

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Flammable material; avoid heat and sources of ignition. <b>CARCINOGEN. MINIMIZE EXPOSURE.</b> Irritating to skin, eyes, and the respiratory system. Hygroscopic -- keep container tightly sealed.	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Phenolphthalein</b> (0.1% in Ethanol)[for Titration]		
Catalog Number	P0701	Supplier	TCI America 9211 N. Harborside St. Portland OR 1-800-423-8616
Synonym	Not available.		
Chemical Formula	C <sub>20</sub> H <sub>14</sub> O <sub>4</sub>		
CAS Number	77-09-8 64-17-5 (Ethanol)	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
Phenolphthalein (0.1% in Ethanol)[for Titration]	77-09-8 64-17-5 (Ethanol)	0.1% ca. 99.1% (Ethanol)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	(Ethanol) Rat LD <sub>50</sub> (oral) 7060 mg/kg Mouse LD <sub>50</sub> (oral) 3450 mg/kg Rat LD <sub>50</sub> (inhalation) 20000 ppm/10H

## Section III. Hazards Identification

Acute Health Effects	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. 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  <b>MUTAGENIC EFFECTS</b> : Not available.  <b>TERATOGENIC EFFECTS</b> : Tumorigenic Effects                      Rat TDLo (Oral) 364 gm/kg/2 years continuous                      Toxic Effects:                      Tumorigenic - Carcinogenic by RTECS criteria                      Kidney, Ureter, and Bladder - Tumors                      Endocrine - Adrenal cortex tumors                      Mouse TDLo (Oral) 288400 mg/kg/103 weeks continuous                      Toxic Effects:                      Tumorigenic - Carcinogenic by RTECS criteria                      Blood - Lymphomas including Hodgkin's disease                      Mouse TDLo (Oral) 281 mg/kg/2 years continuous                      Toxic Effects:                      Tumorigenic - Carcinogenic by RTECS criteria                      Endocrine - Tumors                      Skin and Appendages - Tumors                      (Ethanol)                      Mouse TDLo (Oral) 320 mg/kg/50 weeks intermittent                      Toxic Effects:                      Tumorigenic - Equivocal tumorigenic agent by RTECS criteria                      Liver - Tumors                      Blood - Lymphomas including Hodgkin's disease                      Mouse TDLo (Rectal) 120 gm/kg/18 weeks intermittent                      Toxic Effects:                      Tumorigenic - Equivocal tumorigenic agent by RTECS criteria                      Gastrointestinal - Tumors                      Liver - Tumors  <b>DEVELOPMENTAL TOXICITY:</b> Reproductive Effects                      Mouse TDLo (Oral) 29.4 gm/kg; male 7 days prior to mating.                      Toxic Effects:                      Maternal Effects: Parturition                      Effects on Fertility - Other measures of fertility                      Mouse TDLo (Oral) 840 mg/kg; female multigenerations                      Toxic Effects:                      Effects on Newborn - Liver birth index                      Mouse TDLo (Oral) 840 mg/kg; female multigenerations                      Toxic Effects:                      Specific Developmental Abnormalities - Urogenital system                      (Ethanol)                      Rat TDLo (Intraperitoneal) 600 mg/kg; female 8-15 days of pregnancy                      Toxic Effects:                      Effects on Fertility - Post-implantation mortality                      Effects on Embryo or Fetus - Extra embryonic structures</p>

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Effects on Embryo or Fetus - Fetotoxicity  
Rat TDLo (Oral 135 gm/kg; female 1 day of pregnancy and 7 days after birth  
Toxic Effects:  
Effects on Newborn - Behavioral  
Effects on Newborn - Physical  
Rat TDLo (Oral) 147 mg/kg; female 1-21 days of pregnancy.  
Toxic Effects:  
Specific Developmental Abnormalities - Endocrine system  
Effects on Newborn - Delayed effects  
Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

**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.
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	Flammable.	Auto-Ignition	363 °C (685.4 °F) (Ethanol)
Flash Points	14 °C (57.2 °F). (Ethanol)	Flammable Limits	LOWER: 3.3% UPPER: 19% (Ethanol)
Combustion Products	These products are toxic carbon oxides (CO, CO <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	Flammable liquid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Consult with local fire authorities before attempting large scale fire-fighting operations.		

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions	Flammable material. Carcinogenic material. Irritating material. Hygroscopic material. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.
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**Section VII. Handling and Storage**

Handling and Storage Information	FLAMMABLE. CARCINOGEN. IRRITANT. HYGROSCOPIC. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray. Always store away from incompatible compounds such as reducing agents.
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**Section VIII. Exposure Controls/Personal Protection**

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	Splash goggles. Lab coat. Vapor 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.

**Section IX. Physical and Chemical Properties**

Physical state @ 20 °C	Liquid. (Clear. Colorless.)	Solubility	Soluble in ethyl ether, chloroform, toluene; Very soluble in ethanol, acetone, and pyrene; Insoluble in benzene, petroleum ether; Slightly soluble in carbon disulfide
Specific Gravity	1.299 (water=1) 0.79 (Ethanol)	Partition Coefficient	LOG K <sub>ow</sub> : 2.41 LOG P <sub>ow</sub> : -0.32 (Ethanol)
Molecular Weight	318.32 46.07 (Ethanol)	Vapor Pressure	5.8 kPa (@ 20 °C) (Ethanol)
Boiling Point	78 to 80 °C (172.4 to 176 °F) (Ethanol)	Vapor Density	1.6 (Air = 1) (Ethanol)
Melting Point	258 to 262 °C (496.4 to 503.6 °F)		

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Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Characteristic.
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. Hygroscopic; keep container tightly closed.
Incompatibilities	Reactive with reducing agents, acid anhydrides, acid chlorides. Reactive with strong oxidizing agents, strong alkalis (bases). (Ethanol) Reactive with peroxides, ammonia, alkali metals.

### Section XI. Toxicological Information

RTECS Number	SM8380000 KQ6300000 (Ethanol)
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	(Ethanol) Rat LD <sub>50</sub> (oral) 7060 mg/kg Mouse LD <sub>50</sub> (oral) 3450 mg/kg Rat LD <sub>50</sub> (inhalation) 20000 ppm/10H
Chronic Toxic Effects	<p><b>CARCINOGENIC EFFECTS</b> : Carcinogenic by RTECS criteria  <b>MUTAGENIC EFFECTS</b> : Not available.  <b>TERATOGENIC EFFECTS</b> : Tumorigenic Effects  Rat TDLo (Oral) 364 gm/kg/2 years continuous  Toxic Effects:  Tumorigenic - Carcinogenic by RTECS criteria  Kidney, Ureter, and Bladder - Tumors  Endocrine - Adrenal cortex tumors  Mouse TDLo (Oral) 288400 mg/kg/103 weeks continuous  Toxic Effects:  Tumorigenic - Carcinogenic by RTECS criteria  Blood - Lymphomas including Hodgkin's disease  Mouse TDLo (Oral) 281 mg/kg/2 years continuous  Toxic Effects:  Tumorigenic - Carcinogenic by RTECS criteria  Endocrine - Tumors  Skin and Appendages - Tumors  (Ethanol)  Mouse TDLo (Oral) 320 mg/kg/50 weeks intermittent  Toxic Effects:  Tumorigenic - Equivocal tumorigenic agent by RTECS criteria  Liver - Tumors  Blood - Lymphomas including Hodgkin's disease  Mouse TDLo (Rectal) 120 gm/kg/18 weeks intermittent  Toxic Effects:  Tumorigenic - Equivocal tumorigenic agent by RTECS criteria  Gastrointestinal - Tumors  Liver - Tumors  <b>DEVELOPMENTAL TOXICITY</b>: Reproductive Effects  Mouse TDLo (Oral) 29.4 gm/kg; male 7 days prior to mating.  Toxic Effects:  Maternal Effects: Parturition  Effects on Fertility - Other measures of fertility  Mouse TDLo (Oral) 840 mg/kg; female multigenerations  Toxic Effects:  Effects on Newborn - Liver birth index  Mouse TDLo (Oral) 840 mg/kg; female multigenerations  Toxic Effects:  Specific Developmental Abnormalities - Urogenital system  (Ethanol)  Rat TDLo (Intraperitoneal) 600 mg/kg; female 8-15 days of pregnancy  Toxic Effects:  Effects on Fertility - Post-implantation mortality  Effects on Embryo or Fetus - Extra embryonic structures  Effects on Embryo or Fetus - Fetotoxicity  Rat TDLo (Oral) 135 gm/kg; female 1 day of pregnancy and 7 days after birth  Toxic Effects:  Effects on Newborn - Behavioral  Effects on Newborn - Physical  Rat TDLo (Oral) 147 mg/kg; female 1-21 days of pregnancy.  Toxic Effects:  Specific Developmental Abnormalities - Endocrine system  Effects on Newborn - Delayed effects  Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.</p>
Acute Toxic Effects	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. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity Not available.

Environmental Fate Not available.

**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.

**Section XIV. Transport Information**

DOT Classification DOT CLASS 3: Flammable liquid

PIN Number UN1170

Proper Shipping Name Ethanol solution.

Packing Group (PG) II

DOT Pictograms

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

TSCA Chemical Inventory (EPA) This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.

WHMIS Classification (Canada) CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).  
On DSL.

EINECS Number (EEC) 201-004-7  
200-578-6 (Ethanol)

EEC Risk Statements R10- Flammable.  
R18- In use, may form flammable/explosive vapor-air mixture.  
R45- May cause cancer.  
R36/37/38- Irritating to eyes, respiratory system and skin.

Japanese Regulatory Data ENCS no.: 9-1152  
2-202 (Ethanol)

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 9/14/2011.**  
**Printed 9/14/2011.**

**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.