1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : Urea
Product Number : U6504
Brand : Sigma
Company : Sigma-Aldrich
            3050 Spruce Street
            SAINT LOUIS MO  63103
            USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

This substance is not classified as dangerous according to Directive 67/548/EEC.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Carbamide
            Carbonyldiamide
Formula : CH4N2O
Molecular Weight : 60,06 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration [%]</th>
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<td>Urea</td>
<td>57-13-6</td>
<td>200-315-5</td>
<td>-</td>
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4. FIRST AID MEASURES

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid dust formation.

Environmental precautions
Do not let product enter drains.

Methods for cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment

Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
For prolonged or repeated contact use protective gloves.

Eye protection
Safety glasses

Hygiene measures
General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form solid
Colour white

Safety data
pH 7.5 - 9.5 at 480 g/l at 25 °C
Melting point 133 - 135 °C
Boiling point no data available
Flash point no data available
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 0.009 hPa at 20 °C
Density 1.335 g/cm3
Water solubility 480 g/l at 20 °C - completely soluble
10. STABILITY AND REACTIVITY

Storage stability
Stable under recommended storage conditions.

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions.
Carbon oxides, nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 8.471 mg/kg

Irritation and corrosion
Skin - rabbit - No skin irritation
Eyes - rabbit - No eye irritation

Sensitisation
no data available

Chronic exposure
Genotoxicity in vitro - mouse - lymphocyte
DNA damage
Genotoxicity in vivo - mouse - Oral
Cytogenetic analysis
Laboratory experiments have shown mutagenic effects.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
no data available

Ecotoxicity effects
Toxicity to fish LC50 - Poecilia reticulata (guppy) - 17.500 mg/l - 96 h
Toxicity to daphnia and other aquatic EC50 - Daphnia magna (Water flea) - 3.910 mg/l - 48 h

Partition coefficient: log Pow: -2,59 - -1,59
n-octanol/water
invertebrates.

**Further information on ecology**

no data available

### 13. DISPOSAL CONSIDERATIONS

**Product**

Observe all federal, state, and local environmental regulations.

**Contaminated packaging**

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

**ADR/RID**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

### 15. REGULATORY INFORMATION

**Labelling according to EC Directives**

Further information:

This substance is not classified as dangerous according to Directive 67/548/EEC.

### 16. OTHER INFORMATION

**Further information**

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