

Version 1.0 Revision Date: 03/05/2019 Date of previous issue: 09/02/2014
Country / Language: US / EN

SECTION 1. IDENTIFICATION

DISTRIBUTED BY: R.E. CARROLL, INC.
1570 NORTH OLDEN AVENUE EXT.
EWING, N.J. 08638-3204 USA
T: 609-695-6211/800-257-9365
Orders@reccarroll.com

Product name : CINNAMALDEHYDE

Recommended use : chemical agent
Flavors

Manufacturer or supplier's details

Supplier : Charkit Chemical Company, LLC.
32 Haviland Street, Unit 1
Norwalk, CT 06854
USA

Telephone : +1 203-299-3220
+1 203-299-1355


Emergency telephone : CHEMTREC (800) 424 9300
International (703) 527 3887

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity (Dermal) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A
Skin sensitization : Category 1

GHS label elements

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : Harmful in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

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Wash skin thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

Disposal:

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

Hazard Not Otherwise Classified (HNOC)

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
CAS-No. : 104-55-2

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Cinnamaldehyde	104-55-2	> 98.8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms appear.

In case of skin contact : Wash off immediately with soap and plenty of water.
Remove contaminated clothing and shoes.
Continue to rinse for at least 20 minutes.
In the case of skin irritation or allergic reactions see a physician.
Wash contaminated clothing before reuse.
Thoroughly clean shoes before reuse.

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- In case of eye contact : In case of contact, flush eyes with plenty of water for at least 20 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Remove contact lenses. Get medical attention immediately.
- If swallowed : Rinse mouth with water. Do not induce vomiting. Drink water. Call physician immediately. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

- Symptoms : Acute overexposure to this product may cause dizziness, headache, drowsiness, malaise, abdominal pain. Skin: Causes irritation with symptoms of reddening, itching, and swelling. May cause sensitization by skin contact. Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels. Eye: Causes irritation with symptoms of reddening, tearing, stinging, and swelling.
- Effects : Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.
- Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : No special actions required. Treat symptomatically.
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SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- Specific hazards during fire fighting : In a fire or if heated, a pressure increase will occur and the container may burst. Cool closed containers exposed to fire with water spray.
- Hazardous combustion products : Carbon dioxide (CO₂)
Carbon monoxide
- Further information : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
No action shall be taken involving any personal risk or without suitable training.
Evacuate personnel to safe areas.
Keep unnecessary and unprotected personnel from entering.
Do not touch or walk through spilled material.
Do not breathe vapors or spray mist.
Provide adequate ventilation.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Stop leak if safe to do so.
Move containers from spill area.
Keep people away from and upwind of spill/leak.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Disposed off through appropriate waste disposal carriers/authorities.
Contaminated absorbent material may pose the same hazard as the spilled product.
Do not allow spilled material or wash water to enter sewers, surface waters, or groundwater systems.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid exposure - obtain special instructions before use.
Persons with a history of skin sensitization to this product should not be employed in any process in which this product is used.
Avoid inhalation, ingestion and contact with skin and eyes.
Use only with adequate ventilation/personal protection.
Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.
Empty containers retain product residue; observe all precautions for product.
Do not re-use empty containers.
Remove contaminated clothing and protective equipment before entering eating areas.
Workers should wash hands and face before eating, drinking and smoking.
Put on appropriate personal protection equipment.

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Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate container to avoid environmental contamination.

Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : If ventilation is inadequate, use respirator that will protect against organic vapor and dust/mist.

Hand protection
Material : Butyl rubber - IIR
Wearing time : < 60 min

Remarks : Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Tightly fitting safety goggles

Skin and body protection : Impervious clothing

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

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Color : light yellow

Odor : strong, characteristic, sweet

Odor Threshold : No data available

pH : 5.22
Concentration: 1 %

Melting point/range : 18.5 °F (-7.5 °C)

Boiling point/boiling range : 511 - 513 °F (266 - 267 °C)
(1,013 hPa)

Flash point : 248 °F (120 °C)
Method: closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit : No data available

Vapor pressure : 0.04 hPa (68 °F (20 °C))

Relative vapor density : No data available

Relative density : No data available

Density : 1.05 g/cm³ (68 °F (20 °C))

Solubility(ies)
Water solubility : 1.084 g/l slightly soluble

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Partition coefficient: n-octanol/water : No data available

Ignition temperature : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, dynamic : 4.5 mPa.s

Explosive properties : No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No data available

Incompatible materials : Strong oxidizing agents
Strong bases

Hazardous decomposition products : No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

The most important known symptoms and effects are described in Section 2 and/or Section 4.

Information on likely routes of exposure

Inhalation
Eye contact
Skin contact
Ingestion

Acute toxicity

Harmful in contact with skin.

Components:

Cinnamaldehyde:

Acute oral toxicity : LD50 (Rat, male and female): 2,220 mg/kg
GLP: no

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- Acute inhalation toxicity : LC50 (Rat): 68.88 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: no
Remarks: Dosage caused no mortality
- LD50 (Rabbit, male and female): 1,260 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Components:

Cinnamaldehyde:

Species: Human
Exposure time: 6 Weeks
Result: Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Cinnamaldehyde:

Species: Rabbit
Result: Irritating to eyes.
Exposure time: 24 h
Method: OECD Test Guideline 405
GLP: yes

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

Cinnamaldehyde:

Test Type: Maximization Test
Species: Guinea pig
Result: May cause sensitization by skin contact.

Germ cell mutagenicity

Not classified based on available information.

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Components:

Cinnamaldehyde:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

Test Type: Micronucleus test
Test system: Bone marrow
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Remarks: No mutagenic effect.

Carcinogenicity

Not classified based on available information.

Components:

Cinnamaldehyde:

Species: Rat, (male and female)
Application Route: Oral
Exposure time: 2 Years
NOAEL: 200 mg/kg bw/day

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Components:

Cinnamaldehyde:

Effects on fertility : Species: Rat, female
Application Route: Oral
General Toxicity F2: LOAEL: 5 mg/kg body weight

Effects on fetal development : Species: Mouse, female
Application Route: Oral
Duration of Single Treatment: 8 Days
Developmental Toxicity: LOAEL: 1,200 mg/kg body weight

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STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Cinnamaldehyde:

Species: Mouse, male and female
LOAEL: 750 mg/kg
Application Route: Skin contact
Exposure time: 3 d
Remarks: Subchronic toxicity

Species: Rat, male and female
NOAEL: ca. 4100 ppm
Application Route: Oral
Exposure time: 14 Weeks
Number of exposures: daily
Method: OECD Test Guideline 408
GLP: yes
Remarks: Subchronic toxicity

Species: Rat, male and female
NOAEL: 200 mg/kg
Application Route: Oral
Exposure time: 12 Weeks
Number of exposures: daily
GLP: no
Remarks: Subchronic toxicity

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Cinnamaldehyde:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 105.76 mg/l
Exposure time: 96 h
Method: QSAR WoE
Remarks: Fresh water

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.21 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: no
- EC50 (Daphnia magna (Water flea)): 119.56 mg/l
Exposure time: 48 h
Method: QSAR WoE
Remarks: Fresh water
- Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 37.23 mg/l
Exposure time: 72 h
Method: QSAR WoE
Remarks: Fresh water
- Toxicity to fish (Chronic toxicity) : Lowest Observed Effect Concentration (Oryzias latipes (Orange-red killifish)): 66.08 mg/l
Exposure time: 28 d
Test Type: OECD 210
- Toxicity to microorganisms : EC50 (Tetrahymena pyriformis): 131.19 mg/l
Exposure time: 48 h
Method: QSAR WoE
Remarks: Fresh water

Persistence and degradability

Components:

Cinnamaldehyde:

- Biodegradability : Result: rapidly biodegradable
Biodegradation: 24.98 %
Exposure time: 5 d
Method: OECD Test Guideline 301D
GLP: no
- Result: Readily biodegradable.
Biodegradation: 50 %
Exposure time: 15 d
Remarks: calculated

Bioaccumulative potential

Components:

Cinnamaldehyde:

- Bioaccumulation : Bioconcentration factor (BCF): 8.3

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Mobility in soil

Components:

Cinnamaldehyde:

Distribution among environmental compartments : Koc: 29.456, log Koc: 1.469

Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Disposal methods : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precautions for product.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

SECTION 14. TRANSPORT INFORMATION

Domestic regulation

DOT

Not regulated as a dangerous good

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

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SECTION 15. REGULATORY INFORMATION

CERCLA

None

Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

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.

US State Regulations

Massachusetts Right To Know

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

Pennsylvania Right To Know

Cinnamaldehyde	104-55-2	> 98.8
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California Prop. 65

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

TSCA inventory

TSCA : On TSCA Inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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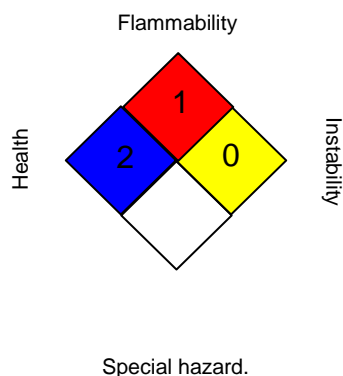
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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS® IV:

HEALTH	/	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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