

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	Toxic compound, do not ingest or inhale. Avoid all contact with this material. <b>CARCINOGEN. MINIMIZE EXPOSURE.</b> <b>POSSIBLE MUTAGEN - RISK OF IRREVERSIBLE EFFECTS.</b>	   

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Reserpine</b>		
Catalog Number	R0007	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Serpine (pharmaceutical)		
Chemical Formula	C <sub>33</sub> H <sub>40</sub> N <sub>2</sub> O <sub>9</sub>		
CAS Number	50-55-5	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
Reserpine	50-55-5	Min. 98.0 (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) 420mg/kg Rabbit LD <sub>50</sub> (intraperitoneal) 7mg/kg Bird, wild LD <sub>50</sub> (oral) 100mg/kg

## Section III. Hazards Identification

Acute Health Effects	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	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic: rat (oral) 340mg/kg/3 years continuous. Tumorigenic- Neoplastic by RTECS criteria. rat (oral) 340mg/kg/77 weeks continuous. Tumorigenic- Carcinogenic by RTECS criteria. <b>DEVELOPMENTAL TOXICITY</b> Reproductive: rat (intramuscular) 1mg/kg. Duration: female 9 days of pregnancy. Specific developmental abnormalities- Musculoskeletal system. rat (intramuscular) 1500ug/kg. Duration; female 9 days of pregnancy. Specific developmental abnormalities- Central nervous system. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes. Keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thorough wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
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. SEEK IMMEDIATE MEDICAL ATTENTION in case of ingestion of a radioactive material.

**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 <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. Consult with local fire authorities before attempting large scale fire-fighting operations.		

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions	Toxic material. Possible carcinogen. Possible mutagen. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and exercise caution. Use a shovel to put the material into a convenient waste disposal container. 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. MUTAGEN. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. 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, reducing 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. Be sure to use a MSHA/NIOSH approved respirator or equivalent. 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.

**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	Light-yellow powder.	Solubility	Slightly soluble in water, acetone, methanol, ether, alcohol, AQ solvents of acetic acid, citric acids.
Specific Gravity	Not available.		Soluble in chloroform, methylene chloride, benzene and ethyl acetate.
Molecular Weight	608.68	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	Not available.
Melting Point	265°C (decomp.) (509°F)	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Odorless.
Viscosity	Not available.	Taste	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 oxidizing agents, reducing agents.

**Section XI. Toxicological Information**

RTECS Number	ZG035000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD <sub>50</sub> (oral) 420mg/kg Rabbit LD <sub>50</sub> (intraperitoneal) 7mg/kg Bird, wild LD <sub>50</sub> (oral) 100mg/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic: rat (oral) 340mg/kg/3 years continuous. Tumorigenic- Neoplastic by RTECS criteria. rat (oral) 340mg/kg/77 weeks continuous. Tumorigenic- Carcinogenic by RTECS criteria. <b>DEVELOPMENTAL TOXICITY</b> Reproductive: rat (intramuscular) 1mg/kg. Duration: female 9 days of pregnancy. Specific developmental abnormalities- Musculoskeletal system. rat (intramuscular) 1500ug/kg. Duration; female 9 days of pregnancy. Specific developmental abnormalities- Central nervous system. 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. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity	Not available.
Environmental Fate	Reserpine is a naturally occurring alkaloid produced by several members of a climbing shrub family indigenous to India, Burma, Malaysia, Thailand, Nepal and Indonesia. If released to the atmosphere, reserpine should exist in the particulate phase where it can be physically removed by wet and dry deposition. If released to either soil or water, significant adsorption can be predicted based on estimated K <sub>oc</sub> values of 2400-3700; however, reserpine has a pK <sub>a</sub> of 6.6 which indicates that substantial ionization may occur in moist soils or water. This ionization may alter the sorption characteristics of reserpine. Reserpine appears to be susceptible to photodissociation in aqueous solution or on soil surfaces exposed to sunlight. It is reported to be sensitive to hydrolysis and oxidation, but kinetic rate data are not available to estimate rates at which these processes may occur in the environment. Volatilization is not important. No data are available regarding biodegradation. Reserpine is used as a sedative drug for both humans and animals. Direct exposure to patients taking the drug occurs through consumption. There are no data available to suggest that the population in general are exposed to reserpine. Occupational exposure of extractors or formulators is possible through dermal contact.

**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	Not a DOT controlled material (United States).
PIN Number	Not available.
Proper Shipping Name	Not available.
Packing Group (PG)	Not available.
DOT Pictograms	

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	Not available.
EINECS Number (EEC)	200-047-9
EEC Risk Statements	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R45- May cause cancer. R46- May cause heritable genetic damage.
Japanese Regulatory Data	Not available.

**Section XVI. Other Information****Version 1.0****Validated on 3/5/2001.****Printed 2/23/2005.****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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