilate area and wash spill site after material pickup is complete.

## **SECTION 7: HANDLING and STORAGE**

<u>Handling and Storage:</u>	Avoid breathing dust, vapor, mist or gas. Avoid contact with skin and eyes. Avoid prolonged or repeated exposure. Use only in a chemical fume hood. Open and handle container with care. Keep ignition sources away. Store in a tightly closed container in a dry, well-ventilated place. Hygroscopic, store away from water.
<u>Sensitivities:</u>	Hygroscopic, Moisture

Storage Temperature (°C): 15 to 30

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering Controls: Use product in a well ventilated area or under a fume hood. Use proper lab equipment while handling this product. Keep away from incompatible materials for possible risk of hazardous reaction.

Eye Protection: Wear appropriate protective eyeglass or chemical safety goggles. Make sure that there is an eyewash station in your vicinity.

Skin Protection: Wear impervious gloves and protective clothing.

Respiratory Protection: Use a NIOSH approved respirator when exposure limits are exceeded or if irritation or other symptoms are experienced.

<u>Exposure Limits:</u>	<u>Country</u>	<u>Source</u>	<u>Type</u>	<u>Value</u>
	USA	ACGIH	TWA	Not Available
	USA	OSHA	STEL	Not Available
	USA	OSHA	PEL	Not Available

## **SECTION 9: PHYSICAL and CHEMICAL PROPERTIES**

Appearance: Solid

Odor: Not Available

Odor Threshold: Not Available

Flash Point (°C): 88

Auto Ignition Temperature (°C): Not Available

UEL % by Volume: 14.

LEL % by Volume: Not Available

Melting Point (°C): 108-113

Boiling Point (°C): 145-148

Evaporation Rate: Not Available

pH Value: Not Available

<u>Density (g/cm<sup>3</sup>):</u>	1.110
<u>Refractive Index (n<sup>20D</sup>):</u>	Not Available
<u>Viscosity:</u>	Not Available
<u>Solubility in Water:</u>	Soluble, Clear & colorless 0.1 M at 20 C
<u>Solubility in Other:</u>	Not Available
<u>Vapor Pressure (mmHg):</u>	Not Available
<u>Vapor Density (Air=1):</u>	Not Available

## **SECTION 10: STABILITY and REACTIVITY**

<u>Stability:</u>	Stable under normal temperatures and pressures.
<u>Incompatibility:</u>	Oxidizing agents
<u>Reactivity:</u>	Product may react with incompatible materials to release other hazardous substances.
<u>Conditions to Avoid:</u>	Heat, flame, sparks, other ignition sources.
<u>Hazardous Decomposition Products:</u>	Carbon oxides, Nitrogen oxides

## **SECTION 11: TOXICOLOGICAL INFORMATION**

<u>RTECS Reference:</u>	TK7800000
<u>Target Organs:</u>	Not Available
<u>Toxicity Data:</u>	Not Available
<u>Carcinogenicity:</u>	National Toxicology Program (NTP) listed: Not Available  International Agency for Research on Cancer (IARC) listed: Not Available
<u>Potential Symptoms:</u>	Not Available

## **SECTION 12: ECOLOGICAL INFORMATION**

<u>Toxicity:</u>	Not Available
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## **SECTION 13: DISPOSAL CONSIDERATIONS**

Contact a licensed professional waste disposal service. Dispose in a manner consistent with federal, state and local environmental regulations.

## **SECTION 14: TRANSPORT INFORMATION**

DOT Shipping Name: Piperazine

DOT UN Number: UN2579

DOT Hazard Class: Class 8

DOT Packing Group: PGIII

IMDG Shipping Name: Piperazine

IMDG UN Number: UN2579

IMDG Hazard Class: Class 8

IMDG Packing Group: PGIII

Marine Pollutant: Yes

IATA Shipping Name: Piperazine

IATA UN Number: UN2579

IATA Hazard Class: Class 8

IATA Packing Group: PGIII

## **SECTION 15: REGULATORY INFORMATION**

### United States

Toxic Substance Control Act (TSCA) listed: Yes

Superfund Amendments and Reauthorization Act (SARA 302) listed: No

Superfund Amendments and Reauthorization Act (SARA 311/312) listed: No

Superfund Amendments and Reauthorization Act (SARA 313) listed: No

### European Union

European Inventory of Existing Chemical Substances (EINECS): 203-808-3

GHS Classification in accordance with Regulation (EC) No 1272/2008: Yes

Canada

Canadian Domestic Substances List (DSL) listed: Yes

Canadian Non-Domestic Substances List (NDSL) listed: No

**SECTION 16: OTHER INFORMATION**

Date Prepared: 6/21/2023

The information above is presented in good faith. It is believed to be accurate and represents the best information currently available to us. However, we make no warranty with respect to such information and we assume no liability resulting from its use. The user should consider this information as a supplement to other information that may be available and make independent judgement to ensure proper use to protect the health and safety of employees and the environment. Pfaltz and Bauer shall not be held liable for any damage resulting from handling or from contact with the above product.