

Material Safety Data Sheet

Version 4.0
Revision Date 02/27/2010
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : trans-Cinnamaldehyde
Product Number : C80687
Brand : Aldrich
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +18003255832
Fax : +18003255052
Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid, Skin sensitizer, Irritant

GHS Label elements, including precautionary statements

Pictogram



Warning

Combustible liquid
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause respiratory irritation.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P333 + P331 Specific treatment (see supplemental first aid instructions on this label).
P337 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 If eye irritation persists: Get medical advice/attention.
P370 + P378 Take off contaminated clothing and wash before reuse.
P403 + P233 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P235 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

P501

Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health hazard: 2
Flammability: 2
Physical hazards: 0
NFPA Rating
Health hazard: 2
Fire: 2
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.
Ingestion May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C9H8O
Molecular Weight : 132.16 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
trans-Cinnamaldehyde			
14371-10-9	-	-	-

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
 Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
 Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
 Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Store under inert gas. Air sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
 Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
 Handle with gloves.

Eye protection
 Face shield and safety glasses

Skin and body protection
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures
 Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Form	liquid
Safety data	
pH	no data available
Melting point	-7.5 °C (18.5 °F)
Boiling point	248 °C (478 °F) at 1,013 hPa (760 mmHg)
Flash point	71 °C (160 °F) - closed cup
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	1.050 g/cm3
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 1.9
Relative vapour density	4.56 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability
 Stable under recommended storage conditions.

Aldrich - C80687
 Delivery 0837758186-000010 Purchase Order P0107829

Page 3 of 6

Conditions to avoid
 no data available

Materials to avoid
 Strong oxidizing agents, Strong bases

Hazardous decomposition products
 Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
 no data available

Skin corrosion/irritation
 no data available

Serious eye damage/eye irritation
 no data available

Respiratory or skin sensitization
 May cause allergic skin reaction.

Germ cell mutagenicity
 Genotoxicity in vitro - Hamster - fibroblast
 Cytogenetic analysis
 Genotoxicity in vitro - Hamster - fibroblast
 Morphological transformation.
 Genotoxicity in vitro - Hamster - ovary
 Sister chromatid exchange
 Genotoxicity in vivo - mouse - Oral
 Micronucleus test
 Genotoxicity in vivo - rat - Oral
 Micronucleus test

Carcinogenicity
 IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
 ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
 NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
 OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
 no data available

Specific target organ toxicity - single exposure (GHS)
 Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (GHS)
 no data available

Aspiration hazard
 no data available

Potential health effects
 Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
 Ingestion May be harmful if swallowed.
 Skin May be harmful if absorbed through skin. Causes skin irritation.
 Eyes Causes eye irritation.

Signs and Symptoms of Exposure
Cough, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: GD6476000

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

NA-Number: 1993 Class: CBL Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (trans-Cinnamaldehyde)
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Skin sensitizer, Irritant

DSL Status

This product contains the following components that are not on the Canadian DSL nor NDSL lists.
CAS-No.
14371-10-9
trans-Cinnamaldehyde

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

trans-Cinnamaldehyde

CAS-No.
14371-10-9

Revision Date

New Jersey Right To Know Components

trans-Cinnamaldehyde

CAS-No.
14371-10-9

Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information

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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 Co., 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.



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 08/11/2005
Date Updated: 04/05/2004
Version 1.30

Section 1 - Product and Company Information

Product Name: trans-Cinnamaldehyde, 99%
Product Number: C80687
Brand: Aldrich Chemical
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
CINNAMALDEHYDE, TRANS	14371-10-9	No		
Formula: C9H8O				
Synonyms: (E)-Cinnamaldehyde, trans-Cinnamic aldehyde, trans-Cinnamylaldehyde, (E)-3-Phenylpropenal, (E)-3-Phenyl-2-propenal, 2-Propenal, 3-phenyl-, (E)- (9CI)				

Section 3 - Hazards Identification

Emergency Overview
Irritant.
Irritating to respiratory system and skin. Risk of serious damage to eyes.
Combustible.

HMIS Rating	Health: 2	Flammability: 2	Reactivity: 0
NFPA Rating	Health: 2	Flammability: 2	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 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, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Flammable Hazards: Yes
Flash Point: 160 °F 71 °C
Autoignition Temp: N/A
Extinguishing Media: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.
Suitable: Yes
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. Combustible liquid.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

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

Section 8 - Exposure Controls / PPE

Engineering Controls
Mechanical exhaust required. Safety shower and eye bath.

Personal Protective Equipment
Respiratory
Government approved respirator.

Hand
Compatible chemical-resistant gloves.

Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Liquid

Molecular Weight: 132.16 AMU

Property Value At Temperature or Pressure

pH N/A
BP/MP Range 248 °C
MP/MP Range -7.5 °C
Freezing Point N/A
Vapor Pressure N/A
Vapor Density 4.6 g/l
Saturated Vapor Conc. N/A
SG/Density 1.05 g/cm3
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 160 °F
Flash Point °C 71 °C
Explosion Limits N/A

Method: closed cup
Method: closed cup

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable
Materials to Avoid
Strong oxidizing agents, Strong bases.
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 severe eye irritation.

Inhalation
May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion
May be harmful if swallowed.

Signs and Symptoms of Exposure

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: GD6476000

Chronic Exposure - Mutagen

Species	Dose	Route	Mutation test
Rat	1100 MG/KG	Oral	Micronucleus test
Mouse	850 MG/KG	Oral	Micronucleus test
Hamster	10 NMOL/L		Morphological transformation.
Hamster	2 NMOL/L	fibroblast	Cytogenetic analysis
Hamster	340 UG/L	ovary	Sister chromatid exchange

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.
This combustible material may be burned 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: Combustible liquid, n.o.s.

UN#: 1993

Class: COMBUSTIBLE LIQUID

Packing Group: Packing Group III

Hazard Label: None

PIH: Not PIH

IATA

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

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xi

Indication of Danger

Irritant.

Risk Statements R: 37/38 41

Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Statements S: 26 39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

US Classification and Label Text

Indication of Danger

Irritant.

Risk Statements

Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

US Statements

Combustible.

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. 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 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.