PHENYLHYDRAZINE

PHE

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Hydrazine-benzene Hydrazinobenzene Phenylhydrazine hydrochloride Phenylhydrazinium chloride	Solid crystals or oily liquid	Pale yellow	Faint aromatic odor

Wear full impervious protective clothing and approved respirator.
Shut off ignition sources and call fire department.
Notify local health and pollution control agencies.

Fire

Combustible.
Wear full protective clothing with self-contained breathing apparatus.
Extinguish fire with dry chemical, alcohol foam, carbon dioxide, or large quantities of coarse water spray.

Exposure

CALL FOR MEDICAL AID.

VAPOR
Move victim to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID or SOLID
Toxic. May be fatal if swallowed.
Corrosive to skin and eyes.
Remove contaminated clothing and shoes.
Wash affected areas with soap and water.
IF IN EYES, hold eyelids open and flush with plenty of water.

Water Pollution

Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Do not burn

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: $C_6H_5NHNH_2$
2.3 IMO/UN Designation: Currently not available
2.4 DOT ID No.: 2572
2.5 CAS Registry No.: 100-63-0
2.6 NAERG Guide No.: 153
2.7 Standard Industrial Trade Classification: 51486

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors.
3.2 Symptoms Following Exposure: Material is corrosive to tissue. Exposure can cause vomiting, diarrhea, fatigue, headache, and irritation and itchiness of the eyes and skin.
3.3 Treatment of Exposure: Get medical attention. Toxic. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. Contact lenses should not be worn when working with this chemical. SKIN: Remove contaminated clothing and shoes. Wash with soap and water.
3.4 TLV-TWA: 0.1 ppm.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 3; oral rat LD_{50} = 188 mg/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Repeated skin contact can cause skin sensitization and eczematous dermatitis with redness, swelling, and rash. Chronic and acute exposures may produce blood effects, live and kidney damage.
3.10 Vapor (Gas) Irritant Characteristics: Vapors are moderately irritating such that personnel will not usually tolerate moderate or high concentrations.
3.11 Liquid or Solid Characteristics: Causes smarting of the skin and first-degree burns on short exposure; may cause second-degree burns on long exposure.
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: 15 ppm
3.14 OSHA PEL-TWA: 5 ppm
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 190°F C.C.
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide, or large quantities of coarse water spray.
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent.
4.5 Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as nitrogen oxides and carbon monoxide, may be formed when involved in fire.
4.6 Behavior in Fire: May ignite spontaneously when spread on a large surface or when in air and in contact with porous materials such as soil, asbestos, wood, or cloth.
4.7 Auto Ignition Temperature: 345°F.
4.8 Electrical Hazards: Will attack cork, some forms of plastics, coatings, and rubber (insulators).
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 47.6 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 12.0 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction.
5.2 Reactivity with Common Materials: May ignite spontaneously when in contact with oxidants such as hydrogen peroxide or nitric acid, oxides of iron or copper, or manganese, lead, copper or their alloys.
5.3 Stability During Transport: Stable.
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent.
5.5 Polymerization: Will not polymerize.
5.6 Inhibitor of Polymerization: Not pertinent.

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: Currently not available
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: -
Human Oral hazard: 2
Human Contact hazard: II
Reduction of amenities: XX

7. SHIPPING INFORMATION

7.1 Grades of Purity: 97%; technical.
7.2 Storage Temperature: Ambient.
7.3 Inert Atmosphere: No requirement.
7.4 Venting: Not listed.
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Poison
8.2 49 CFR Class: 6.1
8.3 49 CFR Package Group: II
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	3
Flammability (Red).....	2
Instability (Yellow).....	0

8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 108.16
9.3 Boiling Point at 1 atm: 471°F = 243.5°C = 516.5°K (with decomposition)
9.4 Freezing Point: 68°F = 19.6°C = 292.6°K
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 1.0978
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: Currently not available
9.10 Vapor (Gas) Specific Gravity: 3.7
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Currently not available
9.15 Heat of Solution: Currently not available
9.16 Heat of Polymerization: Not pertinent.
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	SLIGHTLY SOLUBLE	77 161	0.001 0.019	77 161	0.00001 0.00031		CURRENTLY NOT AVAILABLE