

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

Revision date 29-Oct-2023

Revision Number 2

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

### 1.1. Product identifier

**Product Code(s)** 123765  
**Safety data sheet number** 123765  
**Product Name** PETRONAS GEAR SYN PAO 220  
**Pure substance/mixture** Mixture

Contains AMINES, C12-14-TERT-ALKYL

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

**Recommended use** Lubricant

### 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

|                                 |                     |
|---------------------------------|---------------------|
| <b>Chronic aquatic toxicity</b> | Category 3 - (H412) |
|---------------------------------|---------------------|

### 2.2. Label elements

Contains AMINES, C12-14-TERT-ALKYL

**Signal word**

Warning

**Hazard statements**

H412 - Harmful to aquatic life with long lasting effects

**Precautionary statements**

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

P273 - Avoid release to the environment

P280 - Wear protective gloves

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

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

**Unknown aquatic toxicity****2.3. Other hazards**

Causes mild skin irritation.

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

Not applicable

**3.2 Mixtures**

| 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) |
|----------------------------------------------------------------------------|----------|---------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------|----------------------|
| AMINES, C10-C14-TERT-ALKYL                                                 | 0 - 10%  | 701-175-2           | -                            | -                                                                                                                                                                                    | -                                  | -        | -                    |
| C16-18-(EVEN NUMBERED, SATURATED AND UNSATURATED)-ALKYLAMINES 1213789-63-9 | 0 - 10%  | 627-034-4           | -                            | Asp. Tox. 1 (H304)<br>Skin Corr. 1A (H314)<br>Aquatic Chronic 1 (H410)<br>STOT RE 2 (H373)<br>Aquatic Acute 1 (H400)<br>Acute Tox. 4 (H302)<br>STOT SE 3 (H335)<br>Eye Dam. 1 (H318) | -                                  | -        | -                    |

**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****General advice**

Show this safety data sheet to the doctor in attendance.

|              |                                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Inhalation   | Remove to fresh air. Get medical attention if symptoms occur.                                                                     |
| Eye contact  | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.                 |
| Skin contact | Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. |
| Ingestion    | Rinse mouth.                                                                                                                      |

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

|          |                                                                             |
|----------|-----------------------------------------------------------------------------|
| Symptoms | Itching. Rashes. Hives. Prolonged contact may cause redness and irritation. |
| Dermal   | Prolonged contact may cause redness and irritation.                         |

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

|                 |                                                                        |
|-----------------|------------------------------------------------------------------------|
| Note to doctors | May cause sensitisation in susceptible persons. Treat symptomatically. |
|-----------------|------------------------------------------------------------------------|

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

|                                |                                                                    |
|--------------------------------|--------------------------------------------------------------------|
| Suitable Extinguishing Media   | Dry chemical, CO2, alcohol-resistant foam or water spray.          |
| Large Fire                     | CAUTION: Use of water spray when fighting fire may be inefficient. |
| Unsuitable extinguishing media | 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 | Product is or contains a sensitiser. May cause sensitisation by skin contact. |
| Hazardous combustion products              | Carbon oxides. Phosphorus oxides. Oxides of sulphur. Nitrogen oxides (NOx).   |

#### **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     | Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| For emergency responders | Use personal protection recommended in Section 8.                                                                                                                                                        |

#### **6.2. Environmental precautions**

|                           |                                                       |
|---------------------------|-------------------------------------------------------|
| Environmental precautions | See Section 12 for additional Ecological Information. |
|---------------------------|-------------------------------------------------------|

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

|                                        |                                                                                      |
|----------------------------------------|--------------------------------------------------------------------------------------|
| <b>Methods for containment</b>         | Prevent further leakage or spillage if safe to do so.                                |
| <b>Methods for cleaning up</b>         | Take up mechanically, placing in appropriate containers for disposal.                |
| <b>Prevention of secondary hazards</b> | Clean contaminated objects and areas thoroughly observing environmental regulations. |

**6.4. Reference to other sections**

|                                    |                                                                          |
|------------------------------------|--------------------------------------------------------------------------|
| <b>Reference to other sections</b> | See section 8 for more information. See section 13 for more information. |
|------------------------------------|--------------------------------------------------------------------------|

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

|                                       |                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Advice on safe handling</b>        | Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. |
| <b>General hygiene considerations</b> | Wash hands before breaks and immediately after handling the product.                                                                                                                                                                                                                                                                  |

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

|                           |                                                                                                                                            |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage Conditions</b> | Keep container tightly closed in a dry and well-ventilated place. Keep containers tightly closed in a dry, cool and well-ventilated place. |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|

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

|                        |                                     |
|------------------------|-------------------------------------|
| <b>Specific use(s)</b> | See section 1 for more information. |
|------------------------|-------------------------------------|

|                                      |                                                                  |
|--------------------------------------|------------------------------------------------------------------|
| <b>Risk Management Methods (RMM)</b> | The information required is contained in this Safety Data Sheet. |
|--------------------------------------|------------------------------------------------------------------|

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

|                                                |                                                                                                                                                             |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exposure Limits</b>                         | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
| <b>Biological occupational exposure limits</b> | 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**

| Chemical name                                                       | Oral | Dermal         | Inhalation                     |
|---------------------------------------------------------------------|------|----------------|--------------------------------|
| AMINES, C10-C14-TERT-ALKYL<br>-                                     |      |                | 12.1 mg/m <sup>3</sup> [5] [6] |
| C16-18-(EVEN NUMBERED,<br>SATURATED AND<br>UNSATURATED)-ALKYLAMINES |      | 0.06 % [5] [6] | 0.38 mg/m <sup>3</sup> [4] [6] |

| Chemical name | Oral | Dermal | Inhalation |
|---------------|------|--------|------------|
| 1213789-63-9  |      |        |            |

[4] Systemic health effects.  
 [5] Local health effects.  
 [6] Long term.

**Derived No Effect Level (DNEL) - General Public**

| Chemical name                                                                       | Oral                    | Dermal | Inhalation                      |
|-------------------------------------------------------------------------------------|-------------------------|--------|---------------------------------|
| AMINES, C10-C14-TERT-ALKYL<br>-                                                     |                         |        | 1.2 mg/m <sup>3</sup> [5] [6]   |
| C16-18-(EVEN NUMBERED,<br>SATURATED AND<br>UNSATURATED)-ALKYLAMINES<br>1213789-63-9 | 40 µg/kg bw/day [4] [6] |        | 0.035 mg/m <sup>3</sup> [4] [6] |

[4] Systemic health effects.  
 [5] Local health effects.  
 [6] Long term.

**Predicted No Effect Concentration (PNEC)**

| Chemical name                                                                              | Freshwater | Freshwater<br>(intermittent release) | Marine water | Marine water<br>(intermittent release) | Air |
|--------------------------------------------------------------------------------------------|------------|--------------------------------------|--------------|----------------------------------------|-----|
| AMINES,<br>C10-C14-TERT-ALKYL<br>-                                                         | 0.001 mg/l |                                      | 0.0001 mg/l  |                                        |     |
| C16-18-(EVEN<br>NUMBERED,<br>SATURATED AND<br>UNSATURATED)-ALKYL<br>AMINES<br>1213789-63-9 | 0.26 µg/L  | 1.6 µg/L                             | 0.026 µg/L   |                                        |     |

| Chemical name                                                                              | Freshwater<br>sediment    | Marine sediment            | Sewage treatment | Soil        | Food chain |
|--------------------------------------------------------------------------------------------|---------------------------|----------------------------|------------------|-------------|------------|
| AMINES,<br>C10-C14-TERT-ALKYL<br>-                                                         | 2.14 mg/kg                | 0.214 mg/kg                |                  | 0.428 mg/kg | 0.635 mg/l |
| C16-18-(EVEN<br>NUMBERED,<br>SATURATED AND<br>UNSATURATED)-ALKYL<br>AMINES<br>1213789-63-9 | 3.76 mg/kg<br>sediment dw | 0.376 mg/kg<br>sediment dw | 550 µg/L         | 10 mg/kg    | 0.550 mg/l |

**8.2. Exposure controls**

**Engineering controls** No information available.

**Personal protective equipment**

|                                 |                                                                                                                                                                                                                          |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye/face protection</b>      | Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.<br>Wear safety glasses with side shields (or goggles).                                                                       |
| <b>Hand protection</b>          | 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. Wear suitable gloves. |
| <b>Skin and body protection</b> | Wear suitable protective clothing.                                                                                                                                                                                       |
| <b>Respiratory protection</b>   | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.                                                 |

## SECTION 9: Physical and chemical properties

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

|                        |                           |
|------------------------|---------------------------|
| <b>Physical state</b>  | Liquid                    |
| <b>Appearance</b>      | Viscous liquid            |
| <b>Colour</b>          | amber                     |
| <b>Odour</b>           | No information available. |
| <b>Odour threshold</b> | No information available  |

| <u>Property</u>                                | <u>Values</u>            | <u>Remarks • Method</u>  |
|------------------------------------------------|--------------------------|--------------------------|
| <b>Melting point / freezing point</b>          |                          | No information available |
| <b>Initial boiling point and boiling range</b> | > 300 °C                 |                          |
| <b>Flammability</b>                            |                          | No information available |
| <b>Flammability Limit in Air</b>               |                          | No information available |
| Upper flammability or explosive limits         |                          |                          |
| Lower flammability or explosive limits         |                          |                          |
| <b>Flash point</b>                             | > 230 °C                 |                          |
| <b>Autoignition temperature</b>                |                          | No information available |
| <b>Decomposition temperature</b>               |                          | No information available |
| <b>pH</b>                                      |                          | No information available |
| pH (as aqueous solution)                       |                          | No information available |
| <b>Kinematic viscosity</b>                     | 223.40 cSt               | 40 °C                    |
| Dynamic viscosity                              |                          | No information available |
| <b>Water solubility</b>                        | Immiscible in water      |                          |
| <b>Solubility(ies)</b>                         |                          | No information available |
| <b>Partition coefficient</b>                   |                          | No information available |
| <b>Vapour pressure</b>                         |                          | No information available |
| <b>Relative density</b>                        | 0.87                     |                          |
| Bulk density                                   |                          |                          |
| Liquid Density                                 |                          |                          |
| <b>Relative vapour density</b>                 |                          | No information available |
| <b>Particle characteristics</b>                |                          | No information available |
| Particle Size                                  |                          |                          |
| Particle Size Distribution                     |                          |                          |
| <b>Explosive properties</b>                    | No information available |                          |
| <b>Oxidising properties</b>                    | No information available |                          |

### 9.2. Other information

## 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 None.

**10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions None under normal processing.

**10.4. Conditions to avoid**

Conditions to avoid Excessive heat.

**10.5. Incompatible materials**

Incompatible materials Acids. Alkali. Oxidising agent.

**10.6. Hazardous decomposition products**

Hazardous decomposition products Carbon oxides. Nitrogen oxides (NOx). Phosphorus oxides. Oxides of sulphur.

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

|              |                                     |
|--------------|-------------------------------------|
| Inhalation   | May cause irritation.               |
| Eye contact  | May cause temporary eye irritation. |
| Skin contact | May cause slight irritation.        |
| Ingestion    | Gastrointestinal discomfort.        |

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

Symptoms Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

**Acute toxicity****Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

|                               |                  |
|-------------------------------|------------------|
| ATEmix (dermal)               | 272,727.30 mg/kg |
| ATEmix (inhalation-gas)       | 90,918.20 ppm    |
| ATEmix (inhalation-vapour)    | 455.50 mg/l      |
| ATEmix (inhalation-dust/mist) | 45.50 mg/l       |

| Chemical name                                                 | Oral LD50 | Dermal LD50          | Inhalation LC50 |
|---------------------------------------------------------------|-----------|----------------------|-----------------|
| C16-18-(EVEN NUMBERED, SATURATED AND UNSATURATED)-ALKYLAMINES | -         | > 2000 mg/kg ( Rat ) | -               |

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitisation** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Other adverse effects** No information available.

## **SECTION 12: Ecological information**

### 12.1. Toxicity

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

**Unknown aquatic toxicity**

### 12.2. Persistence and degradability

**Persistence and degradability** No information available.

### 12.3. Bioaccumulative potential

**Bioaccumulation** There is no data for this product.

### 12.4. Mobility in soil

Mobility in soil Insoluble.

### 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         |
|---------------------------------------------------------------|---------------------------------|
| C16-18-(EVEN NUMBERED, SATURATED AND UNSATURATED)-ALKYLAMINES | 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** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## **SECTION 14: Transport information**

### IATA

**14.1 UN number or ID number** Not regulated

**14.2**

**14.3 Transport hazard class(es)** Not regulated

**14.4 Packing group** Not regulated

**14.5 Environmental hazards** Not applicable

**14.6 Special precautions for user**

**Special Provisions** None

### IMDG

**14.1 UN number or ID number** Not regulated

**14.3 Transport hazard class(es)** Not regulated

**14.4 Packing group** Not regulated

**14.5 Environmental hazards** Not applicable

**14.6 Special precautions for user**

**Special Provisions** None

**14.7 Maritime transport in bulk according to IMO instruments** No information available

### RID

**14.1 UN number or ID number** Not regulated

**14.2 UN proper shipping name** Not regulated

**14.3 Transport hazard class(es)** Not regulated

**14.4 Packing group** Not regulated

**14.5 Environmental hazards** Not applicable

**14.6 Special precautions for user**

**Special Provisions** None

### ADR

**14.1 UN number or ID number** Not regulated

**14.2 UN proper shipping name** Not regulated

**14.3 Transport hazard class(es)** Not regulated

|                                   |                |
|-----------------------------------|----------------|
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazards        | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

## 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 contains one or more substances subject to restriction (UK REACH - Annex XVII).

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

##### Persistent Organic Pollutants

Not applicable

##### Export Notification requirements

Not applicable

##### 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 |
| KECL          | 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/NDL** - 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**

No information available

**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**

H302 - Harmful if swallowed

H311 - Toxic in contact with skin

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H330 - Fatal if inhaled

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

**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 \*\*\*Indicates updated data since last publication

**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)

EPA (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)  
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** Jitendra Panchal

**Revision date** 29-Oct-2023

**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**