

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

### 1.1. Product identifier

|                           |                                |
|---------------------------|--------------------------------|
| Product Description:      | <b><u>1,9-Nonanediol</u></b>   |
| Cat No. :                 | <b>L06336</b>                  |
| Synonyms                  | Nona-1,9-diol; Nonane-1,9-diol |
| CAS No                    | 3937-56-2                      |
| Molecular Formula         | C9 H20 O2                      |
| 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.<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 |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                |                                |
|----------------|--------------------------------|
| 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

Based on available data, the classification criteria are not met

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## Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements

None required

## 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

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 |
|----------------|-----------|-------------------|----------|-----------------------------------------------------------------------------------------|
| 1,9-Nonanediol | 3937-56-2 | EEC No. 223-517-5 | <=100    | -                                                                                       |

REACH registration number

-

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

|                                           |                                                                                                                              |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.              |
| <b>Skin Contact</b>                       | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention. |
| <b>Ingestion</b>                          | Clean mouth with water. Get medical attention.                                                                               |
| <b>Inhalation</b>                         | Remove from exposure, lie down. Remove to fresh air. Get medical attention.                                                  |
| <b>Self-Protection of the First Aider</b> | No special precautions required.                                                                                             |

### 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

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## 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. Chemical 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**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

### 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.

## 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. Do not let this chemical enter the environment.

### 6.4. Reference to other sections

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. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

#### **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**  
**Storage Class (LGK) (Germany)**

Class 11

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## 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)

See table for values

| Component                            | Acute effects local (Dermal) | Acute effects systemic (Dermal) | Chronic effects local (Dermal) | Chronic effects systemic (Dermal) |
|--------------------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| 1,9-Nonanediol<br>3937-56-2 ( ≤100 ) |                              |                                 | DNEL = 2.67mg/cm <sup>2</sup>  | DNEL = 0.67mg/kg<br>bw/day        |

| Component                            | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|--------------------------------------|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| 1,9-Nonanediol<br>3937-56-2 ( ≤100 ) |                                  |                                     | DNEL = 18.81mg/m <sup>3</sup>      | DNEL = 4.7mg/m <sup>3</sup>           |

#### Predicted No Effect Concentration (PNEC)

See values below.

| Component                            | Fresh water    | Fresh water sediment | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture) |
|--------------------------------------|----------------|----------------------|--------------------|------------------------------------|--------------------|
| 1,9-Nonanediol<br>3937-56-2 ( ≤100 ) | PNEC = 2.3µg/L |                      | PNEC = 1000µg/L    | PNEC = 2000µg/L                    |                    |

| Component                            | Marine water    | Marine water sediment | Marine water intermittent | Food chain | Air |
|--------------------------------------|-----------------|-----------------------|---------------------------|------------|-----|
| 1,9-Nonanediol<br>3937-56-2 ( ≤100 ) | PNEC = 0.23µg/L |                       |                           |            |     |

### 8.2. Exposure controls

#### Engineering Measures

None under normal use conditions.

#### Personal protective equipment

##### Eye Protection

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

##### Hand Protection

Protective gloves

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

## Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

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

**Recommended Filter type:** Particle filter

## 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                          | Solid                         |                                   |
| Appearance                              | White                         |                                   |
| Odor                                    | Odorless                      |                                   |
| Odor Threshold                          | No data available             |                                   |
| Melting Point/Range                     | 44 - 48 °C / 111.2 - 118.4 °F |                                   |
| Softening Point                         | No data available             |                                   |
| Boiling Point/Range                     | 177 °C / 350.6 °F             | @ 15 mmHg                         |
| Flammability (liquid)                   | Not applicable                | Solid                             |
| Flammability (solid,gas)                | No information available      |                                   |
| Explosion Limits                        | No data available             |                                   |
| Flash Point                             | > 162 °C / > 323.6 °F         | Method - No information available |
| Autoignition Temperature                | 280 °C / 536 °F               |                                   |
| Decomposition Temperature               | No data available             |                                   |
| pH                                      | 7                             | 9 g/L                             |
| Viscosity                               | Not applicable                | Solid                             |
| Water Solubility                        | 9 g/L (20°C)                  |                                   |
| Solubility in other solvents            | No information available      |                                   |
| Partition Coefficient (n-octanol/water) |                               |                                   |
| Component                               | log Pow                       |                                   |
| 1,9-Nonanediol                          | 1.69                          |                                   |
| Vapor Pressure                          | <0.01 hPa @ 20 °C             |                                   |
| Density / Specific Gravity              | 0.918                         |                                   |
| Bulk Density                            | No data available             |                                   |
| Vapor Density                           | Not applicable                | Solid                             |
| Particle characteristics                | No data available             |                                   |

### 9.2. Other information

|                   |           |
|-------------------|-----------|
| Molecular Formula | C9 H20 O2 |
| Molecular Weight  | 160.26    |

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Evaporation Rate Not applicable - Solid

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity** None known, based on information available

**10.2. Chemical stability** Stable.

**10.3. Possibility of hazardous reactions**

**Hazardous Polymerization** Hazardous polymerization does not occur.  
**Hazardous Reactions** No information available.

**10.4. Conditions to avoid** To avoid thermal decomposition, do not overheat. Incompatible products.

**10.5. Incompatible materials** Acids. Strong oxidizing agents. Acid anhydrides. Acid chlorides. Chloroformates. Reducing Agent.

**10.6. Hazardous decomposition products** Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## 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;** No data available

**(c) serious eye damage/irritation;** No data available

**(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;** No data available

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(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.

## 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 Do not empty into drains.

12.2. Persistence and degradability  
Persistence Soluble in water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

| Component      | log Pow | Bioconcentration factor (BCF) |
|----------------|---------|-------------------------------|
| 1,9-Nonanediol | 1.69    | No data available             |

12.4. Mobility in soil The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

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 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

### 13.1. Waste treatment methods

Waste from Residues/Unused Products Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

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|                                       |                                                                                                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Contaminated Packaging</b>         | Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers. |
| <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.        |

## 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 |
|----------------|-----------|-----------|--------|-----|-------|------|----------|------|------|
| 1,9-Nonanediol | 3937-56-2 | 223-517-5 | -      | -   | X     | X    | KE-26155 | X    | X    |

| Component      | CAS No    | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|----------------|-----------|------|-----------------------------------------------|-----|------|------|-------|-------|
| 1,9-Nonanediol | 3937-56-2 | X    | ACTIVE                                        | -   | X    | -    | X     | X     |

**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) |
|----------------|-----------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 1,9-Nonanediol | 3937-56-2 | -                                                                   | -                                                                             | -                                                                                                     |

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 |
|----------------|-----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 1,9-Nonanediol | 3937-56-2 | 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

See table for values

| Component      | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|----------------|---------------------------------------|-------------------------|
| 1,9-Nonanediol | WGK2                                  |                         |

## 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

### 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.

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| <b>Prepared By</b>      | Health, Safety and Environmental Department        |
| <b>Revision Date</b>    | 27-Jan-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**