

Cinnamaldehyde SDS/MSDS (Safety Data Sheet)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

- * Product Name: Cinnamaldehyde
- * Catalog Number: S3763
- * CAS Number: 14371-10-9
- * IUPAC Name: 2-Propenal, 3-phenyl-, (2E)-

Relevant identified uses and uses advised against

- * Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.
- * Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

- * Company: Selleck Chemicals
- * TollFree: +1 877 796-6397
- * Tel: +1 832 582-8158
- * Fax: +1 832 582-8590

Emergency telephone number

- * Emergency phone #: +1 832 582-8158

2. HAZARDS IDENTIFICATION

2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

- Acute toxicity (dermal): Category 4. H312
- Skin irritation: Category 2. H315
- Skin sensitization: Category 1. H317
- Serious eye irritation: Category 2. H319
- Specific target organ toxicity (single exposure): Category 3. H335
- Acute aquatic toxicity: Category 2. H401
- Chronic aquatic toxicity: Category 3. H412

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)



Signal Word

Warning

Hazard statement(s)

- H312: Harmful in contact with skin
- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H319: Causes serious eye irritation
- H335: May cause respiratory irritation
- H401: Toxic to aquatic life
- H412: Harmful to aquatic life with long lasting effects

Precautionary statement(s)	None.
Prevention	<p>P261: Avoid breathing dust/fume/gas/mist/vapors/spray.</p> <p>P264: Wash hands thoroughly after handling.</p> <p>P264+P265: Wash hands thoroughly after handling. Do not touch eyes.</p> <p>P271: Use only outdoors or in a well-ventilated area.</p> <p>P272: Contaminated work clothing should not be allowed out of the workplace.</p> <p>P273: Avoid release to the environment.</p> <p>P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.</p>
Response	<p>P302+P352: IF ON SKIN: wash with plenty of water.</p> <p>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351: IF IN EYES: Rinse cautiously with water for several minutes.</p> <p>P317: Get emergency medical help.</p> <p>P319: Get medical help if you feel unwell.</p> <p>P321: Specific treatment (see information on this label and safety datasheet)).</p> <p>P332+P317: If skin irritation occurs: Get medical help.</p> <p>P333+P317: If skin irritation or rash occurs: Get medical help.</p> <p>P337+P317: If eye irritation persists: Get medical help.</p> <p>P338: Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P362+P364: Take off contaminated clothing and wash it before reuse.</p>
Storage	<p>P403+P233: Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405: Store locked up.</p>
Disposal	P501: P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name: Cinnamaldehyde
CAS Number: 14371-10-9
PubChem CID: 637511
Molecular formula: C₉H₈O
Molecular weight: 132.16 g/mol
IUPAC name: (E)-3-phenylprop-2-enal

3.2 Mixtures

Not applicable (pure substance).

4. FIRST-AID MEASURES

4.1 Description of first aid measures

Inhalation: Move to fresh air. Keep at rest in a position comfortable for breathing. Seek medical attention if symptoms persist.

Skin contact: Wash with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation develops.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting unless directed by medical personnel. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 (Toxicological Information).

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact a poison control center or physician for severe exposure.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Water spray, dry chemical, carbon dioxide (CO₂), alcohol-resistant foam.

Unsuitable: None known.

5.2 Specific hazards arising from the substance or mixture

CO₂, dry chemical, or appropriate foam.

May ignite after a delay period in contact with NaOH.

5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

Flash point: 160 °F

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

6.2 Environmental precautions

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

6.3 Methods and materials for containment and cleaning up

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a POTW is acceptable only after review by the governing authority. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must meet Hazardous Material Criteria for disposal.

Do not contaminate water by cleaning of equipment or disposal of wastes. /Cinnacure A3005/

SRP: At the time of review, criteria for land treatment or burial (sanitary landfill) disposal practices are subject to significant revision. Prior to implementing land disposal of waste residue (including waste sludge), consult with environmental regulatory agencies for guidance on acceptable disposal practices.

Do not use, pour, spill or store near heat or open flame. /Cinnacure A3005/

SRP: The scientific literature for the use of contact lenses in industry is conflicting. The benefit or detrimental effects of wearing contact lenses depend not only upon the substance, but also on factors including the form of the substance, characteristics and duration of the exposure, the uses of other eye protection equipment, and the hygiene of the lenses. However, there may be individual substances whose irritating or corrosive properties are such that the wearing of contact lenses would be harmful to the eye. In those specific cases, contact lenses should not be worn. In any event, the usual eye protection equipment should be worn even when contact lenses are in place.

User should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. /Cinnacure A3005/

Agricultural use requirements. Use this product only in accordance with its labeling and with Worker Protection Standard, 40 CFR part 170. ... Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours. /Cinnacure A3005/

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. /Cinnacure A3005/

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not use, pour, spill or store near heat or open flame. /Cinnacure A3005/

7.2 Conditions for safe storage, including any incompatibilities

Do not use, pour, spill or store near heat or open flame. /Cinnacure A3005/

Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

Store in original container. Keep upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

8.1.1 Occupational exposure limits (OEL)

OSHA PEL: Not established.

ACGIH TLV: Not established.

NIOSH REL: Not established.

No occupational exposure limit values are established for this substance.

Use the lowest feasible exposure level (ALARA principle).

8.1.2 Appropriate engineering controls

Use only in a chemical fume hood or with local exhaust ventilation.

Ensure adequate ventilation to keep airborne concentrations below exposure limits.

8.2 Individual protection measures

8.2.1 Eye/face protection

Wear chemical safety goggles.

8.2.2 Skin protection

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

8.2.3 Respiratory protection

Use NIOSH-approved dust/mist respirator (N95 or higher) if ventilation is inadequate.

8.2.4 Thermal hazards

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance: CBI; Other Solid; Liquid
- b) Odor: PUNGENT, SPICY NOTE
- c) Odor threshold: No data available
- d) pH: No data available
- e) Melting point/freezing point: -7.5 °C
- f) Initial boiling point and boiling range: 253 °C @ 760 MM HG (SLIGHT DECOMP)
- g) Flash point: 160 °F
- h) Evaporation rate: No data available
- i) Flammability (solid, gas): No data available
- j) Upper/lower flammability or explosive limits: No data available
- k) Vapor pressure: 2.89X10⁻² mm Hg at 25 °C
- l) Vapor density: No data available
- m) Relative density: 1.048-1.052 at 25 °C/25 °C
- n) Water solubility: Dissolves in about 700 parts water, in about 7 volumes of 60% alcohol.
- o) Partition coefficient: n-octanol/water: Log P (n-octanol/water): 1.9
- p) Auto-ignition temperature: No data available
- q) Decomposition temperature: No data available
- r) Viscosity: No data available
- s) Explosive properties: No data available
- t) Oxidizing properties: No data available

9.2 Other information

Topological Polar Surface Area (TPSA): 17.1 Å²

Complexity: 121

10. STABILITY AND REACTIVITY

10.1 Reactivity

No specific reactivity hazards identified under normal handling conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions under normal conditions.

10.4 Conditions to avoid

Avoid heat, sparks, open flames, direct sunlight, and moisture.

10.5 Incompatible materials

Rags soaked in sodium hydroxide and in /cinnamaldehyde/ overheated and ignited owing to aerobic oxidation when they came into contact in a waste bin.

10.6 Hazardous decomposition products

Thermal decomposition may produce: Carbon monoxide (CO), Carbon dioxide (CO₂).

See also Section 5 (Fire-fighting measures) for combustion products.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

No acute toxicity data available.

Skin corrosion/irritation:

Causes skin irritation (H315).

Serious eye damage/eye irritation:

Causes serious eye irritation (H319).

Respiratory or skin sensitization:

May cause an allergic skin reaction (H317).

Germ cell mutagenicity:

No data available.

Carcinogenicity:

No data available.

Reproductive toxicity:

No data available.

Specific target organ toxicity (single exposure):

No data available.

Specific target organ toxicity (repeated exposure):

No data available.

Aspiration hazard:

No data available.

11.2 Additional information

Carcinogen classification:

trans-Cinnamaldehyde

TR-514: Toxicology and Carcinogenesis Studies of trans-Cinnamaldehyde (Microencapsulated) (CASRN 14371-10-9) in F344/N Rats and B6C3F1 Mice (Feed Studies) (2004)

09/05/02

No Evidence

No Evidence

No Evidence

No Evidence

Under the conditions of this 2-year feed study, there was no evidence of carcinogenic activity of trans-cinnamaldehyde in male or female F344/N rats exposed to 1,000, 2,100, or 4,100 ppm. There was no evidence of carcinogenic activity of trans-cinnamaldehyde

Exposure routes:

Inhalation; dermal; ingestion

Signs and symptoms of exposure:

The specific symptoms that can result from cinnamic aldehyde allergy can vary considerably amongst patients from a severe anaphylactic reaction to asthma, abdominal symptoms, eczema or headaches. (L2140)

Data source: Hazardous Substances Data Bank (HSDB) via PubChem.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

EC50; Species: *Daphnia magna* (Water flea, 2-24 hours old); Conditions: static bioassay, 16 hr light 8 hr dark cycle (light intensity of 200 lx), oxygen concentration of 8.4-8.6, temperature 20.2-20.5 °C, pH 7.75-8.19; Concentration: 11.5 mg/L for 48 hours; Effect: immobilization. (65-75% cinnamaldehyde).

LC50; Species: *Daphnia magna* (Water fleas, less than 24 hours old); Conditions: semi-static bioassay, 16 hours light and 8 hours dark cycle, conductivity 590-600 umhos/cm, pH 6.8-7.1, dissolved oxygen 8.2-9.1 mg/L, temperature 19.5-20.7 °C; Concentrations: 4.22 mg/L for 48 hours (100% cinnamaldehyde).

EC50; Species: *Selenastrum capricornutum* (Green algae); Conditions: pH 7.5, 24 hours light (intensity 400-410 foot candle), temperature 23.2-24 °C; Concentration: 4.07-6.87 for 72 hours; Effect: growth inhibition, and decreased reproduction (100% Cinnamaldehyde)

Cinnamaldehyde's production and use in the flavor and perfume industry may result in its release to the environment through various waste streams; its use as a pesticide will result in its direct release to the environment. It has been detected in essential oils of cinnamon leaves and bark, and in grapefruit, celery seed, clove bud and lemon balm. If released to air, a vapor pressure of 2.89×10^{-2} mm Hg at 25 °C indicates cinnamaldehyde will exist solely as a vapor in the atmosphere. Vapor-phase cinnamaldehyde will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life f

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

Log P (n-octanol/water): 1.9

Low potential for bioaccumulation (Log P < 3).

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available.

12.6 Other adverse effects

This substance is classified as hazardous to the aquatic environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

14. TRANSPORT INFORMATION**14.1 UN number**

Not regulated as dangerous goods (research quantities typically exempt).

14.2 UN proper shipping name

Not subject to transport regulations (small quantities for research use).

14.3 Transport hazard class(es)

Not classified as dangerous goods for transport (research quantities).

14.4 Packing group

Not applicable (not regulated as dangerous goods in typical research quantities).

14.5 Environmental hazards

Marine pollutant: Yes (classified as environmentally hazardous per GHS).

14.6 Special precautions for user

Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

US EPA / TSCA: Subject to EPA TSCA regulations

EU ECHA / REACH: Registered (REACH Active)

SARA 302 Components:

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

SARA 313 Components:

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:

Acute (short-term) health hazard

Environmental hazard

Massachusetts Right To Know Components:

This material contains components subject to the Massachusetts Right to Know Act. See Section 2 for hazard classification.

Pennsylvania Right To Know Components:

This material contains components subject to the Pennsylvania Right to Know Act. See Section 2 for hazard classification.

New Jersey Right To Know Components:

This material contains components subject to the New Jersey Right to Know Act. See Section 2 for hazard classification.

California Prop. 65 Components:

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

Other regulatory listings:

- The Australian Inventory of Industrial Chemicals: Chemical: 2-Propenal, 3-phenyl-
- California Safe Cosmetics Program (CSCP) Reportable Ingredient: Hazard Traits - Fragrance Allergen Authoritative List - Annex III of the EU Cosmetics Regulation No. 1223/2009 - Fragrance Allergens Report - if present in a rinse-off cosmetic product at a concentration of 100 mg/kg or more
- EFSA Legal Basis: Regulation (EC) No 1831/2003 (amended)
- Status Regulation (EC): 2007/442
- TSCA Requirements: Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. 2-Propenal

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

16. OTHER INFORMATION

Revision Date: 2026/09/09

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product. Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.