

Creation Date 14-Feb-2018

Revision Date 04-Feb-2024

Revision Number 4

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

### 1.1. Product identifier

Product Description: **3-Chloro-2-nitrobenzoic acid**  
Cat No. : **H26467**  
CAS No 4771-47-5  
Molecular Formula C7 H4 Cl N O4  
REACH registration number -

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.  
Uses advised against No Information available

### 1.3. Details of the supplier of the safety data sheet

Company Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
Shore Road, Heysham  
Lancashire, LA3 2XY,  
United Kingdom  
Office Tel: +44 (0) 1524 850506  
Office Fax: +44 (0) 1524 850608

E-mail address begel.sdsdesk@thermofisher.com

### 1.4. 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

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567**

#### Physical hazards

Based on available data, the classification criteria are not met

#### Health hazards

Skin Corrosion/Irritation

Category 2 (H315)

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Serious Eye Damage/Eye Irritation  
Specific target organ toxicity - (single exposure)

Category 2 (H319)  
Category 3 (H335)

## Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements



Signal Word

Warning

## Hazard Statements

H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

## Precautionary Statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

## 2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Component                    | CAS No    | EC No             | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|------------------------------|-----------|-------------------|----------|-----------------------------------------------------------------------------------------|
| 3-Chloro-2-nitrobenzoic acid | 4771-47-5 | EEC No. 225-313-1 | <=100    | STOT SE 3 (H335)<br>Skin Irrit. 2 (H315)<br>Eye Irrit. 2 (H319)                         |

REACH registration number

-

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

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|                                           |                                                                                                                                                  |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.                                                         |
| <b>Skin Contact</b>                       | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.                                            |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. If possible drink milk afterwards.         |
| <b>Inhalation</b>                         | Remove from exposure, lie down. Remove to fresh air.                                                                                             |
| <b>Self-Protection of the First Aider</b> | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |

## **4.2. Most important symptoms and effects, both acute and delayed**

No information available.

## **4.3. Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **5.1. Extinguishing media**

#### **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.

### **5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors.

#### **Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>), Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen chloride gas.

### **5.3. Advice 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**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

### **6.2. Environmental precautions**

See Section 12 for additional Ecological Information.

### **6.3. Methods and material for containment and cleaning up**

Sweep up and shovel into suitable containers for disposal.

### **6.4. Reference to other sections**

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Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing vapors or mists. Do not ingest. If swallowed then seek immediate medical assistance. Wash thoroughly after handling.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed.

**Technical Rules for Hazardous Substances (TRGS) 510**      Class 11  
**Storage Class (LGK) (Germany)**

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### **Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

#### **Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### **Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)**

No information available

#### **Predicted No Effect Concentration (PNEC)**

No information available.

### 8.2. Exposure controls

#### **Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ventilation systems. 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

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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        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Butyl rubber   | recommendations   |                 |             |                       |
| Nitrile rubber |                   |                 |             |                       |
| Neoprene       |                   |                 |             |                       |
| PVC            |                   |                 |             |                       |

### Skin and body protection

Long sleeved clothing.

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 compatability, 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.

### Respiratory Protection

No protective equipment is needed under normal use conditions.

### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

### Small scale/Laboratory use

Maintain adequate ventilation

### Environmental exposure controls

No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|                                         |                               |                                   |
|-----------------------------------------|-------------------------------|-----------------------------------|
| Physical State                          | Powder Solid                  |                                   |
| Appearance                              | Light cream                   |                                   |
| Odor                                    | Odorless                      |                                   |
| Odor Threshold                          | No data available             |                                   |
| Melting Point/Range                     | 236 - 240 °C / 456.8 - 464 °F |                                   |
| Softening Point                         | No data available             |                                   |
| Boiling Point/Range                     | No information available      |                                   |
| Flammability (liquid)                   | Not applicable                | Solid                             |
| Flammability (solid,gas)                | No information available      |                                   |
| Explosion Limits                        | No data available             |                                   |
| Flash Point                             | No information available      | Method - No information available |
| Autoignition Temperature                | No data available             |                                   |
| Decomposition Temperature               | No data available             |                                   |
| pH                                      | No information available      |                                   |
| Viscosity                               | Not applicable                | Solid                             |
| Water Solubility                        | No information available      |                                   |
| Solubility in other solvents            | No information available      |                                   |
| Partition Coefficient (n-octanol/water) |                               |                                   |
| Vapor Pressure                          | No data available             |                                   |
| Density / Specific Gravity              | No data available             |                                   |
| Bulk Density                            | No data available             |                                   |
| Vapor Density                           | Not applicable                | Solid                             |
| Particle characteristics                | No data available             |                                   |

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## 9.2. Other information

|                   |                        |
|-------------------|------------------------|
| Molecular Formula | C7 H4 Cl N O4          |
| Molecular Weight  | 201.57                 |
| Evaporation Rate  | Not applicable - Solid |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

|                          |                           |
|--------------------------|---------------------------|
| Hazardous Polymerization | No information available. |
| Hazardous Reactions      | No information available. |

### 10.4. Conditions to avoid

Incompatible products.

### 10.5. Incompatible materials

Strong oxidizing agents. Strong bases. Oxidizing agent.

### 10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride gas.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

|                     |                                                             |
|---------------------|-------------------------------------------------------------|
| Product Information | No acute toxicity information is available for this product |
|---------------------|-------------------------------------------------------------|

#### (a) acute toxicity;

|            |                   |
|------------|-------------------|
| Oral       | No data available |
| Dermal     | No data available |
| Inhalation | No data available |

|                                |            |
|--------------------------------|------------|
| (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

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|                                            |                           |
|--------------------------------------------|---------------------------|
| (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<br>Solid   |
| Symptoms / effects, both acute and delayed | No information available. |

## 11.2. Information on other hazards

|                                 |                                                                                                                                     |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Endocrine Disrupting Properties | Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

|                     |                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Ecotoxicity effects | Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants. |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------|

|                                            |                          |
|--------------------------------------------|--------------------------|
| <u>12.2. Persistence and degradability</u> | No information available |
|--------------------------------------------|--------------------------|

|                                        |                          |
|----------------------------------------|--------------------------|
| <u>12.3. Bioaccumulative potential</u> | No information available |
|----------------------------------------|--------------------------|

|                               |                          |
|-------------------------------|--------------------------|
| <u>12.4. Mobility in soil</u> | No information available |
|-------------------------------|--------------------------|

|                                                 |                                   |
|-------------------------------------------------|-----------------------------------|
| <u>12.5. Results of PBT and vPvB assessment</u> | No data available for assessment. |
|-------------------------------------------------|-----------------------------------|

### 12.6. Endocrine disrupting properties

|                                 |                                                                           |
|---------------------------------|---------------------------------------------------------------------------|
| Endocrine Disruptor Information | This product does not contain any known or suspected endocrine disruptors |
|---------------------------------|---------------------------------------------------------------------------|

### 12.7. Other adverse effects Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

|                                     |                                                                                                                                                                        |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|                                       |                                                                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Contaminated Packaging</b>         | Dispose of this container to hazardous or special waste collection point.                                                     |
| <b>European Waste Catalogue (EWC)</b> | According to the European Waste Catalog, Waste Codes are not product specific, but application specific.                      |
| <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

**IMDG/IMO** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

**ADR** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

**IATA** Not regulated

**14.1. UN number**  
**14.2. UN proper shipping name**  
**14.3. Transport hazard class(es)**  
**14.4. Packing group**

**14.5. Environmental hazards** No hazards identified

**14.6. Special precautions for user** No special precautions required.

**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component                    | CAS No    | EINECS    | ELINCS | NLP | IECSC | TCSI | KECL | ENCS | ISHL |
|------------------------------|-----------|-----------|--------|-----|-------|------|------|------|------|
| 3-Chloro-2-nitrobenzoic acid | 4771-47-5 | 225-313-1 | -      | -   | X     | X    | -    | X    | X    |

| Component                    | CAS No    | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|------------------------------|-----------|------|-----------------------------------------------|-----|------|------|-------|-------|
| 3-Chloro-2-nitrobenzoic acid | 4771-47-5 | -    | -                                             | -   | -    | -    | -     | -     |

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

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Authorisation/Restrictions according to EU REACH

Not applicable

| Component                    | CAS No    | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|------------------------------|-----------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 3-Chloro-2-nitrobenzoic acid | 4771-47-5 | -                                                                   | -                                                                             | -                                                                                                     |

Seveso III Directive (2012/18/EC)

| Component                    | CAS No    | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|------------------------------|-----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 3-Chloro-2-nitrobenzoic acid | 4771-47-5 | Not applicable                                                                            | Not applicable                                                                           |

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

## National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

Water endangering class = 3 (self classification)

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

### 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

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**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  
Predicted No Effect Concentration (PNEC)  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%  
**POW** - Partition coefficient Octanol:Water  
**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**OECD** - Organisation for Economic Co-operation and Development  
**BCF** - Bioconcentration factor

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

## 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.

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| <b>Prepared By</b>      | Health, Safety and Environmental Department        |
| <b>Creation Date</b>    | 14-Feb-2018                                        |
| <b>Revision Date</b>    | 04-Feb-2024                                        |
| <b>Revision Summary</b> | New emergency telephone response service provider. |

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

## 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**