

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Urea

| | | | |
|---------------|---------------------|---------|-----|
| Creation date | 01st June 2021 | Version | 1.2 |
| Revision date | 04th September 2023 | | |

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

1.1. Product identifier

| | |
|---------------------|-----------------------|
| Substance / mixture | Urea |
| Chemical name | substance |
| CAS number | Carbamid |
| EC (EINECS) number | 57-13-6 |
| Registration number | 200-315-5 |
| | 01-2119463277-33-0000 |

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

Substance's intended use

Medicinal products. Food additive. Ingredient for cosmetics. As an ingredient for nutrient solutions in biochemistry.

Substance uses advised against

1.3. Details of the supplier of the safety data sheet

Distributor

| | |
|-----------------------------|--------------------------------------|
| Name or trade name | Macco Organiques, s.r.o. |
| Address | Zahradní 1938/46c, Bruntál 1, 792 01 |
| | Czech Republic |
| Identification number (CRN) | 26819210 |
| VAT Reg No | CZ26819210 |
| Phone | +420 555 530 300 |
| E-mail | macco@macco.cz |

Competent person responsible for the safety data sheet

| | |
|--------|----------------------|
| Name | Petr Ševčík |
| E-mail | petr.sevcik@macco.cz |

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the substance in accordance with Regulation (EC) No 1272/2008

The substance is not classified as dangerous according to Regulation (EC) No 1272/2008.

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse physico-chemical effects

Not specified.

Most serious adverse effects on human health and the environment

Not specified.

2.2. Label elements

none

2.3. Other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

The substance specified below.

| Identification numbers | Substance name | Content in % weight | Classification according to Regulation (EC) No 1272/2008 | Note |
|--|---|---------------------|--|------|
| CAS: 57-13-6 EC: 200-315-5 Registration number: 01-2119463277-33-0000 | substance main component Carbamid | >99 | not classified as dangerous | |

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air.

If on skin

Remove contaminated clothes. And wash it before reuse. Wash the affected area with plenty of water, lukewarm if possible.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Provide medical treatment, specialized if possible. No neutralization should be performed in any case!

If swallowed

Rinse out the mouth with clean water. In the event of issues, find medical help.

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

If inhaled

Not expected.

If on skin

Not expected.

If in eyes

Not expected.

If swallowed

Not expected.

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

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist. Accommodate extinguishing components to the location of fire.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Ammonia. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves. Use a self-contained breathing apparatus and full-body protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Follow the instructions in the Sections 7 and 8. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13. After removal of the product, wash the contaminated site with plenty of water.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Do not eat, drink or smoke when using this product. Prevent contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Not specified.

DNEL

| Carbamid | | | | | |
|---------------------|-------------------|-----------------------|--------------------------|---------------------|--------|
| Workers / consumers | Route of exposure | Value | Effect | Value determination | Source |
| Workers | Inhalation | 292 mg/m ³ | Chronic effects systemic | | |
| Workers | Inhalation | 292 mg/m ³ | Acute effects systemic | | |
| Consumers | Inhalation | 125 mg/m ³ | Chronic effects systemic | | |
| Consumers | Inhalation | 125 mg/m ³ | Acute effects systemic | | |
| Workers | Dermal | 500 mg/kg bw/day | Chronic effects systemic | | |
| Workers | Dermal | 500 mg/kg bw/day | Acute effects systemic | | |
| Consumers | Dermal | 300 mg/kg bw/day | Chronic effects systemic | | |
| Consumers | Dermal | 300 mg/kg bw/day | Acute effects systemic | | |
| Consumers | Oral | 42 mg/kg bw/day | Chronic effects systemic | | |
| Consumers | Oral | 42 mg/kg bw/day | Acute effects systemic | | |

PNEC

| Carbamid | | | |
|---------------------------------|------------|---------------------|--------|
| Route of exposure | Value | Value determination | Source |
| Freshwater environment | 47 µg/l | | |
| Water (intermittent release) | 100 mg/l | | |
| Marine water | 1.407 mg/l | | |
| Seawater (intermittent release) | 100 mg/l | | |

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| Carbamid | | | |
|------------------------------------|--|---------------------|--------|
| Route of exposure | Value | Value determination | Source |
| Microorganisms in sewage treatment | 1 g/l | | |
| Freshwater sediment | 68.66 mg/kg of dry substance of sediment | | |
| Sea sediments | 6.866 mg/kg of dry substance of sediment | | |
| Soil (agricultural) | 121 mg/kg of dry substance of soil | | |

8.2. Exposure controls

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

It is not needed.

Skin protection

When handling in long-term or repeatedly, use protective gloves.

Respiratory protection

It is not needed.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | solid |
| Colour | white |
| Odour | containing ammoniac |
| Melting point/freezing point | 133 °C |
| Boiling point or initial boiling point and boiling range | cannot be determined - decomposition occurs |
| Flammability | non-flammable |
| Lower and upper explosion limit | not applicable |
| Flash point | not applicable |
| Auto-ignition temperature | not applicable |
| Decomposition temperature | 134 °C |
| pH | 9-10 (10% solution at 20 °C) |
| Kinematic viscosity | not applicable |
| Solubility in water | 624g / L 20°C |
| Partition coefficient n-octanol/water (log value) | -1.73 |
| Vapour pressure | 0.002 Pa at 25 °C |
| Density and/or relative density | |
| Density | 1.33 g/cm ³ at 20 °C |
| Relative vapour density | data not available |
| Particle characteristics | data not available |
| Form | solid: crystalline |

9.2. Other information

not available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The substance is non-flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents. Violently react with nitrites.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire. Ammonia.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the substance.

Acute toxicity

Based on available data the classification criteria are not met.

| Carbamid | | | | | |
|-------------------|------------------|-------------|---------------|---------|-----|
| Route of exposure | Parameter | Value | Exposure time | Species | Sex |
| Oral | LD ₅₀ | 14300 mg/kg | | Rat | |

Skin corrosion/irritation

Based on available data the classification criteria are not met.

| Carbamid | | | | |
|-------------------|----------------|----------|---------------|---------|
| Route of exposure | Result | Method | Exposure time | Species |
| Dermal | Not irritating | OECD 404 | 4 hours | Rabbit |

Serious eye damage/irritation

Based on available data the classification criteria are not met.

| Carbamid | | | | |
|-------------------|------------|----------|---------------|---------|
| Route of exposure | Result | Method | Exposure time | Species |
| Eye | Irritating | OECD 405 | | Rabbit |

Respiratory or skin sensitisation

No data available for the substance. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

| Carbamid | | | | | |
|----------|----------|---------------|-----------------------|-----------------------------------|-----|
| Result | Method | Exposure time | Specific target organ | Species | Sex |
| Negative | OECD 471 | | | Bacteria (Salmonella typhimurium) | |

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Carcinogenicity

No data available for the substance. Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

| Carbamid | | | | | | | |
|------------------------|-----------|----------|--------------------|---------------|----------------------|---------|-----|
| Effect | Parameter | Method | Value | Exposure time | Result | Species | Sex |
| Developmental toxicity | NOAEL | OECD 414 | >1000 mg/kg bw/day | 15 days | No effect, No effect | Rat | F/M |

Toxicity for specific target organ - single exposure

No data available for the substance. Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

| Carbamid | | | | | | |
|-------------------|-----------|-------------|---------------|----------------------|---------|-----|
| Route of exposure | Parameter | Value | Exposure time | Result | Species | Sex |
| Oral | NOAEL | 45000 mg/kg | 12 months | No effect, No effect | Mouse | F/M |

Aspiration hazard

No data available for the substance. Based on available data the classification criteria are not met.

11.2. Information on other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological information

12.1. Toxicity

Based on available data the classification criteria are not met.

Acute toxicity

| Carbamid | | | | | | |
|------------------|----------|-------------|---------------|----------------------------------|-------------|---------------------|
| Parameter | Method | Value | Exposure time | Species | Environment | Value determination |
| LC ₅₀ | OECD 236 | 21060 mg/l | 96 hours | Fish (Danio rerio) | Fresh water | |
| EC ₅₀ | | >10000 mg/l | 24 hours | Daphnia (Daphnia magna) | Fresh water | Static system |
| EC ₁₀ | OECD 201 | 6895.8 mg/l | 72 hours | Algae (Raphidocelis subcapitata) | Fresh water | Static system |
| EC ₅₀ | | 10000 mg/l | 16 hours | Bacteria (Pseudomonas putida) | Fresh water | Static system |

Chronic toxicity

| Carbamid | | | | | | |
|------------------|----------|-----------|---------------|--------------------------------|-------------|---------------------|
| Parameter | Method | Value | Exposure time | Species | Environment | Value determination |
| EC ₁₀ | OECD 215 | 7247 mg/l | 28 days | Fish (Oreochromis mossambicus) | Fresh water | Semi static system |

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| Carbamid | | | | | | |
|------------------|----------|------------|---------------|-------------------------|-------------|---------------------|
| Parameter | Method | Value | Exposure time | Species | Environment | Value determination |
| EC ₁₀ | OECD 211 | 140.7 mg/l | 21 days | Daphnia (Daphnia magna) | Fresh water | Semi static system |

12.2. Persistence and degradability

The following data are available.

Biodegradability

| Carbamid | | | | |
|-----------|-------|---------------|------------------|----------------------|
| Parameter | Value | Exposure time | Environment | Result |
| | 100 % | 21 days | Activated sludge | Easily biodegradable |

12.3. Bioaccumulative potential

No data available for the substance.

12.4. Mobility in soil

No data available for the substance.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100.

12.7. Other adverse effects

Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

06 10 00 wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture

Packaging waste type code

06 10 00 wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture

SECTION 14: Transport information

14.1. UN number or ID number

not subject to transport regulations

14.2. UN proper shipping name

not relevant

14.3. Transport hazard class(es)

not relevant

14.4. Packing group

not relevant

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14.5. Environmental hazards

not relevant

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

Not available.

SECTION 16: Other information

Other important information about human health protection

The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

| | |
|---------------------|---|
| ADR | European agreement concerning the international carriage of dangerous goods by road |
| BCF | Bioconcentration Factor |
| CAS | Chemical Abstracts Service |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures |
| EC | Identification code for each substance listed in EINECS |
| EC ₁₀ | Concentration of a substance when it is affected 10% of the population |
| EC ₅₀ | Concentration of a substance when it is affected 50% of the population |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| EmS | Emergency plan |
| EU | European Union |
| EuPCS | European Product Categorisation System |
| IATA | International Air Transport Association |
| IBC | International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods |
| IMO | International Maritime Organization |
| INCI | International Nomenclature of Cosmetic Ingredients |
| ISO | International Organization for Standardization |
| IUPAC | International Union of Pure and Applied Chemistry |
| LC ₅₀ | Lethal concentration of a substance in which it can be expected death of 50% of the population |
| LD ₅₀ | Lethal dose of a substance in which it can be expected death of 50% of the population |
| log K _{ow} | Octanol-water partition coefficient |
| NOAEL | No observed adverse effect level |
| OEL | Occupational Exposure Limits |
| PBT | Persistent, Bioaccumulative and Toxic |
| ppm | Parts per million |

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| | |
|-------|---|
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Agreement on the transport of dangerous goods by rail |
| UN | Four-figure identification number of the substance or article taken from the UN Model Regulations |
| UVCB | Substances of unknown or variable composition, complex reaction products or biological materials |
| VOC | Volatile organic compounds |
| vPvB | Very Persistent and very Bioaccumulative |

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 1.2 replaces the SDS version from 14.07.2022. Changes were made in sections 8, 11, 12 and 15.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.