





# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
  	<p>Corrosive to eyes and skin on contact.            Combustible material; avoid heat and sources of ignition.            Toxic compound, do not ingest or inhale. Avoid all contact with this material.            Carcinogen.            Mutagen.            Strong sensitizer.            Air and light sensitive material.            Store under nitrogen.</p>	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Phenylhydrazine</b>		
Catalog Number	P0183	Supplier	TCI America 9211 N. Harborside St. Portland OR 1-800-423-8616
Synonym	Hydrazine-Benzene		
Chemical Formula	C <sub>6</sub> H <sub>5</sub> NHNH <sub>2</sub>		
CAS Number	100-63-0	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Phenylhydrazine	100-63-0	Min. 98.0 (GC,T)	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.	Rat LD <sub>50</sub> (oral) 188mg/kg Rat LD <sub>50</sub> (inhalation) 2610mg/m <sup>3</sup> Mouse LD <sub>50</sub> (intraperitoneal) 170mg/kg

## Section III. Hazards Identification

Acute Health Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<p><b>CARCINOGENIC EFFECTS</b> : Not available.</p> <p><b>MUTAGENIC EFFECTS</b> : Not available.</p> <p><b>TERATOGENIC EFFECTS</b> : Tumorigenic: rat (subcutaneous) 5200mg/kg/52 weeks intermittent. Tumorigenic- Carcinogenic by RTECS criteria.</p> <p><b>DEVELOPMENTAL TOXICITY</b>: Reproductive: rat (intraperitoneal) 30mg/kg. Duration: female 17-19 days of pregnancy. Effects on newborn- Behavioral.</p> <p>Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	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 artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
Ingestion	DO NOT induce vomiting. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.


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Emergency phone number (800) 424-9300

<b>Section V. Fire and Explosion Data</b>			
Flammability	Combustible.	Auto-Ignition	173 °C (343.4 °F)
Flash Points	88 °C (190.4 °F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ).		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		
Explosion Hazards	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. No additional information is available regarding the risks of explosion.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.		

<b>Section VI. Accidental Release Measures</b>	
Spill Cleanup Instructions	Combustible material. Corrosive liquid. Toxic liquid. Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. Absorb with an inert material and put the spilled material in an appropriate waste disposal. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

<b>Section VII. Handling and Storage</b>	
Handling and Storage Information	COMBUSTIBLE. CORROSIVE. TOXIC. CARINOGEN. MUTAGEN. STRONG SENSITIZER. AIR AND LIGHT SENSITIVE. STORE UNDER NITROGEN. Handle with caution and minimize exposure. Keep container dry. Keep away from heat and sources of ignition. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. Never add water to this product. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents.

<b>Section VIII. Exposure Controls/Personal Protection</b>	
Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Face shield. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.


<b>Section IX. Physical and Chemical Properties</b>			
Physical state @ 20°C	Yellow liquid.	Solubility	>10% in benzene. Sparingly soluble in ether, water. Soluble in dil acids, >10% in ethyl ether. >10% in ethanol, oxygenated, chlorinated, aromatic solvents, and chloroform. Very soluble in acetone.
Specific Gravity	1.1 (water=1)	Partition Coefficient	Not available.
Molecular Weight	108.14	Vapor Pressure	1 mm Hg @ 71.8°C
Boiling Point	238 to 241 °C (decomp.)	Vapor Density	4.3
Melting Point	19 °C (66.2 °F)	Volatility	Not available.
Refractive Index	1.60813 @ 20.3 °C	Odor	Faint, aromatic odor.
Critical Temperature	Not available.	Taste	Not available.
Viscosity	Not available.		

<b>Section X. Stability and Reactivity Data</b>	
Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Air and light light sensitive. Avoid excessive heat and light.
Incompatibilities	Reactive with oxidizing agents.

<b>Section XI. Toxicological Information</b>	
RTECS Number	MV8925000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD <sub>50</sub> (oral) 188mg/kg Rat LD <sub>50</sub> (inhalation) 2610mg/m <sup>3</sup> Mouse LD <sub>50</sub> (intraperitoneal) 170mg/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic: rat (subcutaneous) 5200mg/kg/52 weeks intermittent. Tumorigenic- Carcinogenic by RTECS criteria. <b>DEVELOPMENTAL TOXICITY</b> : Reproductive: rat (intraperitoneal) 30mg/kg. Duration: female 17-19 days of pregnancy. Effects on newborn- Behavioral. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Acute Toxic Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

<b>Section XII. Ecological Information</b>	
Ecotoxicity	Not available.
Environmental Fate	Phenylhydrazine's production and use in the manufacture of dyes, antipyrine, nitron (a stabilizer for explosives) and pharmaceuticals may result in its release to the environment through various waste streams. If released to the atmosphere, phenylhydrazine will exist solely in the vapor phase in the ambient atmosphere, based on a measured vapor pressure of 0.026 mm Hg at 25 °C. Vapor-phase phenylhydrazine is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with an estimated half-life of about 9 hours. An estimated Koc value of 110 suggests that phenylhydrazine will have high mobility in soil. Volatilization from moist soil surfaces is not expected based on an estimated Henry's Law constant of 4.4X10 <sup>-9</sup> atm-cu m/mole. Volatilization from dry soil surfaces is not expected to be important given the vapor pressure of this compound. Based on limited data, phenylhydrazine may biodegrade in soil and water under aerobic conditions. In an aerobic aqueous screening test, phenylhydrazine was 85% biodegraded in 9-13 days. If released to soil or water, phenylhydrazine may be subject to photolysis. In water, phenylhydrazine is not expected to adsorb to sediment and particulate matter based on its Koc value. This compound should not volatilize from water surfaces given its estimated Henry's Law constant. Bioconcentration in aquatic organisms is expected to be low based on an estimated BCF value of 5. The general population may be exposed to phenylhydrazine via dermal contact with vapors and products containing phenylhydrazine. Occupational exposure may occur through inhalation or dermal contact at workplaces where phenylhydrazine is produced or used. (SRC)

<b>Section XIII. Disposal Considerations</b>	
Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.

<b>Section XIV. Transport Information</b>	
DOT Classification	DOT CLASS 6.1: Toxic material.
PIN Number	UN2572
Proper Shipping Name	Phenylhydrazine
Packing Group (PG)	II
DOT Pictograms	

<b>Section XV. Other Regulatory Information and Pictograms</b>	
TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	WHMIS CLASS B-3: Combustible liquid with a flash point between 35 °C (100 °F) and 93.3 °C (200 °F). WHMIS CLASS E: Corrosive liquid. WHMIS CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
EINECS Number (EEC)	202-873-5
EEC Risk Statements	

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Emergency phone number (800) 424-9300

	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R34- Causes burns. R46- May cause heritable genetic damage.
Japanese Regulatory Data	Not available.

## Section XVI. Other Information

### Version 1.0

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### Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.

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