

**AS Nitrofert
MATERIAL SAFETY DATA SHEET
Urea Prilled**

Revised: February 08, 2008

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Designation	Urea Prilled
Commonly used synonyms	Carbamide, Carbonyl Diamide
CAS Number	57-13-6
EINECS Number	200-315-5
EINECS Name	Urea
Molecular formula	CH ₄ N ₂ O

1.2 Company

Name	AS Nitrofert
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1.3 Emergency calls **112**
in the territory of Estonia

2. COMPOSITION/INFORMATION ON INGREDIENTS

2.1 Nature of ingredients and concentration

Product containing nitrogen as essential ingredient.

Nitrogen (dry basis), wt. %, min.	46.2
Biuret, wt %, max.	1.0
Moisture, wt. %, max.	0.5

2.2 Classification

Not classified as hazardous material according to EEC Directive 67/548/EEC.

3. HAZARDS IDENTIFICATION

3.1 Human health

The product has low toxicity. However, the following points should be noted.

Skin Contact

Prolonged or repeated contact may cause some irritation.

Eye Contact

Prolonged or repeated contact may cause some irritation.

Ingestion

Small quantities are unlikely to cause toxic effect.

Large quantities may give rise to gastro-intestinal disorders.

Inhalation

High dust concentrations of air-borne material may cause irritation of the nose and upper respiratory tract.

Long term effects

No adverse effects are known. Occurs naturally in the body.

Fire and thermal decomposition products

Inhalation of decomposition gases can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed.

3.2 Other

Fire and heating

When heated, urea decomposes releasing ammonia. In a fire, toxic fumes containing ammonia and NOX may be released.

4. FIRST-AID MEASURES

4.1 Product

Skin Contact

Wash the affected area with soap and water.

Eye Contact

Flush/irrigate eyes with copious amounts of water for at least 10 minutes.

Obtain medical attention if eye irritation persists.

Ingestion

Do not induce vomiting.

Give water or milk to drink.

Obtain medical attention if more than a small quantity has been swallowed.

Inhalation

Remove from source of exposure to dusts.

Obtain medical advice if ill effects occur.

4.2 Fire and decomposition products

Skin Contact

Wash areas in contact with molten material copiously with cold water.

Obtain medical attention.

Inhalation

Remove from the source of exposure to fumes.

Keep warm and at rest.

Persons who have inhaled decomposition gases should immediately obtain medical attention.

5. FIRE-FIGHTING MEASURES

5.1 If fertilizer is not directly involved in the Fire

Use the best means available to extinguish the Fire.

5.2 If fertilizer is involved in the Fire

Call the Fire brigade.

Avoid breathing the fumes (toxic), stay up-wind of the fire.

Wear an approved breathing mask when fighting a Fire. Use a self-contained breathing apparatus if fumes are being entered.

Use plenty of water.

Open doors and windows of the store to give maximum ventilation.

Do not allow molten fertilizer to run into drains.

If water containing fertilizer enters any drains or watercourse, inform the local authorities immediately.

6. ACCIDENTAL RELEASE MEASURES

6.1 Environmental precautions

Take care to avoid the contamination of watercourses and drains and inform the appropriate authority in case of accidental contamination of watercourses.

6.2 Methods for cleaning

Any spillage of fertilizer should be cleaned up promptly, swept up and placed in a clean, labelled, open container for safe disposal.

Depending on the degree and nature of contamination, dispose of by use as a fertilizer on farm by spreading thinly on open ground or to an authorized waste facility.

7. HANDLING AND STORAGE

7.1 Handling

Avoid excessive generation of dust.

Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

When handling the product over long periods use appropriate personal protective equipment e.g. gloves.

7.2 Storage

Locate away from the source of heat or Fire.

Ensure high standard of housekeeping in the storage area.

Any building used for the storage should be dry and well ventilated.

7.3. R-Phrases; S-Phrases

R36/37/38 Irritating to eyes; respiratory system and skin.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36 Wear suitable protective clothing.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limit.

ACGIH recommended value (1995-96) for inhalable particulate:

TLV/TWA : 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods.

Use suitable dust respirator if dust concentration is high.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White solid.
Odour	Odourless.
Melting point	133°C (decomposes).
Flammability (solids)	Not flammable
Explosive properties	Uncontaminated urea is not an explosion hazard. However it may form explosive mixtures subject to spontaneous detonation when contaminated with strong acid (nitric or perchloric) or nitrates.
Oxidizing properties	None.
Bulk density	750-800 kg/m ³ .
Solubility in water	Good (1080 g/l), 20 °C

10. STABILITY AND REACTIVITY

10.1 Stability

The product is stable under normal conditions of storage, handling and use.

10.2 Conditions to avoid

Heating above melting point. On heating over 135 °C (at 760 mm Hg) decomposes releasing free ammonia.

Welding or hot work on equipment or plant, which may have contained fertilizer, without first washing thoroughly to remove all fertilizer.

10.3 Materials to avoid

Strong oxidizers, acids, alkalies, nitrates, sodium or calcium hypochlorite.

10.4 Hazardous reactions/decomposition products

Urea reacts with sodium or calcium hypochlorite to form explosive nitrogen trichloride. (See also Sections 3.2 and 9.) Enters into chemical reaction with halogens, spirits, acids etc. On contact with nitric acid forms explosion hazardous nitrate compounds.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

LD50 (oral, rat) > 2000mg/kg International Register of Potentially Toxic Chemicals (IRPTC). Data profile: Urea. UNEP Publication. <http://www.chem.unep.ch/irptc/sids/oecd/sids/57136.pdf>. Urea is not listed among the products requiring risk assessment according to Directive 793/93/EEC.

12. ECOLOGICAL INFORMATION

12.1 Mobility

Soluble in water.

12.2 Persistence/Degradability

Substantially biodegradable in soil and water.

12.3 Bio-accumulation

Low potential for bio-accumulation.

12.4 Ecotoxicity

Has low intrinsic aquatic toxicity but will exert a substantial oxygen demand when significant quantities as in a spillage reach a watercourse and may cause damage to aquatic life. (LD50 (fish, 96 hours) > 9100mg/l).

13. DISPOSAL CONSIDERATIONS

13.1 General

Depending on degree and nature of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorized waste facility.

14. TRANSPORT INFORMATION

14.1 UN classification

Not classified, i.e. considered non-hazardous material according to UN Orange Book and international transport codes e.g. RID (rail), ADR (road) and IMDG (sea).

15. REGULATORY INFORMATION

15.1 EEC Directives

76/116/EEC (Law relating to fertilizers)

15.2 National laws

Chemicals Act and legal acts and regulations pertinent thereto.

16. OTHER INFORMATION

The information is presented by:

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