

# 2-HYDROXYBENZOIC ACID

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## 1. Product Identification

**Synonyms:** Salicylic acid; o-hydroxybenzoic acid

**CAS No.:** 69-72-7

**Molecular Weight:** 138.12

**Chemical Formula:**  $\text{HOC}_6\text{H}_4\text{COOH}$

**Product Codes:** CHEM-052 and others.

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
2-Hydroxybenzoic Acid	69-72-7	90 - 100%	Yes

## 3. Hazards Identification

**Emergency Overview:**

**WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS CENTRAL NERVOUS SYSTEM, KIDNEYS, AND PANCREAS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.**

**SAF-T-DATA<sup>(tm)</sup> Ratings**

Health Rating: 2 - Moderate (Life)

Flammability Rating: 1 - Slight

Reactivity Rating: 1 - Slight

Contact Rating: 2 - Moderate (Life)

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

**Inhalation:**

Inhalation of dust may cause irritation due to its acidic character. Coughing, sneezing, and shortness of breath may occur.

**Ingestion:**

Ingestion of sizable amounts can cause "salicylism", as evidenced by abdominal pain, vomiting, increased respiration, and mental disturbances. Fatalities resulting from respiratory or cardiovascular failure are known. Mean lethal adult dose of salicylates is between 20 and 30 grams.

**Skin Contact:**

Mild irritant, may cause skin rash in sensitive individuals. Absorption of large amounts may produce symptoms paralleling ingestion exposure.

**Eye Contact:**

Severe irritant by animal testing.

**Chronic Exposure:**

Central nervous system disturbances such as rapid breathing, confusion and even convulsions may develop. Kidneys and pancreas can be affected by prolonged ingestion.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems or impaired kidney function may be more susceptible to the effects of the substance.

## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin 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 if symptoms occur.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 5. Fire Fighting Measures

**Fire:**

Flash point: 157C (315F) CC

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

**Explosion:**

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Fire Extinguishing Media:**

Water spray, dry chemical, alcohol foam, or carbon dioxide.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## 6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Isolate from oxidizing materials. Store in the dark. Avoid dust formation and control ignition sources. Employ grounding, venting and explosion relief provisions in accord with accepted engineering practices in any process capable of generating dust and/or static electricity. Empty only into inert or non-flammable atmosphere. Emptying contents into a non-inert atmosphere where flammable vapors may be present could cause a flash fire or explosion due to electrostatic discharge.

## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

None established.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

## 9. Physical and Chemical Properties

### **Appearance:**

Fine, white crystals.

### **Odor:**

Odorless or slight phenolic odor.

### **Solubility:**

1 g/460 ml water.

### **Density:**

1.44 @ 20°C (68°F)

### **pH:**

2.4

### **% Volatiles by volume @ 21°C (70°F):**

0

### **Boiling Point:**

211°C (412°F) @ 20 mm Hg. Decomposes on heating at atmospheric pressure.

### **Melting Point:**

157 - 159°C (315 - 318°F) Sublimes @ 76°C (169°F)

### **Vapor Density (Air=1):**

4.8

**Vapor Pressure (mm Hg):**

1.0 @ 114°C (237°F)

**Evaporation Rate (BuAc=1):**

No information found.

## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. Darkens on exposure to air or light.

**Hazardous Decomposition Products:**

Toxic gases and vapors may be released if involved in a fire. When rapidly heated at atmospheric pressure it decomposes into phenol and carbon monoxide.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Iron salts, lead acetate, iodine, nitrous ether.

**Conditions to Avoid:**

Moisture, light, heat and incompatibles.

## 11. Toxicological Information

**Toxicological Data:**

Oral rat LD50: 891 mg/kg. Inhalation rat LC50: > 900 mg/m<sup>3</sup>/1hr. Irritation: skin rabbit: 500 mg/24H mild. Eye rabbit: 100 mg severe. Investigated a mutagen and reproductive effector.

**Cancer Lists****NTP Carcinogen**

Ingredient	Known	Anticipated	IARC Category
2-Hydroxybenzoic Acid (69-72-7)	No	No	None

## 12. Ecological Information

**Environmental Fate:**

When released into the soil, this material is expected to readily biodegrade. When released into water, this material is expected to readily biodegrade. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to be readily removed from the atmosphere by dry and wet deposition. When released into the air, this material is expected to have a half-life between 1 and 10 days. This material has a log octanol-water partition coefficient of less than 3.0.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

### Chemical Inventory Status - Part 1

Ingredient	TSCA	EC	Japan	Australia
2-Hydroxybenzoic Acid (69-72-7)	Yes	Yes	Yes	Yes

### Chemical Inventory Status - Part 2

#### Canada

Ingredient	Korea	DSL	NDSL	Phil.
2-Hydroxybenzoic Acid (69-72-7)	Yes	Yes	No	Yes

### Federal, State & International Regulations - Part 1

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List	Chemical Catg.
2-Hydroxybenzoic Acid (69-72-7)	No	No	No	No

### Federal, State & International Regulations - Part 2

Ingredient	RCRA		TSCA	
	CERCLA	261.33	8(d)	
2-Hydroxybenzoic Acid (69-72-7)	No	No	No	

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No  
Reactivity: No (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

#### WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 1 Reactivity: 0

#### Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS CENTRAL NERVOUS SYSTEM, KIDNEYS, AND PANCREAS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

#### Label Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Wash thoroughly after handling.

Use only with adequate ventilation.

Keep container closed.

#### Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent and Consumer Hobby.

**Revision Information:**

None

**Disclaimer:**

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