

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

|                             |                                      |
|-----------------------------|--------------------------------------|
| <b>Perihalan Produk:</b>    | <b>Urea, Molecular Biology Grade</b> |
| <b>Product Description:</b> | <b>Urea, Molecular Biology Grade</b> |
| <b>Cat No. :</b>            | J64769                               |
| <b>Synonyms</b>             | Carbamide                            |
| <b>CAS No</b>               | 57-13-6                              |
| <b>Molecular Formula</b>    | C H4 N2 O                            |

**Relevant identified uses of the substance or mixture and uses advised against**

|                             |                          |
|-----------------------------|--------------------------|
| <b>Recommended Use</b>      | Laboratory chemicals.    |
| <b>Uses advised against</b> | No Information available |

|                |   |
|----------------|---|
| <b>Company</b> | Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd<br>Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,<br>No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,<br>Selangor Darul Ehsan, Malaysia.<br>Main line: +60 3-5525 7888 |
|----------------|---|

**Supplier**

|                       |                             |
|-----------------------|-----------------------------|
| <b>E-mail address</b> | Enquiry.my@thermofisher.com |
|-----------------------|-----------------------------|

|                                   |   |
|-----------------------------------|---|
| <b>Emergency Telephone Number</b> | Tel: +03-5525 7888<br>CHEMTREC Malaysia <b>1-800-815-308</b> (Malay)<br>CHEMTREC Malaysia (Kuala Lumpur) <b>+(60)-327884561</b> (Malay) |
|-----------------------------------|---|

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture****Label Elements**
**Hazard Statements**
**Other Hazards**

Toxic to terrestrial vertebrates  
 This product does not contain any known or suspected endocrine disruptors

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No  | Weight % |
|-----------|---------|----------|
| Urea      | 57-13-6 | 100      |

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Ingestion

Get medical attention if symptoms occur. Do NOT induce vomiting.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

#### Self-Protection of the First Aider

No special precautions required.

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

None reasonably foreseeable.

### Indication of any immediate medical attention and special treatment needed

#### Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 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.

### Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

### Hazardous Combustion Products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Ammonia.

### Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

### Environmental precautions

Should not be released into the environment.

### Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

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

### Conditions for Safe Storage, Including any Incompatibilities

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

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

### Exposure Controls

#### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Goggles

#### Hand Protection

Protective gloves

#### 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 compatibility, 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.

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Remove gloves with care avoiding skin contamination.

## Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly  
When RPE is used a face piece Fit Test should be conducted

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

## Environmental exposure controls

No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|   |                               |                                   |
|---|-------------------------------|-----------------------------------|
| Appearance                              | White                         |                                   |
| Physical State                          | Solid                         |                                   |
| Odor                                    | Ammonia-like                  |                                   |
| Odor Threshold                          | No data available             |                                   |
| pH                                      | 7.5-9.5                       | 10% aq. solution                  |
| Melting Point/Range                     | 131 - 135 °C / 267.8 - 275 °F |                                   |
| Softening Point                         | No data available             |                                   |
| Boiling Point/Range                     | No information available      |                                   |
| Flash Point                             | No information available      | Method - No information available |
| Evaporation Rate                        | No data available             |                                   |
| Flammability (solid,gas)                | No information available      |                                   |
| Explosion Limits                        | No data available             |                                   |
| Vapor Pressure                          | 1.25 mmHg @ 25 °C             |                                   |
| Vapor Density                           | No information available      | (Air = 1.0)                       |
| Specific Gravity / Density              | 1.335                         |                                   |
| Bulk Density                            | No data available             |                                   |
| Water Solubility                        | 1080 g/L (20°C)               |                                   |
| Solubility in other solvents            | No information available      |                                   |
| Partition Coefficient (n-octanol/water) |                               |                                   |
| Component                               | log Pow                       |                                   |
| Urea                                    | <-1.73                        |                                   |
| Autoignition Temperature                | No data available             |                                   |
| Decomposition Temperature               | > 132°C                       |                                   |
| Viscosity                               | No data available             |                                   |
| Explosive Properties                    | No information available      |                                   |
| Oxidizing Properties                    | No information available      |                                   |
| Molecular Formula                       | C H4 N2 O                     |                                   |
| Molecular Weight                        | 60.06                         |                                   |

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

#### **Hazardous Polymerization Hazardous Reactions**

Hazardous polymerization does not occur.  
None under normal processing.

### Conditions to Avoid

Incompatible products.

### Incompatible Materials

Strong oxidizing agents. Chlorine. sodium hypochlorite.

### Hazardous Decomposition Products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Ammonia.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### **Product Information**

#### **(a) acute toxicity;**

|                   |                   |
|-------------------|-------------------|
| <b>Oral</b>       | No data available |
| <b>Dermal</b>     | No data available |
| <b>Inhalation</b> | No data available |

| Component | LD50 Oral                 | LD50 Dermal | LC50 Inhalation |
|-----------|---------------------------|-------------|-----------------|
| Urea      | LD50 = 8471 mg/kg ( Rat ) | -           | -               |

**(b) skin corrosion/irritation;** No data available

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

#### **(d) respiratory or skin sensitization;**

|                    |                   |
|--------------------|-------------------|
| <b>Respiratory</b> | No data available |
| <b>Skin</b>        | No data available |

**(e) germ cell mutagenicity;** No data available

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|  |   |
|--|---|
|  | Mutagenic effects have occurred in experimental animals   |
| (f) carcinogenicity;                       | No data available<br>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;                     | No data available   |
| Other Adverse Effects                      | The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information                   |
| Symptoms / effects, both acute and delayed | No information available.   |
| 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

### Ecotoxicity effects

| Component | Freshwater Fish                                     | Water Flea                                    | Freshwater Algae | Microtox   |
|-----------|---|---|------------------|--|
| Urea      | LC50: 16200 - 18300 mg/L, 96h (Poecilia reticulata) | EC50: = 3910 mg/L, 48h Static (Daphnia magna) |                  | = 23914 mg/L EC50 Photobacterium phosphoreum 5 min |

Persistence and degradability Expected to be biodegradable

### Bioaccumulative potential

| Component | log Pow | Bioconcentration factor (BCF) |
|-----------|---------|-------------------------------|
| Urea      | <-1.73  | <10 dimensionless             |

### Mobility in soil

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

Other adverse effects No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

ALFAAJ64769

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## Waste treatment methods

### **Waste from Residues/Unused Products**

Dispose of in accordance with local regulations

### **Contaminated Packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

Not regulated

### Road and Rail Transport

Not regulated

### IATA

Not regulated

### **Special Precautions for User**

No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

#### **International Inventories**

X = listed

| Component | EINECS    | TSCA | DSL | PICCS | ENCS | ISHL | IECSC | AICS | KECL     |
|-----------|-----------|------|-----|-------|------|------|-------|------|----------|
| Urea      | 200-315-5 | X    | X   | X     | X    | X    | X     | X    | KE-35144 |

### National Regulations

#### **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 16: OTHER INFORMATION

### 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

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

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**POW** - Partition coefficient Octanol:Water

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

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

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

## Key literature references and sources for data

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

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

**Prepared By**

**Revision Date**

**Revision Summary**

Health, Safety and Environmental Department

24-Mar-2025

Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## 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**