Urea

Product identifier: Urea >97%
Further trade names: Carbonyl diamide; carbamide; UREA (INCl); Ureum (Ph.Eur.)

CAS NO: 57-13-6
EC No.: 200-315-5

Use of the Substance/mixture

Raw material in the manufacturing of dispersions, resins and plastics for usage in paints, colours, printing inks, coatings, adhesives, foils and similar applications. Manufacturing of resins. Manufacturing of printing inks, stencils, lithographic plates and similar products. Reagent in chemical synthesis. Miscellaneous industrial applications, including winter maintenance as a de-icer. Fertilizer. Production of pharmaceuticals and cosmetic products. Cosmetic ingredient (humectants). Distribution of substances. Formulation & (re)packing of substances and mixtures. Use in laboratories. Agrochemical uses.

Details of supplier of the safety data sheet

J C Peacock Company Limited
North Harbour
Ayr, KA8 8EA
United Kingdom
(0044) 1292 292000 http://www.peacocksalt.co.uk
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Hazards identification

Classification of the substance or mixture
This substance is not classified as dangerous according to Directive 67/548/EEC. No dangerous ingredients according to Regulation (EC) No. 1907/2006
GHS classification
This substance is not classified as dangerous according to Regulation (EC) No. 1272/2008.
According to present data no classification and labelling is required according to Directives 67/548/EEC or 1999/45/EC.

First aid measures

Description of first aid measures
In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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After Inhalation:
Remove victim from exposure and then have him lie down in the recovery position. Keep warm and in a quiet place. Give oxygen or artificial respiration if needed. Consult a physician after significant exposure.
After contact with skin:
Wash off with warm water and soap. If skin irritation persists, call a physician.
After contact with eyes:
Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Remove contact lenses. If eye irritation persists, consult a specialist.
After ingestion:
If conscious, give the victim plenty of water to drink. Do not give milk, alcoholic beverages or castor oil. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Symptoms and effects:
This product has no known adverse effect on human health.
Indication of any immediate medical attention and special treatment needed:
Keep under medical supervision for at least 48 hours.

Fire fighting measures

Extinguishing media:
Water spray jet, Dry powder, Alcohol-resistant foam, Carbon dioxide (CO2). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Suitable extinguishing media:
Do not use a solid water stream as it may scatter and spread fire.
Special hazards arising from the substance or mixture:
Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Fire may cause evolution of: Carbon oxides, Organic decomposition products, nitrogen oxides (NOx), Ammonia vapour.
Advice for Firefighters:
Standard procedure for chemical fires. In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. Cool closed containers exposed to fire with water spray.

Personal precautions Accidental release measures

PPE and Emergency procedures:
Avoid contact with the skin and the eyes. Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing dust.
Environmental precautions:
Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Possible need to alert the neighbourhood. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and material for containment and cleaning up
Dam up. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

Reference to other sections:
Retain and dispose of contaminated wash water.

Handling and storage

Precautions for safe handling:
Only use working methods according to operating instructions. General hygiene measures for the handling of chemicals are applicable. Provide sufficient air exchange and/or exhaust in work rooms. Use only clean and dry utensils. Protect from moisture.
Advice on protection against fire and explosion:
Keep product and empty container away from heat and sources of ignition. Keep away from combustible material.
Further information on handling:
Take precautionary measures against static discharges.
Requirements for storage rooms and vessels
Not to be stored in gangways or stair wells. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.
Advice on storage compatibility:
Do not store with highly flammable, flammable, self-igniting or oxidizing materials.
Further information on storage:
Protect from direct sunlight and warming. Protect from moisture. Observe regulations for keeping separated.

Exposure controls/personal protection

Threshold limits - Respirable dust: 10mg/m³; Alveolar dust fraction: 4mg/m³.
Protective and hygiene measures:
Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use.
Respiratory Protection:
Breathing apparatus only if aerosol or dust is formed. {Half mask with a particle filter P2 (EN 143).} No personal respiratory protective equipment normally required.
Hand Protection:
Do not wear leather gloves. Do not wear cotton gloves. PVC gloves: 0,5mm|8h; Butyl rubber gloves (IIR): 0,5mm|8h; FKM gloves (gloves made of VITON®): 0,4mm|8h; Nitrile rubber gloves (NBR): 0,35mm|8h; Latex (NR) gloves: 0,5mm|8h; Neoprene gloves (CR): 0,5mm|8h. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. Beaware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374,

due to the numerous outside influences (e.g. temperature). The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection
Safety glasses
Skin protection
Chemical resistant apron. Lightweight protective clothing. Safety shoes. Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls
Physical state: solid, powder
Colour: off-white

Physical and chemical properties

State: solid, powder
Colour: off white
Odour: very faint ammoniacal

	Test method
pH-Value (at 20 °C):	~9 (100g/l)
Changes in the physical state	
Melting point:	133-135 °C
Decomposition temperature:	> 130 °C
Explosive properties	Not explosive
Oxidizing properties	not applicable
Density (at 20 °C):	1,34 g/cm³
Water solubility:(at 20 °C)	> 500 g/L
Partition coefficient:	log Pow = -2,11
Other information	
Solid content:	~ 100,00 %
Bulk density =	700 - 800 kg/m³
Reactivity	No dangerous reaction known under conditions of normal use.
Chemical stability	Stable under recommended storage conditions. Stable up to the melting point.

Possibility of hazardous reactions:
No dangerous reaction known under conditions of normal use. Contact with strong bases liberates ammonia.
Conditions to avoid
No decomposition if stored and applied as directed. Stable under recommended storage conditions. Stable up to the melting point. To avoid thermal decomposition, do not overheat.

Incompatible materials
Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Strong oxidizing agents, nitrites, hypochlorite's, Chlorine.

Hazardous decomposition products
In the case of fire: build up of organic decomposition products possible. Carbon oxides, nitrogen oxides (NOx), Ammonia.
Further information: Avoid creating dust.

Toxicological information

Toxicocinetics, metabolism and distribution
This information is not available.
Acute toxicity: LD50/oral/rat = >10 g/kg, Health injuries are not known or expected under normal use.
Specific effects in experiment on an animal: This information is not available.
Irritation and corrosivity
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
No skin irritation (rabbit skin).
No eye irritation (rabbit eye).
Sensitising effects: Does not cause sensitization.
Carcinogenic/mutagenic/toxic effects for reproduction: Not mutagenic in Ames Test.
Further information
Health injuries are not known or expected under normal use.

Ecological information

Toxicity:
LC50/golden orfe (Leuciscus idus)/96h: >5 g/l
EC50/daphnia/24h: >10 g/l
Persistence and degradability
According to the results of tests of biodegradability this product is considered as being readily biodegradable.
Bio accumulative potential: Bioaccumulation is unlikely.

Partition coefficient n-octanol/water
CAS No Chemical name Log Pow 57-13-6 Urea -2,11
Mobility in soil:
Not expected to adsorb on soil. The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.
Results of PBT and vPvB assessment:
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).
Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal Waste water from subsequent processing should be given appropriate treatment in line with local regulations.

Disposal considerations

Advice on disposal
Dispose of in accordance with local regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Waste disposal number of waste from residues/unused products
070199 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; wastes not otherwise specified

Waste disposal number of used product
070199 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; wastes not otherwise specified
Contaminated packaging
Dispose of as unused product. Offer rinsed packaging material to local recycling facilities.
Transport information: Not classified as dangerous in the meaning of transport regulations.

Regulatory information

National regulatory information: Water contaminating class (D): 1 - slightly water contaminating
Chemical safety assessment: For this substance a chemical safety assessment is not required.

Other information

Changes
This data sheet contains changes from the previous version (1,1/26.07.2011) in section(s): 1, 2, 9.
Further Information
The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singulary responsible for adhering to existing laws and regulations.

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