

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

### 1.1. Product identifier

|                           |                                                          |
|---------------------------|----------------------------------------------------------|
| Product Description:      | <u>Isopropylidene malonate</u>                           |
| Cat No. :                 | <b>A15603</b>                                            |
| Synonyms                  | Meldrum`s acid; Malonic acid cyclic isopropylidene ester |
| CAS No                    | 2033-24-1                                                |
| EC No                     | 217-992-8                                                |
| Molecular Formula         | C6 H8 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.<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

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Skin Corrosion/Irritation

Category 2 (H315)

## **Environmental hazards**

Acute aquatic toxicity  
Chronic aquatic toxicity

Category 1 (H400)  
Category 2 (H411)

Full text of Hazard Statements: see section 16

## **2.2. Label elements**



Signal Word

Warning

## **Hazard Statements**

H315 - Causes skin irritation  
H400 - Very toxic to aquatic life  
H411 - Toxic to aquatic life with long lasting effects

## **Precautionary Statements**

P280 - Wear protective gloves/protective clothing  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P332 + P313 - If skin irritation occurs: Get medical advice/attention

## **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 |
|--------------------------------------|-----------|-------------------|----------|-----------------------------------------------------------------------------------------|
| 1,3-Dioxane-4,6-dione, 2,2-dimethyl- | 2033-24-1 | EEC No. 217-992-8 | <= 100   | Skin Irrit. 2 (H315)<br>Aquatic Acute 1 (H400)<br>Aquatic Chronic 2 (H411)              |

| Component                            | Specific concentration limits (SCL's) | M-Factor | Component notes |
|--------------------------------------|---------------------------------------|----------|-----------------|
| 1,3-Dioxane-4,6-dione, 2,2-dimethyl- | -                                     | 1        | -               |

|                           |   |
|---------------------------|---|
| REACH registration number | - |
|---------------------------|---|

Full text of Hazard Statements: see section 16

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## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

|                                           |                                                                                                                   |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b>                     | If symptoms persist, call a physician.                                                                            |
| <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 plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| <b>Ingestion</b>                          | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.             |
| <b>Inhalation</b>                         | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.      |
| <b>Self-Protection of the First Aider</b> | No special precautions required.                                                                                  |

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

None reasonably foreseeable.

### 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. 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

Do not allow run-off from fire-fighting to enter drains or water courses.

#### **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. Use personal protective equipment as required. Avoid dust formation.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent

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product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

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

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

## 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

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

#### 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 place. Keep container tightly closed. To maintain product quality: Store under an inert atmosphere. Keep refrigerated.

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)

See table for values

| Component                                                | Acute effects local (Dermal) | Acute effects systemic (Dermal) | Chronic effects local (Dermal) | Chronic effects systemic (Dermal) |
|----------------------------------------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| 1,3-Dioxane-4,6-dione, 2,2-dimethyl- 2033-24-1 ( ≤ 100 ) |                              |                                 |                                | DNEL = 1.06mg/kg bw/day           |

| Component | Acute effects local | Acute effects | Chronic effects local | Chronic effects |
|-----------|---------------------|---------------|-----------------------|-----------------|
|-----------|---------------------|---------------|-----------------------|-----------------|

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|                                                                | (Inhalation) | systemic (Inhalation) | (Inhalation) | systemic (Inhalation)        |
|----------------------------------------------------------------|--------------|-----------------------|--------------|------------------------------|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl-<br>2033-24-1 ( ≤ 100 ) |              |                       |              | DNEL = 0.93mg/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)          |
|----------------------------------------------------------------|-----------------|---------------------------------|--------------------|------------------------------------|-----------------------------|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl-<br>2033-24-1 ( ≤ 100 ) | PNEC = 0.19µg/L | PNEC = 0.37µg/kg<br>sediment dw | PNEC = 1.9µg/L     | PNEC = 335mg/L                     | PNEC = 2.37mg/kg<br>soil dw |

| Component                                                      | Marine water     | Marine water sediment            | Marine water intermittent | Food chain | Air |
|----------------------------------------------------------------|------------------|----------------------------------|---------------------------|------------|-----|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl-<br>2033-24-1 ( ≤ 100 ) | PNEC = 0.019µg/L | PNEC = 0.037µg/kg<br>sediment dw |                           |            |     |

## 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

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Nitrile rubber | recommendations   |                 |             |                       |
| 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  
**Recommended Filter type:** Particle filter

#### Small scale/Laboratory use

Maintain adequate ventilation

#### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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## 9.1. Information on basic physical and chemical properties

|                                         |                               |                                   |
|-----------------------------------------|-------------------------------|-----------------------------------|
| Physical State                          | Solid                         |                                   |
| Appearance                              | Beige                         |                                   |
| Odor                                    | Odorless                      |                                   |
| Odor Threshold                          | No data available             |                                   |
| Melting Point/Range                     | 92 - 96 °C / 197.6 - 204.8 °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                             | > 365 °C                      | Method - No information available |
| Autoignition Temperature                | No data available             |                                   |
| Decomposition Temperature               | > 94 °C                       |                                   |
| pH                                      | 2.5                           | saturated solution                |
| Viscosity                               | Not applicable                | Solid                             |
| Water Solubility                        | 2.5 g/100 ml (20°C)           |                                   |
| 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             |                                   |

## 9.2. Other information

|                   |                        |
|-------------------|------------------------|
| Molecular Formula | C6 H8 O4               |
| Molecular Weight  | 144.13                 |
| Evaporation Rate  | Not applicable - Solid |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Moisture sensitive.

### 10.3. Possibility of hazardous reactions

|                          |                               |
|--------------------------|-------------------------------|
| Hazardous Polymerization | No information available.     |
| Hazardous Reactions      | None under normal processing. |

### 10.4. Conditions to avoid

Incompatible products. Exposure to moist air or water. Excess heat.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 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

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## Product Information

### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

No data available

Inhalation

No data available

| Component                            | LD50 Oral         | LD50 Dermal | LC50 Inhalation |
|--------------------------------------|-------------------|-------------|-----------------|
| 1,3-Dioxane-4,6-dione, 2,2-dimethyl- | >5000 mg/kg (Rat) | -           | -               |

### (b) skin corrosion/irritation;

Category 2

### (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

### (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

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

| Component                            | Microtox | M-Factor |
|--------------------------------------|----------|----------|
| 1,3-Dioxane-4,6-dione, 2,2-dimethyl- |          | 1        |

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## 12.2. Persistence and degradability

### **Persistence**

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

### **Degradation in sewage treatment plant**

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

## 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

## 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 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**

Should not be released into the environment. 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.

#### **European Waste Catalogue (EWC)**

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

#### **Other Information**

Do not flush to sewer. 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 let this chemical enter the environment.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

#### 14.1. UN number

UN3077

#### 14.2. UN proper shipping name

Environmentally hazardous substances, solid, n.o.s.

#### **Technical Shipping Name**

2,2-Dimethyl-1,3-dioxane-4,6-dione

#### 14.3. Transport hazard class(es)

9

#### 14.4. Packing group

III

### ADR

#### 14.1. UN number

UN3077

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|                                                                 |                                                                                           |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>14.2. UN proper shipping name</b><br>Technical Shipping Name | Environmentally hazardous substances, solid, n.o.s.<br>2,2-Dimethyl-1,3-dioxane-4,6-dione |
| <b>14.3. Transport hazard class(es)</b>                         | 9                                                                                         |
| <b>14.4. Packing group</b>                                      | III                                                                                       |

## IATA

|                                                                 |                                                                                           |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>14.1. UN number</b>                                          | UN3077                                                                                    |
| <b>14.2. UN proper shipping name</b><br>Technical Shipping Name | Environmentally hazardous substances, solid, n.o.s.<br>2,2-Dimethyl-1,3-dioxane-4,6-dione |
| <b>14.3. Transport hazard class(es)</b>                         | 9                                                                                         |
| <b>14.4. Packing group</b>                                      | III                                                                                       |

|                                    |                                                                                                          |
|------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>14.5. Environmental hazards</b> | Dangerous for the environment<br>Product is a marine pollutant according to the criteria set by IMDG/IMO |
|------------------------------------|----------------------------------------------------------------------------------------------------------|

|                                           |                                  |
|-------------------------------------------|----------------------------------|
| <b>14.6. Special precautions for user</b> | No special precautions required. |
|-------------------------------------------|----------------------------------|

|                                                                      |                                |
|----------------------------------------------------------------------|--------------------------------|
| <b>14.7. Maritime transport in bulk according to IMO instruments</b> | 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 |
|-----------------------------------------|-----------|-----------|--------|-----|-------|------|----------|------|------|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl- | 2033-24-1 | 217-992-8 | -      | -   | X     | X    | KE-11336 | X    | X    |

| Component                               | CAS No    | TSCA | TSCA Inventory<br>notification -<br>Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|-----------------------------------------|-----------|------|-----------------------------------------------------|-----|------|------|-------|-------|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl- | 2033-24-1 | X    | ACTIVE                                              | -   | X    | X    | X     | X     |

Legend: X - Listed '-' - Not Listed

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

Authorisation/Restrictions according to EU REACH Not applicable

| Component                               | CAS No    | REACH (1907/2006) -<br>Annex XIV - Substances<br>Subject to Authorization | REACH (1907/2006) -<br>Annex XVII - Restrictions<br>on Certain Dangerous<br>Substances | REACH Regulation (EC<br>1907/2006) article 59 -<br>Candidate List of<br>Substances of Very High<br>Concern (SVHC) |
|-----------------------------------------|-----------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl- | 2033-24-1 | -                                                                         | -                                                                                      | -                                                                                                                 |

#### Seveso III Directive (2012/18/EC)

| Component                               | CAS No    | Seveso III Directive (2012/18/EC) -<br>Qualifying Quantities for Major Accident<br>Notification | Seveso III Directive (2012/18/EC) -<br>Qualifying Quantities for Safety Report<br>Requirements |
|-----------------------------------------|-----------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl- | 2033-24-1 | 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

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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 |
|-----------------------------------------|---------------------------------------|-------------------------|
| 1,3-Dioxane-4,6-dione,<br>2,2-dimethyl- | 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

H315 - Causes skin irritation

H400 - Very toxic to aquatic life

H411 - Toxic to aquatic life with long lasting effects

### 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

**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

**Key literature references and sources for data**

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

**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)

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

## Training Advice

Chemical incident response training.

## Prepared By

Health, Safety and Environmental Department

## Revision Date

28-Jan-2024

## Revision Summary

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**