TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Corrosive to eyes and skin on contact.** **Moisture sensitive material.**	

Section I. Chemical Product and Company Identification

Chemical Name: **p-Phenolsulfonic Acid Hydrate**

Catalog Number	P0104
Synonym	4-Hydroxybenzenesulfonic Acid
Chemical Formula	$C_6H_6O_4S \cdot xH_2O$
CAS Number	98-67-9

Supplier: TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

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
p-Phenolsulfonic Acid Hydrate	98-67-9	Min. 90.0 (T)	Not available.	Mouse LD_{50} (oral) 6400 mg/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.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

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

DO NOT INDUCE VOMITING. 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), sulfur oxides (SO_2, SO_3...).

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.

Continued on Next Page

Section VI. Accidental Release Measures

Spill Cleanup Instructions

Corrosive material. Moisture sensitive material.
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.

Section VII. Handling and Storage

Handling and Storage Information

CORROSIVE. MOISTURE SENSITIVE. Keep container dry. 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. Never add water to this product. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively.
Always store away from incompatible compounds such as oxidizing agents.

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

Face shield. 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

Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (White ~ light reddish-yellow, crystal ~ lumps.)	Solubility	Miscible with water, alcohol.
Specific Gravity	Not available.		
Molecular Weight	174.17 (Anh)	Partition Coefficient	LOG P_{ow}: -1.65
Boiling Point	Not available.	Vapor Pressure	Not applicable.
Melting Point	Not available.	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
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. Moisture sensitive.

Incompatibilities

Reactive with oxidizing agents.

Section XI. Toxicological Information

RTECS Number

DB6970000

Routes of Exposure

Eye Contact. Ingestion. Inhalation. Skin contact.

Toxicity Data

Mouse LD_{50} (oral) 6400 mg/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

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.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Continued on Next Page

Printed 8/3/2009.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	4-Hydroxyphenylsulfonic acid's production and subsequent use mainly as an additive for electroplating baths could result in its release to the environment. If released to the atmosphere, 4-hydroxyphenylsulfonic acid will exist in both the vapor phase and in the particulate phase based on an estimated vapor pressure of 3.33X10-7 mm Hg. In the vapor phase, 4-hydroxyphenylsulfonic acid will react fairly rapidly with hydroxyl radicals with an estimated half-life of 2 days. Particulate phase 4-hydroxyphenylsulfonic acid may be removed physically from air by wet and dry deposition. Based on an estimated Koc of 3, 4-hydroxyphenylsulfonic acid should have very high mobility in soil and as this compound is miscible in water, leaching may occur. In moist soils, 4-hydroxyphenylsulfonic acid is expected to dissociate. 4-Hydroxyphenylsulfonic acid should biodegrade under aerobic conditions; using a soil inoculum, this compound required 32 days for complete biodegradation. In water, 4-hydroxyphenylsulfonic acid is expected to dissociate. Biodegradation will occur slowly. Using an unacclimated activated sludge inoculum, a period of 190-195 hours was required for complete biodegradation. This time period included a 76-95 hour lag time suggesting that an initial acclimatization period prior to biodegradation of this compound is necessary. Other studies using higher concentrations of 4-hydroxyphenylsulfonic acid, a shorter time period (1 hour to 70 hours), and microorganisms acclimated to either benzene or benzenesulfonic acid showed no biodegradation of 4-hydroxyphenylsulfonic acid. This compound is not expected to bioconcentrate in aquatic organisms or to volatilize from water surfaces.

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 8: Corrosive material
PIN Number	UN2585
Proper Shipping Name	Arylsulfonic acids, liquid
Packing Group (PG)	III
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 E: Corrosive solid. On DSL.
EINECS Number (EEC)	202-691-6
EEC Risk Statements	R34- Causes burns.
Japanese Regulatory Data	ENCS No. 3-1956

Section XVI. Other Information

Version 1.0
Validated on 8/3/2009.
Printed 8/3/2009.

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.