

This safety data sheet was created pursuant to the requirements of:  
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 22-Apr-2021

Revision date 29-Aug-2024

Revision Number 5

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

|                          |                                                                                                                        |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|
| Product Code(s)          | 00646                                                                                                                  |
| Safety data sheet number | 00646                                                                                                                  |
| Product Name             | n-BUTYL ACETATE                                                                                                        |
| Index No                 | 607-025-00-1                                                                                                           |
| EC Number                | 204-658-1                                                                                                              |
| CAS No                   | 123-86-4                                                                                                               |
| Synonyms                 | N BUTYL ACETATE, BUTYL ACETATE MIN 99%, N-BUTYL ACETATE 98%, BUTYL ACETATE, DT M005 DILUANT NOBLE, N-BUTYL ACETATE OQS |
| Pure substance/mixture   | Substance                                                                                                              |
| Contains n-BUTYL ACETATE |                                                                                                                        |
| Molecular weight         | 116.16                                                                                                                 |

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

|                 |                                                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended use | Solvent<br>Industrial use<br>Surface coating<br>Cleaning agent<br>Laboratory chemicals<br>For further information, see attached Exposure Scenario |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|

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

#### Supplier

Univar Solutions UK Ltd  
Aquarius House  
6 Mid Point Business Park  
Bradford  
GBR

For further information, please contact

|                                |                                   |
|--------------------------------|-----------------------------------|
| E-mail address                 | SDS.EMEA@univarsolutions.com      |
| Non-Emergency Telephone Number | +44 1274 267300 / +44 1274 267306 |

### 1.4. Emergency telephone number

Emergency Telephone

SGS - +32 (0)3 575 55 55 (24h)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

|                                                  |                     |
|--------------------------------------------------|---------------------|
| Flammable liquids                                | Category 3 - (H226) |
| Specific target organ toxicity — single exposure | Category 3 - (H336) |
| Category 3 Narcotic effects                      |                     |

**2.2. Label elements**

Contains n-BUTYL ACETATE

**Signal word**

Warning

**Hazard statements**

H336 - May cause drowsiness or dizziness

H226 - Flammable liquid and vapour

EUH066 - Repeated exposure may cause skin dryness or cracking

**Precautionary statements**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor if you feel unwell

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

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

**2.3. Other hazards**

Vapours can form explosive mixtures with air. Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

| Chemical name | Weight-% | EC No (EU Index No) | UK REACH registration number | Classification according to GB CLP (SI 2020/1567 as amended) | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) |
|---------------|----------|---------------------|------------------------------|--------------------------------------------------------------|------------------------------------|----------|----------------------|
|               |          |                     |                              |                                                              |                                    |          |                      |

|                             |      |   |   |                                                     |   |   |   |
|-----------------------------|------|---|---|-----------------------------------------------------|---|---|---|
| n-BUTYL ACETATE<br>123-86-4 | 100% | - | - | Flam. Liq. 3 (H226)<br>STOT SE 3 (H336)<br>(EUH066) | - | - | - |
|-----------------------------|------|---|---|-----------------------------------------------------|---|---|---|

**Full text of H- and EUH-phrases: see section 16**

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (UK REACH Article 59)

**SECTION 4: First aid measures****4.1. Description of first aid measures**

|                                           |                                                                                                                                                                                                                                                                     |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b>                     | Show this safety data sheet to the doctor in attendance.                                                                                                                                                                                                            |
| <b>Inhalation</b>                         | Remove to fresh air. IF exposed or concerned: Get medical advice/attention.                                                                                                                                                                                         |
| <b>Eye contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.                                                                                                                |
| <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. Rinse mouth. Never give anything by mouth to an unconscious person. Call a doctor.                                                                                                                                                          |
| <b>Self-protection of the first aider</b> | Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. |

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

|                   |                                                                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Symptoms</b>   | Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.                                                     |
| <b>Inhalation</b> | Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.                                                     |
| <b>Eyes</b>       | May cause temporary eye irritation.                                                                                                                                       |
| <b>Dermal</b>     | Repeated exposure may cause skin dryness or cracking.                                                                                                                     |
| <b>Ingestion</b>  | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea May result in aspiration into the lungs, causing chemical pneumonia. Risk of lung oedema. |

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

|                        |                        |
|------------------------|------------------------|
| <b>Note to doctors</b> | Treat symptomatically. |
|------------------------|------------------------|

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

|                                       |                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>   | Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. |
| <b>Large Fire</b>                     | CAUTION: Use of water spray when fighting fire may be inefficient.                    |
| <b>Unsuitable extinguishing media</b> | Do not scatter spilled material with high pressure water streams.                     |

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

**Specific hazards arising from the chemical** Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Hazardous combustion products** Carbon oxides.

**5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

**Other information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

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

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. Use spark-proof tools and explosion-proof equipment.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

**Advice on safe handling** Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this

material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. In case of insufficient ventilation, wear suitable respiratory equipment.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Ensure that eyewash stations and safety showers are close to the workstation location.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. See section 10 for more information.

**7.3. Specific end use(s)****Specific use(s)**

See section 1 for more information.

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters****Exposure Limits**

| Chemical name               | United Kingdom                                                                             |
|-----------------------------|--------------------------------------------------------------------------------------------|
| n-BUTYL ACETATE<br>123-86-4 | TWA: 150 ppm<br>TWA: 724 mg/m <sup>3</sup><br>STEL: 200 ppm<br>STEL: 966 mg/m <sup>3</sup> |

**Biological occupational exposure limits**

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) - Workers**

|     |                          |
|-----|--------------------------|
| [4] | Systemic health effects. |
| [5] | Local health effects.    |
| [6] | Long term.               |
| [7] | Short term.              |

**Derived No Effect Level (DNEL) - General Public** No information available.

**Predicted No Effect Concentration (PNEC)****8.2. Exposure controls****Engineering controls**

Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. Use explosion-proof ventilating equipment.

**Personal protective equipment**

**Eye/face protection** Tight sealing safety goggles. Use eye protection according to EN 166.

**Hand protection** Wear suitable gloves. Impervious gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374.

| Gloves              |                       |                 |                    |
|---------------------|-----------------------|-----------------|--------------------|
| Duration of contact | PPE - Glove material  | Glove thickness | Break through time |
|                     | Butyl rubber          | 0.3 mm          | 60 minutes         |
|                     | PVC<br>Nitrile rubber | 0.9 mm          | 30 minutes         |

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Type A.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Ensure that eyewash stations and safety showers are close to the workstation location.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|                        |            |
|------------------------|------------|
| <b>Physical state</b>  | Liquid     |
| <b>Appearance</b>      | Liquid     |
| <b>Colour</b>          | Colourless |
| <b>Odour</b>           | Fruity.    |
| <b>Odour threshold</b> | 7-20 ppm   |

| <b>Property</b>                                | <b>Values</b>                        | <b>Remarks • Method</b>   |
|------------------------------------------------|--------------------------------------|---------------------------|
| <b>Melting point / freezing point</b>          | < -90 °C                             | No information available. |
| <b>Initial boiling point and boiling range</b> | 126 °C                               | No information available. |
| <b>Flammability</b>                            |                                      | No information available. |
| <b>Flammability Limit in Air</b>               |                                      | No information available. |
| <b>Upper flammability or explosive limits</b>  | 7.5 Vol %                            |                           |
| <b>Lower flammability or explosive limits</b>  | 1.2 Vol %                            |                           |
| <b>Flash point</b>                             | 27 °C                                | No information available. |
| <b>Autoignition temperature</b>                | 415 °C                               | No information available. |
| <b>Decomposition temperature</b>               |                                      | No information available. |
| <b>pH</b>                                      |                                      | No information available. |
| <b>pH (as aqueous solution)</b>                | 5.3                                  | solution (0.53 %).        |
| <b>Kinematic viscosity</b>                     | 0.831 - 0.942 mm <sup>2</sup> /s     | @ 20 °C.                  |
| 0.66 mm <sup>2</sup> /s                        |                                      | @ 40 °C.                  |
| <b>Dynamic viscosity</b>                       | 0.732 mPa s @ 20°C                   | No information available. |
| <b>Water solubility</b>                        | Insoluble in water<br>5.3 g/l @ 20°C | No information available. |
| <b>Solubility(ies)</b>                         |                                      | No information available. |
| <b>Partition coefficient</b>                   | : 2.3                                | No information available. |
| <b>Vapour pressure</b>                         | 11.2 hPa @ 20°C<br>58 hPa @ 50°C     |                           |

|                            |                                                            |                           |
|----------------------------|------------------------------------------------------------|---------------------------|
| Relative density           | 0.881 @ 20°C                                               | No information available. |
| Bulk density               |                                                            | No information available. |
| Liquid Density             | No information available                                   | No information available  |
| Relative vapour density    | 4                                                          | No information available. |
| Particle characteristics   |                                                            | No information available. |
| Particle Size              | No information available                                   |                           |
| Particle Size Distribution | No information available                                   |                           |
| Explosive properties       | Not considered to be explosive.                            |                           |
| Oxidising properties       | Does not meet the criteria for classification as oxidising |                           |

**9.2. Other information**

|                  |                                                  |
|------------------|--------------------------------------------------|
| Molecular weight | 116.16                                           |
| Refractive Index | 1.393 Evaporation rate 1.0 (n-Butyl acetate = 1) |

**SECTION 10: Stability and reactivity****10.1. Reactivity**

|            |                                              |
|------------|----------------------------------------------|
| Reactivity | Stable under recommended storage conditions. |
|------------|----------------------------------------------|

**10.2. Chemical stability**

|           |                                 |
|-----------|---------------------------------|
| Stability | Stable under normal conditions. |
|-----------|---------------------------------|

**Explosion data**

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

**10.3. Possibility of hazardous reactions**

|                                    |                                                                            |
|------------------------------------|----------------------------------------------------------------------------|
| Possibility of hazardous reactions | Flammable liquid and vapour. Vapours can form explosive mixtures with air. |
|------------------------------------|----------------------------------------------------------------------------|

**10.4. Conditions to avoid**

|                     |                                                                      |
|---------------------|----------------------------------------------------------------------|
| Conditions to avoid | Heat, flames and sparks. static discharge (electrostatic discharge). |
|---------------------|----------------------------------------------------------------------|

**10.5. Incompatible materials**

|                        |                                                      |
|------------------------|------------------------------------------------------|
| Incompatible materials | Strong acids. Strong bases. Strong oxidising agents. |
|------------------------|------------------------------------------------------|

**10.6. Hazardous decomposition products**

|                                  |                |
|----------------------------------|----------------|
| Hazardous decomposition products | Carbon oxides. |
|----------------------------------|----------------|

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

|              |                                                                   |
|--------------|-------------------------------------------------------------------|
| Inhalation   | May cause drowsiness or dizziness.                                |
| Eye contact  | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |

**Ingestion**

Specific test data for the substance or mixture is not available.

**Symptoms related to the physical, chemical and toxicological characteristics****Symptoms**

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Acute toxicity****Numerical measures of toxicity****Component Information****Delayed and immediate effects as well as chronic effects from short and long-term exposure****Skin corrosion/irritation**

Based on available data the classification criteria are not met.

**Serious eye damage/eye irritation**

Based on available data the classification criteria are not met.

**Respiratory or skin sensitisation**

Based on available data the classification criteria are not met.

**Germ cell mutagenicity**

Based on available data the classification criteria are not met.

**Carcinogenicity**

Based on available data the classification criteria are not met.

**Reproductive toxicity**

Based on available data the classification criteria are not met.

**STOT - single exposure**

May cause drowsiness or dizziness.

**STOT - repeated exposure**

Based on available data the classification criteria are not met.

**Aspiration hazard**

Based on available data the classification criteria are not met.

**Other adverse effects**

No information available.

**SECTION 12: Ecological information****12.1. Toxicity****Ecotoxicity**

The environmental impact of this product has not been fully investigated.

**12.2. Persistence and degradability****Persistence and degradability**

Readily biodegradable.



**12.3. Bioaccumulative potential**

**Bioaccumulation** Not likely to bioaccumulate.

**Bioconcentration factor (BCF)** 15.3

**Component Information****12.4. Mobility in soil**

**Mobility in soil** No information available.

**12.5. Results of PBT and vPvB assessment**

**PBT and vPvB assessment** The product does not contain any substance(s) classified as PBT or vPvB.

| Chemical name   | PBT and vPvB assessment         |
|-----------------|---------------------------------|
| n-BUTYL ACETATE | The substance is not PBT / vPvB |

**12.6. Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

**Waste from residues/unused products** Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**SECTION 14: Transport information****IATA**

**14.1 UN number or ID number** UN1123  
**14.2 UN proper shipping name** BUTYL ACETATES  
**14.3 Transport hazard class(es)** 3  
**14.4 Packing group** III  
**14.5 Environmental hazards** No  
**14.6 Special precautions for user**  
**Special Provisions** A3  
**ERG Code** 3L

**IMDG**

**14.1 UN number or ID number** UN1123  
**UN proper shipping name** BUTYL ACETATES  
**14.3 Transport hazard class(es)** 3  
**14.4 Packing group** III  
**14.5 Environmental hazards** No  
**14.6 Special precautions for user**  
**Special Provisions** 223  
**EmS-No** F-E, S-D  
**14.7 Maritime transport in bulk according to IMO instruments** No information available

**RID**

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | UN1123         |
| 14.2 UN proper shipping name      | BUTYL ACETATES |
| 14.3 Transport hazard class(es)   | 3              |
| 14.4 Packing group                | III            |
| 14.5 Environmental hazards        | No             |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |
| Classification code               | F1             |

**ADR**

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | UN1123         |
| 14.2 UN proper shipping name      | BUTYL ACETATES |
| 14.3 Transport hazard class(es)   | 3              |
| 14.4 Packing group                | III            |
| 14.5 Environmental hazards        | No             |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |
| Classification code               | F1             |
| Tunnel restriction code           | (D/E)          |

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product does not contain substances subject to restriction (UK REACH - Annex XVII).

**Persistent Organic Pollutants**

Not applicable

**Export Notification requirements**

Not applicable

**Dangerous substance category per COMAH Regulations 2015 (as amended)**

P5c - FLAMMABLE LIQUIDS

**Named dangerous substances per COMAH Regulations 2015 (as amended)**

Not applicable

**The Ozone-Depleting Substances Regulations 2015**

Not applicable

**The Biocidal Products Regulations 2001 (as amended)**

Not applicable

**The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)**

Not applicable

**Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)**

Not applicable

**International Inventories****TSCA**

Contact supplier for inventory compliance status

**DSL/NDL**

Contact supplier for inventory compliance status

|               |                                                  |
|---------------|--------------------------------------------------|
| EINECS/ELINCS | Contact supplier for inventory compliance status |
| ENCS          | Contact supplier for inventory compliance status |
| IECSC         | Contact supplier for inventory compliance status |
| KECI          | Contact supplier for inventory compliance status |
| PICCS         | Contact supplier for inventory compliance status |
| AIIC          | Contact supplier for inventory compliance status |
| NZIoC         | Contact supplier for inventory compliance status |

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals

**15.2. Chemical safety assessment**

**Chemical Safety Report** A Chemical Safety Assessment has been carried out for this substance

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

EUH066 - Repeated exposure may cause skin dryness or cracking  
 H226 - Flammable liquid and vapour  
 H336 - May cause drowsiness or dizziness

**Legend**

SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: Exposure controls/personal protection**

|         |                             |      |                                  |
|---------|-----------------------------|------|----------------------------------|
| TWA     | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value         | *    | Skin designation                 |
| +       | Sensitisers                 |      |                                  |

Revision Note **SDS sections updated 1 8 9 16**

**Classification procedure**

| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used        |
|-----------------------------------------------------------------|--------------------|
| Acute oral toxicity                                             | Calculation method |
| Acute dermal toxicity                                           | Calculation method |
| Acute inhalation toxicity - gas                                 | Calculation method |
| Acute inhalation toxicity - vapour                              | Calculation method |
| Acute inhalation toxicity - dust/mist                           | Calculation method |
| Skin corrosion/irritation                                       | Calculation method |
| Serious eye damage/eye irritation                               | Calculation method |
| Respiratory sensitisation                                       | Calculation method |
| Skin sensitisation                                              | Calculation method |
| Mutagenicity                                                    | Calculation method |
| Carcinogenicity                                                 | Calculation method |
| Reproductive toxicity                                           | Calculation method |
| STOT - single exposure                                          | Calculation method |
| STOT - repeated exposure                                        | Calculation method |
| Acute aquatic toxicity                                          | Calculation method |
| Chronic aquatic toxicity                                        | Calculation method |
| Aspiration hazard                                               | Calculation method |

Ozone

Calculation method

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA\_RAC)  
European Chemicals Agency (ECHA) (ECHA\_API)  
Environmental Protection Agency  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
National Institute of Technology and Evaluation (NITE)  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
U.S. National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Prepared By** K Winter

**Supersedes date** 22-Apr-2021

**Revision date** 29-Aug-2024

**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)**  
**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**

**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**