

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	CARCINOGEN. MINIMIZE EXPOSURE. TERATOGEN. MINIMIZE EXPOSURE. MUTAGEN. MINIMIZE EXPOSURE. Harmful compound, minimize exposure.	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Phenacetin</b>		
Catalog Number	P1669	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	4'-Ethoxyacetanilide; N-Acetyl-4-ethoxyaniline; N-Acetyl-p-phenetidine		
Chemical Formula	C <sub>10</sub> H <sub>13</sub> NO <sub>2</sub>		
CAS Number	62-44-2	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
Phenacetin	62-44-2	Min. 98.0 (GC)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a mutagen. There is no acceptable exposure limit for a mutagen.	Rat LD <sub>50</sub> (oral) 1650 mg/kg Mouse LD <sub>50</sub> (oral) 866 mg/kg Mouse LC <sub>50</sub> (inhalation) 33900 mg/m <sup>3</sup> Rat LD <sub>50</sub> (intraperitoneal) 634 mg/kg

## Section III. Hazards Identification

Acute Health Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury 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> : Carcinogenic by RTECS criteria.</p> <p><b>MUTAGENIC EFFECTS</b> : Not available.</p> <p><b>TERATOGENIC EFFECTS</b> : Tumorigenic Effects. Human TDLo Oral 7300 mg/1 year continuous</p> <p>TOXIC Effects: Tumorigenic - Carcinogenic by RTECS criteria Rat TDLo Oral 572 gm/kg/60 weeks continuous</p> <p>TOXIC Effects: Tumorigenic - Carcinogenic by RTECS criteria Sense Organ and Special Senses (Nose, Eye, Ear, and Taste) - Tumors Kidney, Ureter, and Bladder - Tumors Mouse TDLo Oral 1008 gm/gk/96 weeks continuous</p> <p>TOXIC Effects: Tumorigenic - Carcinogenic by RTECS criteria Kidney, Ureter, and Bladder - Tumors Kidney, Ureter, and Bladder - Kidney tumors</p> <p><b>DEVELOPMENTAL TOXICITY:</b> Reproductive Effects. Rat TDLo Oral 50336 mg/kg, male 17 weeks prior to mating</p> <p>TOXIC Effects: Effects on Fertility - Male Fertility index Rat TDLo Oral 24 gm/kg, female 1-20 days of pregnancy</p> <p>TOXIC Effects: Effects on Fertility - Pre-implantation mortality Effects on Embryo or Fetus - Fetotoxicity Rat TDLo Oral 6 gm/kg, female 1-20 days of pregnancy</p> <p>TOXIC Effects: Specific Developmental Abnormalities - Musculoskeletal system</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. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
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.

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Emergency phone number (800) 424-9300

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 <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ).		
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	Carcinogenic material. Teratogenic material. Mutagenic material. Harmful material. Use a shovel to put the material into a convenient waste disposal container. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.
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### Section VII. Handling and Storage

Handling and Storage Information	CARCINOGEN. TERATOGEN. MUTAGEN. HARMFUL. 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 breathe dust. Always store away from incompatible compounds such as oxidizing agents, reducing agents, acids, alkalis (bases).
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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. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent.
	
Exposure Limits	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a mutagen. There is no acceptable exposure limit for a mutagen.

### Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (White crystalline powder.)	Solubility	Very soluble in pyrimidine. Soluble in chloroform, glycerine, acetone. Slightly soluble in ether, benzene. Insoluble in water.
Specific Gravity	Not available.		
Molecular Weight	179.22	Partition Coefficient	Log P <sub>ow</sub> : 1.58
Boiling Point	132°C (269.6°F) @ 4 mmHg	Vapor Pressure	Not applicable.
Melting Point	136°C (276.8°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 strong oxidizing agents, strong reducing agents, strong acids, strong alkalis (bases).

**Section XI. Toxicological Information**

RTECS Number	AM4375000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD <sub>50</sub> (oral) 1650 mg/kg Mouse LD <sub>50</sub> (oral) 866 mg/kg Mouse LC <sub>50</sub> (inhalation) 33900 mg/m <sup>3</sup> Rat LD <sub>50</sub> (intraperitoneal) 634 mg/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Carcinogenic by RTECS criteria. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic Effects. Human TDLo Oral 7300 mg/1 year continuous TOXIC Effects: Tumorigenic - Carcinogenic by RTECS criteria Rat TDLo Oral 572 gm/kg/60 weeks continuous TOXIC Effects: Tumorigenic - Carcinogenic by RTECS criteria Sense Organ and Special Senses (Nose, Eye, Ear, and Taste) - Tumors Kidney, Ureter, and Bladder - Tumors Mouse TDLo Oral 1008 gm/gk/96 weeks continuous TOXIC Effects: Tumorigenic - Carcinogenic by RTECS criteria Kidney, Ureter, and Bladder - Tumors Kidney, Ureter, and Bladder - Kidney tumors <b>DEVELOPMENTAL TOXICITY</b> : Reproductive Effects. Rat TDLo Oral 50336 mg/kg, male 17 weeks prior to mating TOXIC Effects: Effects on Fertility - Male Fertility index Rat TDLo Oral 24 gm/kg, female 1-20 days of pregnancy TOXIC Effects: Effects on Fertility - Pre-implantation mortality Effects on Embryo or Fetus - Fetotoxicity Rat TDLo Oral 6 gm/kg, female 1-20 days of pregnancy TOXIC Effects: Specific Developmental Abnormalities - Musculoskeletal system
Acute Toxic Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury 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	Phenacetin's former production and use in the US as an analgesic may have resulted in its release to the environment through various waste streams. If released to air, a vapor pressure of 6.92X10 <sup>-7</sup> mm Hg at 25 deg C indicates phenacetin will exist in both the vapor and particulate phases. Vapor-phase phenacetin will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 22 hrs. Particulate-phase phenacetin will be removed from the atmosphere by wet or dry deposition. Phenacetin absorbs at wavelengths >290 nm and therefore is not expected to be susceptible to direct photolysis by sunlight. If released to soil, phenacetin is expected to have moderate mobility based upon an estimated Koc of 170. Volatilization from moist soil surfaces is not expected to be an important fate process based upon an estimated Henry's Law constant of 2.1X10 <sup>-10</sup> atm-cu m/mole. Phenacetin will not volatilize from dry soil surfaces based upon its vapor pressure. A theoretical BOD of 8.4% with activated sludge inoculum and using the Japanese MITI test, suggests that biodegradation is not expected to be an important environmental fate process. If released into water, phenacetin is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. Volatilization from water surfaces is not expected to be an important fate process based upon this compound's estimated Henry's Law constant.

**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 applicable.
Proper Shipping Name	Not applicable.
Packing Group (PG)	Not applicable.
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)	CLASS D-2B: Material causing other toxic effects (TOXIC). On DSL
EINECS Number (EEC)	200-533-0
EEC Risk Statements	R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R45- May cause cancer. R46- May cause heritable genetic damage. R47- May cause birth defects.
Japanese Regulatory Data	ENCS No. 3-697

**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.