



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name Ethanol-1-¹⁴C
Product Number 312975
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
ETHANOL-1- ¹⁴ C	4502-04-9	No		

Formula
Chemical Family Radioactive material.
Synonyms

Section 3 - Hazards Identification

Emergency Overview

Flammable (USA) Highly Flammable (EU). Irritant.
Irritating to eyes, respiratory system and skin.
Target organ(s): Nerves. Liver. Radioactive material. Calif. Prop. 65 carcinogen.

HMIS Rating
Health: 2* Flammability: 3 Reactivity: 1

NFPA Rating
Health: 2 Flammability: 3 Reactivity: 1

*additional chronic hazards present.

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 not breathing give artificial respiration. If breathing is difficult, give oxygen.

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

Flammable Hazards: Yes
Autoignition Temp: N/A
Flammability: Yes

Extinguishing Media

Suitable

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)

Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back.

Specific Method(s) of Fire Fighting

Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition. Handle as a radioactive spill.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame. Store at 2-8°C

Section 8 - Exposure Controls / PPE

Engineering Controls

Use only in a chemical fume hood. Safety shower and eye bath.

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

Skin-Specific

Chemical resistant apron.

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General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	
Physical State	
Liquid	
Molecular Weight:	N/A
pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
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
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability	
Stable	
Stable	
Conditions to Avoid	
Protect from moisture	
Materials to Avoid	
Acids, Acid chlorides, Acid anhydrides, Alkali metals, Ammonia, Oxidizing agents, Peroxides.	

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	
Causes skin irritation.	
Skin Absorption	
May be harmful if absorbed through the skin.	
Eye Contact	
Causes eye irritation.	
Inhalation	
May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.	
Ingestion	
May be harmful if swallowed.	

Target Organ(s) or System(s)
Nerves, Liver, Heart.

Signs and Symptoms of Exposure
Can cause CNS depression. Exposure can cause: Narcotic effect, Nausea, headache, and vomiting. Damage to the heart. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

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. Contains a radioactive isotope which may produce cancer and genetic mutation.

Section 12 - Ecological Information

No data available.

Section 14 - Transport Information

DOT
Proper Shipping Name: Radioactive material, excepted package-limited quantity of material
UN#: 2910
Class: 7
Packing Group: None
Hazard Label: None
PIH: Not PIH

IATA
Proper Shipping Name: Radioactive material, excepted package, limited quantity of material
IATA UN Number: 2910
Hazard Class: 7

Section 15 - Regulatory Information

EU Additional Classification
Symbol of Danger: R F
Indication of Danger
Radioactive. Highly Flammable.
Risk Statements R: 11
Highly flammable.
Safety Statements S: 7 16
Keep container tightly closed. Keep away from sources of ignition - no smoking.

US Classification and Label Text**Indication of Danger**

Flammable (USA) Highly Flammable (EU). Irritant.

Risk Statements

Irritating to eyes, respiratory system and skin.

Safety Statements

Keep container tightly closed. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Statements

Target organ(s): Nerves, Liver, Radioactive material, Calif, Prop. 65 carcinogen.

United States Regulatory Information

SARA Listed: No

United States - State Regulatory Information**California Prop - 65**

This product is or contains chemical(s) known to the state of California to cause cancer.

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

