

4/20/09



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 12/16/2008
Date Updated: 08/06/2008
Version 1.50

Section 1 - Product and Company Information

Product Name	Shikimic acid, Minimum 99%		
Product Number	S5375		
Brand	Sigma Chemical		
Company	Sigma-Aldrich		
Address	3050 Spruce Street		
City, State, Zip, Country	SAINT LOUIS, MO 63103 US		
Technical Phone:	800-325-5832	Emergency Phone:	314-776-6555
Fax:	800-325-5052		

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
(-)SHIKIMIC ACID	138-59-0	No	205-334-2	
Formula	C7H10O5			
Synonyms	Bracken fern toxic component, Shikimate, Shikimic acid, 3,4,5Trihydroxy-1-cyclohexene-1-carboxylic acid			

Section 3 - Hazards Identification

Emergency Overview

Caution: Avoid contact and inhalation.

HMIS Rating

Health: 1 Flammability: 0 Reactivity: 0

NFPA Rating

Health: 1 Flammability: 0 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

Suitable

Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand

Protective gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance

Physical State

Solid

Color

Faintly yellow

Sigma Chemical - S5375

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0000024
12162008
4134

Molecular Weight 174.15 AMU

pH N/A
BP/BP Range N/A
MP/MP Range 185 °C
Freezing Point N/A
Vapor Pressure N/A
Vapor Density N/A
Saturated Vapor Conc. N/A
SG/Density N/A
Bulk Density N/A
Odor Threshold N/A
Volatile% N/A
VOC Content N/A
Water Content N/A
Solvent Content N/A
Evaporation Rate N/A
Viscosity N/A
Partition Coefficient N/A
Decomposition Temp. N/A
Flash Point °F N/A
Flash Point °C N/A

Explosion Limits N/A

Flammability N/A
Autoignition Temp N/A
Optical Rotation Degree of Rotation Solvent:H2O20 g/l
-210 - -175 (+/-10)

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable
Materials to Avoid
Strong oxidizing agents

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.
Skin Absorption
May be harmful if absorbed through the skin.
Eye Contact
May cause eye irritation.
Inhalation
May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion
May be harmful if swallowed.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Conditions Aggravated by Exposure
The toxicological properties have not been thoroughly investigated.

RTECS Number: GW4600000

Toxicity Data
Intraperitoneal - Mouse: 1 GM/KG (LD50)

Chronic Exposure - Carcinogen
Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Mouse - Oral: 4000 MG/KG
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Gastrointestinal: Tumors.

Mouse - Intraperitoneal: 40 MG/KG
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Gastrointestinal: Tumors.

IARC Carcinogen List

Rating
Group 3

Chronic Exposure - Mutagen

Species	Dose	Route	Mutation test
Mouse	1000 MG/KG	Intraperitoneal	Dominant lethal test
Mouse	3200 MG/KG	Oral	Dominant lethal test
Hamster	250 MG/L	kidney	Morphological transformation. Histidine reversion (Ames)

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification
Safety Statements S: 22 24/25
Do not breathe dust. Avoid contact with skin and eyes.

US Classification and Label Text**US Statements**

Caution: Avoid contact and inhalation.

United States Regulatory Information

SARA Listed: No

Canada Regulatory Information**WHMIS Classification**

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or form contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright©2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.