

SECTION 1: Identification of the substance/mixture and of the Company/Undertaking

1.1 Product identifier

Urea

Trade name: Urea granules
CAS-number: 57-13-6
EC-number: 200-315-5
REACH registration number: 01-2119463277-33-0191

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

Identified uses of the Substance

Fertilizer, Manufacture of specialty fertilizers, Fertilizer Blend Component

Not recommended uses of the Substance

No further relevant information available.

1.3 Details of the supplier of the Safety Data Sheet

Manufacturer

Egyptian Nitrogen Products Company - ENPC
18 Abd El-Rahman Sedky St., Area (6)
Nasr City
Cairo, Egypt

Telephone: +2 02 267 135 44

Fax: +2 02 267 311 30

E-mail: marketing@mopco-eq.com
(For technical information)

Supplier (Only Representative)

Ramboll Environment & Health GmbH
Werinherstraße 79
81541 München, Germany

Telephone: +49 89 97 89 70 - 100

Fax: +49 89 97 89 70 - 111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008

The product is not classified according to the CLP regulation.

2.1.2 Classification according to Directive 67/548/EEC and 1999/45/EC Void Information concerning particular hazards for human and environment:

The product does not have to be labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

2.1.3 Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.



2.2 Label elements

2.2.1 Labeling according to Regulation (EC) No 1272/2008 *Void*

Hazard pictograms *Void*

Signal word *Void*

Hazard statements *Void*

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: No

VPvB: No

SECTION 3: Composition/information on ingredients

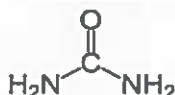
3.1 Substances

Substance name	EC No	CAS No	REACH registration No	Concentration (%)	Classification Regulation (EC) No. 1272/2008 (CLP):	Classification Directive 67/548/EEC
Urea	200-315-5	57-13-6	01-2119463277-33-0191	>98	-	-
Urea, reaction products with formaldehyde	271-898-1	68611-64-3		<1.3		
Biuret, Imidodicarbonic diamide	203-559-0	108-19-0		≤1		

· *Dangerous components: Void*

· *Additional information:*

Urea: $\text{NH}_2\text{-CO-NH}_2$; IUPAC: amino methanamide



SECTION 4: First aid measures

4.1 Description of first aid measures

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· General information: Take affected persons out of danger area and lay down.

· After inhalation: Supply fresh air; consult doctor in case of complaints.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

· After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

Remove contact lenses, if present and easy to do. Continue rinsing.

· After swallowing:

Rinse out mouth and then drink plenty of water. Do NOT induce vomiting.

If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available



SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released

Carbon monoxide

Carbon dioxide

Nitrogen oxides (NOX)

5.3 Advice for fire fighters

• Protective equipment: Wear self-contained respiratory protective device.

• Additional information

Cool endangered receptacles with water spray.

Collect contaminated firefighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Wear protective clothing.

Avoid formation of dust.

Keep away from ignition sources.

6.2 Environmental precautions

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

6.3 Methods and material for containment and cleaning up

Pick up mechanically.

Dispose of the material collected according to regulations.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Any unavoidable deposit of dust must be regularly removed. Ensure good ventilation/exhaustion at the workplace.

Information about fire and explosion protection:

Dust can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges

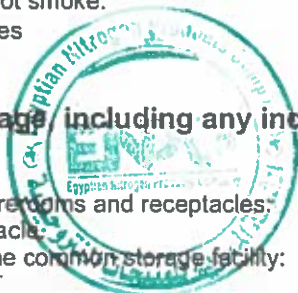
7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by store rooms and receptacles:

Store only in the original receptacle.

Information about storage in one common storage facility:



Further information about storage conditions:

Store in cool, dry conditions in well-sealed receptacles Protect from heat and direct sunlight

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls / Personal protection

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· 8.2 Exposure controls

· *Personal protective equipment:*

· *General protective and hygienic measures:*

· Keep away from foodstuffs, beverages and feed. Do not eat, drink or smoke when using this product.

· The usual precautionary measures are to be adhered to when handling chemicals.

· *Respiratory protection:*

· Use suitable respiratory protective device in case of insufficient ventilation.

· *Protection of hands:*

· The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· *Material of gloves*

· The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· *Penetration time of glove material*

· The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Safety glasses

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on the basic physical and chemical properties

· *General Information*

· *Appearance:*

· *Form:*

Solid material

· *Colour:*

White

· *Odour:*

characteristic

· *Odour threshold:*

Not determined.

· *pH-value at 20 °C:*

8.4-8.8 @ 10 % Solution

· *Change in condition*

· *Melting point/Melting range:*

132 - 135 °C

· *Boiling point/Boiling range:*

Not determined.

· *Flash point:*

Product doesn't sustain combustion

· *Flammability (solid, gaseous):*

Product is not flammable.

· *Ignition temperature:*

Not determined.

· *Decomposition temperature:*

135°C.

· *Self-igniting:*

Product is not self-igniting.

· *Danger of explosion:*

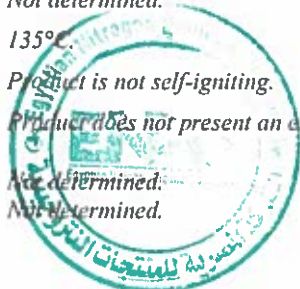
Product does not present an explosion hazard.

· *Explosion limits:*

· *Lower:*

Not determined.

Not determined.



· Oxidising properties	No.
· Vapour pressure:	Not applicable.
· Density at 20 °C:	1.323 g/cm ³
· Bulk density at 20 °C:	700 - 780 kg/m ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water at 20 °C:	1080 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Incompatible with halogens, hydrogen peroxide, chlorinated hydrocarbons, fluorine, Nitric acid, oxidizing agents and sulfuric acid.

10.2 Chemical stability

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid generation of dust. Avoid moisture.

10.5 Incompatible materials

Keep away from: oxidizing agents, strong bases, strong acids, aldehydes

Violent reaction with: gallium perchlorate

Reacts with: chlorine to form chloramines, sodium hypochlorite, sodium nitrate, calcium hypochlorite, NaNO₂, P₂Cl₅, nitrosyl perchlorate, strong oxidizing agents as permanganate, nitrate, dichromate, chloride

10.6 Hazardous decomposition products

Hydrogen Cyanide, Ammonia, Oxides of Nitrogen, Carbon, can be released in case of fire: Carbon dioxide (CO₂), carbon monoxide (CO), nitrogen oxides (NOX)

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea	LD50 Oral	Mouse - Male	11 g/kg	-
	LD50 Oral	Rat - Male	8471 mg/kg	-
	LD50 Oral	Rat - Male	14300 mg/kg	-
	TDL ₀ Oral	Cattle - Male,	200 mg (N) /kg	-
		Female		

Conclusion/Summary : Non-hazardous substance.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Urea	Skin	Rabbit	0	-	72 hours

Conclusion/Summary

Skin : Non-irritating to the skin.
Eyes : Non-irritating to the eyes.
Respiratory : Non-irritating to the respiratory system.

Sensitization

Not available.

Conclusion/Summary

Skin : Non-sensitizer to skin.
Respiratory : Non-sensitizer to lungs.

Mutagenicity

Section 11.1 Toxicological information

Product/ingredient name	Test	Experiment	Result
Urea	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Cell: Somatic Metabolic activation: With and without	Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea	Negative - Oral - TC	Rat - Male, Female	2250 mg/kg Continuous	-

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard



Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Inhalation.
Routes of entry not anticipated: Dermal.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data. May cause irritation due to mechanical action.
Inhalation : No specific data. Exposure to airborne concentrations above statutory or Recommended exposure limits may cause irritation of the nose, throat and lungs.
Skin contact : No specific data. Inorganic salt. Prolonged or repeated exposure may dry the skin, Causing irritation.
Ingestion : No specific data. May cause irritation of the digestive tract with accompanying Nausea, vomiting and diarrhea.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.
Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Section 11.2 Toxicological information

Potential immediate effects : No known significant effects or critical hazards.
: No known significant effects or critical hazards.

Potential delayed effects

Potential chronic health effects

Conclusion/Summary : No known significant effects or critical hazards.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

SECTION 12: Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Urea	Acute EC50 6573.1 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 3910000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 >1000 mg/l Marine water	Crustaceans - Chaetogammarus marinus - Young	48 hours
	Acute LC50 5000 µg/l Fresh water	Fish - Colisa fasciata - Fingerling	96 hours
	Acute LC50 22500 mg/l Fresh water	Fish - Oreochromis mossambicus - Young	96 hours
	Chronic NOEC 2 g/L Fresh water	Fish - Heteropneustes fossilis	30 days

Conclusion/Summary : No known significant effects or critical hazards.

Persistence and degradability

Conclusion/Summary : Readily biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Urea	-	-	Readily

Bio accumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Urea	-1.59	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : 0.037

Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

• 14.1 UN-Number	
• ADR, IMDG, IATA	Void
• 14.2 UN proper shipping name	
• ADR, IMDG, IATA	Void
• 14.3 Transport hazard class(es)	
• ADR, IMDG, IATA	
• Class	Void
• 14.4 Packing group	
• ADR, IMDG, IATA	Void
• 14.5 Environmental hazards:	
• Marine pollutant:	No
• 14.6 Special precautions for user	Not applicable.
• 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Not applicable.
• Transport/Additional information:	Not dangerous according to the above specifications.
• UN "Model Regulation":	-

SECTION 15: Regulatory information

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

EU-Regulations

Regulation (EC) No 1907/2006

Regulation (EC) No 1272/2008 (CLP)

Directive 67/548/EEC

Information on working limitations

Youths are only allowed to handle this product according to the regulation 94/33/EC, and as long as all effects of dangerous substances are prevented. Observe regulation 98/24/EC for employee health protection against the threat of chemical substances in the workplace. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National regulations

National legislation has to be observed!

Major Accidents Ordinance not relevant

Storage class according to VCI (DE)

13 non-combustible solids

Water Hazard Class according to VwVwS (DE)

1 weak water pollutant (WGK 1)

Technical Instructions on Air Quality Control (TA-Luft) (DE)

Relevant

15.2 Chemical safety assessment

For this substance a chemical safety assessment has been carried out.



SECTION 16: Other information

Disclaimer clause

The information published in this Material Safety Data Sheet has been compiled from our experience and data presented by the European Fertilizer Manufacturing Association (EFMA). It is the user's responsibility to determine the accuracy or suitability of this information. We reserve the right to revise Material Safety Data Sheets periodically, as new information becomes available. We assume no responsibility for the accuracy or suitability of such information for application to the purchaser's intended purpose or for consequences of its use. Adoption of necessary safety precautions, for any intended usage, shall remain the user's responsibility.

Abbreviations and acronyms:

REACH: Registration, Evaluation, Authorization and Restriction of Chemicals

MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

UN: United Nations (also UNO: United Nations Organization)

NOEC: No Observed Effect Concentration

OECD: Organization for Economic Co-operation and Development

ASTM: American Society for Testing and Materials

WAF: Water Accommodated Fraction

LogPow= logarithm of the octanol/water partition coefficient

ADR: Accord Européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio accumulative and Toxic

vPvB: very Persistent and very Bio accumulative