

ALFAAA14408

## Cinnamyl chloride

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

|   |  |
|---|--|
| <b>产品说明:</b><br><b>Product Description:</b> | 肉桂基氯, 碳酸钠作稳定剂<br><b>Cinnamyl chloride</b>  |
| <b>Cat No. :</b>                            | <b>A14408</b>  |
| <b>Synonyms</b>                             | 3-Chloro-1-phenyl-1-propene; (3-Chloro-1-propenyl)benzene  |
| <b>CAS No</b>                               | 2687-12-9  |
| <b>Molecular Formula</b>                    | C9 H9 Cl   |
| <b>Supplier</b>                             | Avocado Research Chemicals Ltd.<br>(Part of Thermo Fisher Scientific)<br>Shore Road, Heysham<br>Lancashire, LA3 2XY,<br>United Kingdom<br>Office Tel: +44 (0) 1524 850506<br>Office Fax: +44 (0) 1524 850608   |
| <b>Emergency Telephone Number</b>           | For information <b>US</b> call: 001-800-227-6701 / <b>Europe</b> call: +32 14 57 52 11<br>Emergency Number <b>US</b> :001-201-796-7100 / <b>Europe</b> : +32 14 57 52 99<br><b>CHEMTREC</b> Tel. No. <b>US</b> :001-800-424-9300 / <b>Europe</b> :001-703-527-3887 |
| <b>E-mail address</b>                       | begel.sdsdesk@thermofisher.com   |
| <b>Recommended Use</b>                      | Laboratory chemicals.  |
| <b>Uses advised against</b>                 | No Information available   |

### SECTION 2. HAZARD IDENTIFICATION

| Physical State   | Appearance  | Odor     |
|--|-------------|----------|
| Liquid   | Dark yellow | Odorless |
| <b>Emergency Overview</b>  |             |          |
| Combustible liquid. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Fatal if inhaled. Lachrymator (substance which increases the flow of tears). |             |          |

#### Classification of the substance or mixture

|                                    |              |
|------------------------------------|--------------|
| Flammable liquids.                 | Category 4   |
| Acute Oral Toxicity                | Category 4   |
| Acute Inhalation Toxicity - Vapors | Category 2   |
| Skin Corrosion/Irritation          | Category 1 B |
| Serious Eye Damage/Eye Irritation  | Category 1   |
| Skin Sensitization                 | Category 1   |

#### Label Elements

**Signal Word****Danger****Hazard Statements**

H227 - Combustible liquid  
 H302 - Harmful if swallowed  
 H314 - Causes severe skin burns and eye damage  
 H317 - May cause an allergic skin reaction  
 H330 - Fatal if inhaled

**Precautionary Statements****Prevention**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 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  
 P284 - Wear respiratory protection

**Response**

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
 P304 + P340 - IF INHALED: Remove person to fresh air and keep 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  
 P310 - Immediately call a POISON CENTER or doctor  
 P330 - Rinse mouth  
 P331 - Do NOT induce vomiting  
 P363 - Wash contaminated clothing before reuse  
 P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
 P405 - Store locked up

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

Combustible material.

**Health Hazards**

Harmful if swallowed. Corrosive. Causes skin and eye burns. May cause an allergic skin reaction. Fatal if inhaled. Lachrymator (substance which increases the flow of tears).

**Environmental hazards**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility. Spillage unlikely to penetrate soil. The product is insoluble and sinks in water. The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

**Other Hazards**

Lachrymator (substance which increases the flow of tears)  
 This product does not contain any known or suspected endocrine disruptors. Toxic to terrestrial vertebrates.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component                       | CAS No    | Weight % |
|---------------------------------|-----------|----------|
| Benzene, (3-chloro-1-propenyl)- | 2687-12-9 | <=100    |

**SECTION 4. FIRST AID MEASURES****General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation**

If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.

**Ingestion**

Do NOT induce vomiting. Call a physician or poison control center immediately.

**Most important symptoms and effects**

Causes burns by all exposure routes. Difficulty in breathing. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**

Treat symptomatically. Symptoms may be delayed.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam. Water mist may be used to cool closed containers. CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Combustible material. Containers may explode when heated.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

### Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

### Methods for Containment and Clean Up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7. HANDLING AND STORAGE

### Handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

### Storage

Keep in a dry place. Keep container tightly closed. Keep away from heat, sparks and flame. Keep refrigerated. Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

### Specific Use(s)

Use in laboratories

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

### Exposure Controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time                 | Glove thickness | EU standard | Glove comments        |
|----------------|-----------------------------------|-----------------|-------------|-----------------------|
| Viton (R)      | See manufacturers recommendations | -               | EN 374      | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

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| <b>Skin and body protection</b>        | Wear appropriate protective gloves and clothing to prevent skin exposure  |
| <b>Respiratory Protection</b>          | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.<br>To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly   |
| <b>Large scale/emergency use</b>       | Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced<br><b>Recommended Filter type:</b> Organic gases and vapours filter Type A Brown conforming to EN14387  |
| <b>Small scale/Laboratory use</b>      | Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.<br><b>Recommended half mask:-</b> Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141<br>When RPE is used a face piece Fit Test should be conducted |
| <b>Hygiene Measures</b>                | Handle in accordance with good industrial hygiene and safety practice.  |
| <b>Environmental exposure controls</b> | No information available.   |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |                               |  |
|--|-------------------------------|--|
| <b>Appearance</b>                              | Dark yellow                   |  |
| <b>Physical State</b>                          | Liquid                        |  |
| <b>Odor</b>                                    | Odorless                      |  |
| <b>Odor Threshold</b>                          | No data available             |  |
| <b>pH</b>                                      | 4.0                           |  |
| <b>Melting Point/Range</b>                     | 7 °C / 44.6 °F                |  |
| <b>Softening Point</b>                         | No data available             |  |
| <b>Boiling Point/Range</b>                     | 120 - 126 °C / 248 - 258.8 °F | @ 15 mmHg                                |
| <b>Flash Point</b>                             | 79 °C / 174.2 °F              | <b>Method -</b> No information available |
| <b>Evaporation Rate</b>                        | No data available             |  |
| <b>Flammability (solid,gas)</b>                | Not applicable                | Liquid                                   |
| <b>Explosion Limits</b>                        | No data available             |  |
| <b>Vapor Pressure</b>                          | No data available             |  |
| <b>Vapor Density</b>                           | No data available             | (Air = 1.0)                              |
| <b>Specific Gravity / Density</b>              | 1.096                         |  |
| <b>Bulk Density</b>                            | Not applicable                | Liquid                                   |
| <b>Water Solubility</b>                        | 0.2 g/L (20°C)                | practically insoluble                    |
| <b>Solubility in other solvents</b>            | No information available      |  |
| <b>Partition Coefficient (n-octanol/water)</b> |                               |  |
| <b>Component</b>                               | <b>log Pow</b>                |  |
| Benzene, (3-chloro-1-propenyl)-                | 3.3                           |  |
| <b>Autoignition Temperature</b>                | No data available             |  |
| <b>Decomposition Temperature</b>               | No data available             |  |
| <b>Viscosity</b>                               | No data available             |  |
| <b>Explosive Properties</b>                    |                               | explosive air/vapour mixtures possible   |
| <b>Oxidizing Properties</b>                    | No information available      |  |
| <b>Molecular Formula</b>                       | C9 H9 Cl                      |  |
| <b>Molecular Weight</b>                        | 152.62                        |  |

## SECTION 10. STABILITY AND REACTIVITY

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|   |  |
|---|--|
| <b>Stability</b>  | Stable under normal conditions.  |
| <b>Hazardous Reactions</b>  | None under normal processing.  |
| <b>Hazardous Polymerization</b>   | Hazardous polymerization may occur.  |
| <b>Conditions to Avoid</b>  | Incompatible products. Keep away from open flames, hot surfaces and sources of ignition. |
| <b>Materials to avoid</b>   | Bases. Strong oxidizing agents. Amines. Finely powdered metals. Metals.                  |
| <b>Hazardous Decomposition Products</b> Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrogen chloride gas. |  |

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Product Information

##### (a) acute toxicity;

| Component                       | LD50 Oral  | LD50 Dermal               | LC50 Inhalation                         |
|---------------------------------|------------|---------------------------|---|
| Benzene, (3-chloro-1-propenyl)- | >640 mg/kg | LD50 > 2000 mg/kg ( Rat ) | LC50 = 29 mg/m <sup>3</sup> ( Rat ) 4 h |

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

##### (d) respiratory or skin sensitization;

Respiratory No data available  
 Skin Category 1  
 No information available

(e) germ cell mutagenicity; No data available  
 Not mutagenic in AMES Test

(f) carcinogenicity; No data available  
 There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; No data available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of overexposure may be headache, dizziness, tiredness,

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nausea and vomiting

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Do not empty into drains.

**Persistence and Degradability**  
**Persistence** Persistence is unlikely.

**Bioaccumulative Potential** Bioaccumulation is unlikely

| Component                       | log Pow | Bioconcentration factor (BCF) |
|---------------------------------|---------|-------------------------------|
| Benzene, (3-chloro-1-propenyl)- | 3.3     | No data available             |

**Mobility in soil** Spillage unlikely to penetrate soil The product is insoluble and sinks in water The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Is not likely mobile in the environment due its low water solubility Will likely be mobile in the environment due to its volatility

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors  
**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

### SECTION 13. DISPOSAL CONSIDERATIONS

**Waste from Residues/Unused Products** Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms.

### SECTION 14. TRANSPORT INFORMATION

#### Road and Rail Transport

|                                |                                 |
|--------------------------------|---------------------------------|
| <b>UN-No</b>                   | UN2922                          |
| <b>Proper Shipping Name</b>    | Corrosive liquid, toxic, n.o.s. |
| <b>Technical Shipping Name</b> | Cinnamyl chloride               |
| <b>Hazard Class</b>            | 8                               |
| <b>Subsidiary Hazard Class</b> | 6.1                             |
| <b>Packing Group</b>           | II                              |

#### IMDG/IMO

|                                |                                 |
|--------------------------------|---------------------------------|
| <b>UN-No</b>                   | UN2922                          |
| <b>Proper Shipping Name</b>    | Corrosive liquid, toxic, n.o.s. |
| <b>Technical Shipping Name</b> | Cinnamyl chloride               |
| <b>Hazard Class</b>            | 8                               |
| <b>Subsidiary Hazard Class</b> | 6.1                             |
| <b>Packing Group</b>           | II                              |

#### IATA

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**UN-No** UN2922  
**Proper Shipping Name** Corrosive liquid, toxic, n.o.s.  
**Technical Shipping Name** Cinnamyl chloride  
**Hazard Class** 8  
**Subsidiary Hazard Class** 6.1  
**Packing Group** II

**Special Precautions for User** No special precautions required

### SECTION 15. REGULATORY INFORMATION

#### International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component                       | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS    | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|---------------------------------|---|---|------|-------|-----------|------|-----|-------|------|------|------|------|
| Benzene, (3-chloro-1-propenyl)- | -   | -                                       | X    | -     | 220-246-4 | X    | -   | X     | X    | X    | X    | -    |

#### National Regulations

### SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 19-Apr-2012  
**Revision Date** 22-Apr-2024  
**Revision Summary** New emergency telephone response service provider.

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

#### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water



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**PBT** - Persistent, Bioaccumulative, Toxic

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**