

ALFAAL06932

## Carbonyl cyanide 3-chlorophenylhydrazone

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

产品说明:  
Product Description: 羰基氰酯-3-氯苯基肼  
Carbonyl cyanide 3-chlorophenylhydrazone

Cat No. : L06932  
Synonyms Mesoxalonitrile (3-chlorophenyl)hydrazone  
CAS No 555-60-2  
Molecular Formula C9 H5 Cl N4

Supplier Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
Shore Road, Heysham  
Lancashire, LA3 2XY,  
United Kingdom  
Office Tel: +44 (0) 1524 850506  
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Emergency Telephone Number For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.  
Uses advised against No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Powder Solid

**Appearance**  
Yellow Orange Brown

**Odor**  
Odorless

#### Emergency Overview

Toxic if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. May cause respiratory irritation.

#### Classification of the substance or mixture

|  |            |
|--|------------|
| Acute Oral Toxicity                                | Category 3 |
| Acute Dermal Toxicity                              | Category 3 |
| Acute Inhalation Toxicity - Dusts and Mists        | Category 3 |
| Skin Corrosion/Irritation                          | Category 2 |
| Serious Eye Damage/Eye Irritation                  | Category 2 |
| Specific target organ toxicity - (single exposure) | Category 3 |

#### Label Elements

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## Carbonyl cyanide 3-chlorophenylhydrazono

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

H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
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  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
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  
P311 - Call a POISON CENTER or doctor  
P330 - Rinse mouth  
P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse

**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**

None identified.

**Health Hazards**

Toxic if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. May cause respiratory irritation.

**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. Spillage unlikely to penetrate soil.

**Other Hazards**

This product does not contain any known or suspected endocrine disruptors.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component                                      | CAS No   | Weight % |
|--|----------|----------|
| Propanedinitrile, [(3-chlorophenyl)hydrazono]- | 555-60-2 | >95      |

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

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

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**Eye Contact**

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

**Skin Contact**

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

**Inhalation**

Remove to fresh air. Immediate medical attention is required. 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. If not breathing, give artificial respiration.

**Ingestion**

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

**Most important symptoms and effects**

No information available.

**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.

### SECTION 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, 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.

**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. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Avoid dust formation.

**Environmental Precautions**

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

**Methods for Containment and Clean Up**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Refer to protective measures listed in Sections 8 and 13.

### SECTION 7. HANDLING AND STORAGE

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**Handling**

Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not breathe (dust, vapor, mist, gas). Avoid dust formation. Do not ingest. If swallowed then seek immediate medical assistance.

**Storage**

Keep container tightly closed in a dry and well-ventilated place. To maintain product quality: Keep refrigerated.

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Control Parameters**

| Component   | China | Taiwan                   | Thailand | Hong Kong                    |
|---|-------|--------------------------|----------|------------------------------|
| Propanedinitrile,<br>[[3-chlorophenyl]hydrazono]- | -     | TWA: 5 mg/m <sup>3</sup> |          | Ceiling: 5 mg/m <sup>3</sup> |

| Component   | ACGIH TLV | OSHA PEL                           | NIOSH                      | The United Kingdom  | European Union |
|---|-----------|------------------------------------|----------------------------|---|----------------|
| Propanedinitrile,<br>[[3-chlorophenyl]hydrazono]- |           | (Vacated) TWA: 5 mg/m <sup>3</sup> | IDLH: 25 mg/m <sup>3</sup> | STEL: 15 mg/m <sup>3</sup> 15 min<br>TWA: 5 mg/m <sup>3</sup> 8 hr Skin |                |

Legend

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

**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. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

**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**

Wear safety glasses with side shields (or goggles) Goggles (European standard - EN 166)

**Hand Protection**

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Nitrile rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Neoprene       | recommendations   |                 |             |                       |
| Natural rubber |                   |                 |             |                       |
| PVC            |                   |                 |             |                       |

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.

**Skin and body protection**

Long sleeved clothing

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|  |  |
|--|--|
| <b>Respiratory Protection</b>          | Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.<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> Particulates filter conforming to EN 143  |
| <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> Particle filtering: EN149:2001<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>                              | Yellow Orange Brown             |  |
| <b>Physical State</b>                          | Powder Solid                    |  |
| <b>Odor</b>                                    | Odorless                        |  |
| <b>Odor Threshold</b>                          | No data available               |  |
| <b>pH</b>                                      | No information available        |  |
| <b>Melting Point/Range</b>                     | 172 - 177 °C / 341.6 - 350.6 °F |  |
| <b>Softening Point</b>                         | No data available               |  |
| <b>Boiling Point/Range</b>                     | No information available        |  |
| <b>Flash Point</b>                             | No information available        | <b>Method -</b> No information available |
| <b>Evaporation Rate</b>                        | Not applicable                  | Solid                                    |
| <b>Flammability (solid,gas)</b>                | No information available        |  |
| <b>Explosion Limits</b>                        | No data available               |  |
| <b>Vapor Pressure</b>                          | No data available               |  |
| <b>Vapor Density</b>                           | Not applicable                  | Solid                                    |
| <b>Specific Gravity / Density</b>              | No data available               |  |
| <b>Bulk Density</b>                            | No data available               |  |
| <b>Water Solubility</b>                        | Insoluble                       |  |
| <b>Solubility in other solvents</b>            | No information available        |  |
| <b>Partition Coefficient (n-octanol/water)</b> |                                 |  |
| <b>Autoignition Temperature</b>                | No data available               |  |
| <b>Decomposition Temperature</b>               | No data available               |  |
| <b>Viscosity</b>                               | Not applicable                  | Solid                                    |
| <b>Explosive Properties</b>                    | No information available        |  |
| <b>Oxidizing Properties</b>                    | No information available        |  |
| <b>Molecular Formula</b>                       | C9 H5 Cl N4                     |  |
| <b>Molecular Weight</b>                        | 204.62                          |  |

### SECTION 10. STABILITY AND REACTIVITY

|                                 |  |
|---------------------------------|--|
| <b>Stability</b>                | Stable under recommended storage conditions. |
| <b>Hazardous Reactions</b>      | None under normal processing.                |
| <b>Hazardous Polymerization</b> | Hazardous polymerization does not occur.     |
| <b>Conditions to Avoid</b>      | Incompatible products. Excess heat.          |

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**Materials to avoid** Strong oxidizing agents. Strong acids. Strong bases. Strong reducing agents.

**Hazardous Decomposition Products** Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen cyanide (hydrocyanic acid). Hydrogen chloride gas.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Product Information

(a) acute toxicity;

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory No data available  
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable  
Solid

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

**Symptoms / effects, both acute and delayed** No information available

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** .

| Component   | Freshwater Fish | Water Flea                               | Freshwater Algae | Microtox |
|---|-----------------|--|------------------|----------|
| Propanedinitrile,<br>[(3-chlorophenyl)hydrazono]- |                 | LC50: 159.11 mg/L/48h<br>(Daphnia Pulex) |                  |          |

**Persistence and Degradability**

Persistence Insoluble in water.

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|  |  |
|--|--|
| <b>Bioaccumulative Potential</b>       | May have some potential to bioaccumulate   |
| <b>Mobility in soil</b>                | Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility |
| <b>Endocrine Disruptor Information</b> | This product does not contain any known or suspected endocrine disruptors                                |
| <b>Persistent Organic Pollutant</b>    | This product does not contain any known or suspected substance   |
| <b>Ozone Depletion Potential</b>       | This product does not contain any known or suspected substance   |

### SECTION 13. DISPOSAL CONSIDERATIONS

|  |  |
|--|--|
| <b>Waste from Residues/Unused Products</b> | 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. |
| <b>Contaminated Packaging</b>              | Dispose of this container to hazardous or special waste collection point.  |
| <b>Other Information</b>                   | Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.  |

### SECTION 14. TRANSPORT INFORMATION

#### Road and Rail Transport

|                                |  |
|--------------------------------|--|
| <b>UN-No</b>                   | UN2811                                   |
| <b>Proper Shipping Name</b>    | Toxic solid, organic, n.o.s.             |
| <b>Technical Shipping Name</b> | Carbonyl cyanide 3-chlorophenylhydrazone |
| <b>Hazard Class</b>            | 6.1                                      |
| <b>Packing Group</b>           | III                                      |

#### IMDG/IMO

|                                |  |
|--------------------------------|--|
| <b>UN-No</b>                   | UN2811                                   |
| <b>Proper Shipping Name</b>    | Toxic solid, organic, n.o.s.             |
| <b>Technical Shipping Name</b> | Carbonyl cyanide 3-chlorophenylhydrazone |
| <b>Hazard Class</b>            | 6.1                                      |
| <b>Packing Group</b>           | III                                      |

#### IATA

|                                |  |
|--------------------------------|--|
| <b>UN-No</b>                   | UN2811                                   |
| <b>Proper Shipping Name</b>    | Toxic solid, organic, n.o.s.             |
| <b>Technical Shipping Name</b> | Carbonyl cyanide 3-chlorophenylhydrazone |
| <b>Hazard Class</b>            | 6.1                                      |
| <b>Packing Group</b>           | III                                      |

|                                     |                                 |
|-------------------------------------|---------------------------------|
| <b>Special Precautions for User</b> | 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 | List of dangerous | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|-----------|------------------|-------------------|------|-------|--------|------|-----|-------|------|------|------|------|
|-----------|------------------|-------------------|------|-------|--------|------|-----|-------|------|------|------|------|

# SAFETY DATA SHEET

## Carbonyl cyanide 3-chlorophenylhydrazone

|  |   |                              |   |   |           |   |   |   |   |   |   |   |
|--|---|------------------------------|---|---|-----------|---|---|---|---|---|---|---|
|  | <b>Hazardous Chemicals (2015 Edition)</b> | <b>goods GB 12268 - 2012</b> |   |   |           |   |   |   |   |   |   |   |
| Propanedinitrile, [(3-chlorophenyl)hydrazone]- | -   | -                            | X | - | 209-103-7 | X | - | - | - | - | - | - |

### National Regulations

## SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 16-Oct-2015  
**Revision Date** 07-Mar-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.

### 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/NDL** - 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

**PBT** - Persistent, Bioaccumulative, Toxic

**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

**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,



# **SAFETY DATA SHEET**

**Carbonyl cyanide 3-chlorophenylhydrazone**

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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**