

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
  	<p>Toxic compound, do not ingest or inhale. Avoid all contact with this material.</p> <p>CARCINOGEN. MINIMIZE EXPOSURE.</p> <p>This compound is a possible skin sensitizer.</p> <p>Irritating to skin, eyes, and the respiratory system.</p> <p>Photosensitizer.</p>	   

Section I. Chemical Product and Company Identification

Chemical Name	Haloperidol		
Catalog Number	H0912	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	4-[4-(4-Chlorophenyl)-4-hydroxypiperidino]-4'-fluorobutyrophen		
Chemical Formula	C ₂₁ H ₂₃ ClFNO ₂		
CAS Number	52-86-8	In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Haloperidol	52-86-8	Min. 98.0(T)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD ₅₀ (oral) 128mg/kg Rat LD ₅₀ (intravenous) 15mg/kg Mouse LD ₅₀ (oral) 71mg/kg

Section III. Hazards Identification

Acute Health Effects	<p>Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.</p> <p>Skin contact may result in sensitization. Always cover all exposed skin with an impermeable layer and use proper eye protection. A OSHA/MSHA approved dust and vapor respirator is required when working with this material.</p> <p>Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</p> <p>Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburn-like responses to edematous, vesiculated lesions or bullae.</p> <p>Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Carcinogenic by RTECS criteria.</p> <p>MUTAGENIC EFFECTS : Not available.</p> <p>TERATOGENIC EFFECTS : TUMORIGENIC EFFECTS:</p> <p>Mouse TD (intraperitoneal) 50mg/kg, 10 Days continuous.</p> <p>Toxic Effects:</p> <p>Tumorigenic- Carcinogenic by RTECS criteria.</p> <p>Gastrointestinal- Tumors.</p> <p>Blood- Leukemia.</p> <p>Mouse TDLo (intraperitoneal) 25mg/kg, 5 Days continuous.</p> <p>Toxic Effects:</p> <p>Tumorigenic- Carcinogenic by RTECS criteria.</p> <p>Liver- Tumors.</p> <p>Blood- Leukemia.</p> <p>DEVELOPMENTAL TOXICITY/REPRODUCTIVE EFFECTS:</p> <p>Woman TDLo (oral) 14700ug/kg, female, 1-7 Weeks of pregnancy.</p> <p>Toxic Effects:</p> <p>Specific Developmental Abnormalities- Musculoskeletal system.</p> <p>Specific Developmental Abnormalities-Cardiovascular (circulatory) system.</p> <p>Effects on Newborn- Apgar score (human only).</p> <p>Rat TDLo (intramuscular) 84mg/kg, male, 12 Weeks prior to mating.</p> <p>Toxic Effects:</p> <p>Paternal Effects- Testes, epididymis, sperm duct.</p> <p>Paternal Effects- Prostate, seminal vessicle, Cowper's gland, accessory glands.</p> <p>Rat TDLo (intramuscular) 672mg/kg, female, 12 Weeks prior to mating.</p> <p>Toxic Effects:</p> <p>Maternal Effects- Ovaries, fallopian tubes.</p> <p>Maternal Effects- Uterus, cervix, vagina.</p> <p>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. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. 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.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂), halogenated compounds. WARNING: Highly toxic HCl gas is produced during combustion. WARNING: Highly toxic HF gas is produced during combustion.		
Fire Hazards	Not available.		
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.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Toxic material. Carcinogenic material. Possible sensitizing material. Irritating material. Photosensitizer. 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 sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.
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Section VII. Handling and Storage

Handling and Storage Information	TOXIC. CARCINOGEN. POSSIBLE SENSITIZER. IRRITANT. PHOTSENSITIZER. Keep locked up. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe dust. 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.
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Section VIII. 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. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (White crystalline powder.)	Solubility	1.4mg soluble in 100ml water. Freely soluble in diluted acids, chloroform, methanol, acetone, benzene. 16.7mg/ml soluble in alcohol @ 25°C.
Specific Gravity	Not available.	Partition Coefficient	Not available.
Molecular Weight	375.86	Vapor Pressure	Not applicable.
Boiling Point	Not available.	Vapor Density	Not available.
Melting Point	150 to 152°C (302 to 305.6°F)	Volatility	Not available.
Refractive Index	Not available.	Odor	Not available.
Critical Temperature	Not available.	Taste	Not available.
Viscosity	Not available.		

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents.

Section XI. Toxicological Information

RTECS Number	EU1575000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD ₅₀ (oral) 128mg/kg Rat LD ₅₀ (intravenous) 15mg/kg Mouse LD ₅₀ (oral) 71mg/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Carcinogenic by RTECS criteria. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : TUMORIGENIC EFFECTS: Mouse TD (intraperitoneal) 50mg/kg, 10 Days continuous. Toxic Effects: Tumorigenic- Carcinogenic by RTECS criteria. Gastrointestinal- Tumors. Blood- Leukemia. Mouse TDLo (intraperitoneal) 25mg/kg, 5 Days continuous. Toxic Effects: Tumorigenic- Carcinogenic by RTECS criteria. Liver- Tumors. Blood- Leukemia. DEVELOPMENTAL TOXICITY/REPRODUCTIVE EFFECTS : Woman TDLo (oral) 14700ug/kg, female, 1-7 Weeks of pregnancy. Toxic Effects: Specific Developmental Abnormalities- Musculoskeletal system. Specific Developmental Abnormalities-Cardiovascular (circulatory) system. Effects on Newborn- Apgar score (human only). Rat TDLo (intramuscular) 84mg/kg, male, 12 Weeks prior to mating. Toxic Effects: Paternal Effects- Testes, epididymis, sperm duct. Paternal Effects- Prostate, seminal vesicle, Cowper's gland, accessory glands. Rat TDLo (intramuscular) 672mg/kg, female, 12 Weeks prior to mating. Toxic Effects: Maternal Effects- Ovaries, fallopian tubes. Maternal Effects- Uterus, cervix, vagina. 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	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Skin contact may result in sensitization. Always cover all exposed skin with an impermeable layer and use proper eye protection. A OSHA/MSHA approved dust and vapor respirator is required when working with this material. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburn-like responses to edematous, vesiculated lesions or bullae. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Haloperidol may be released to the environment in waste streams generated at sites of its commercial production and formulation into pharmaceutical products. If released to air, haloperidol will exist primarily in the particulate-phase; physical removal from air will occur through wet and dry deposition processes. The environmental fate of haloperidol in soil or water is uncertain due to very limited data. Insufficient data are available to predict the importance of microbial degradation. Estimated Koc values of 5942 and 1412 suggest that haloperidol will not leach in soil; in addition, partitioning from the water column to sediment and suspended material may occur in aquatic systems. However, a reported pKa of 8.3 indicates that haloperidol will increasingly ionize as alkalinity increases; at a pH of 8.3, 50% of the haloperidol will be ionized. The leaching and adsorption potential of dissociated haloperidol cannot be predicted. Haloperidol is used as an antipsychotic drug; users of the drug can be exposed through dermal contact (intravenous injection) or oral consumption (tablets and liquid).

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local 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 the substance.
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Section XIV. Transport Information

DOT Classification	CLASS 6.1: Toxic material.
PIN Number	UN2811
Proper Shipping Name	Toxic solids, organic, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This product is NOT on the EPA Toxic Substances Control Act (TSCA) inventory. The following notices are required by 40 CFR 720.36 (C) for those products not on the inventory list: (i) These products are supplied solely for use in research and development by or under the supervision of a technically qualified individual as defined in 40 CFR 720.0 et sec. (ii) The health risks of these products have not been fully determined. Any information that is or becomes available will be supplied on an MSDS sheet.
WHMIS Classification (Canada)	CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
EINECS Number (EEC)	200-155-6
EEC Risk Statements	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R42/43- May cause sensitization by inhalation and skin contact. R45- May cause cancer. R60- May impair fertility. R61- May cause harm to the unborn child.
Japanese Regulatory Data	Not available.

Section XVI. Other Information

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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.