

UREA SOLUTION 32,5% MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE PREPARATION AND THE COMPANY

1.1-Identification of the preparation:

Chemical name: Aqueous Urea Solution 32.5% in weight

Designation or trade mark: Automotive grade urea solution, AUS 32, AdBlue™

Molecular formula: $\text{CO}(\text{NH}_2)_2 + \text{H}_2\text{O}$

1.2. Use of the preparation:

In transport, it is used to reduce the NOx emissions of diesel heavy goods vehicles.

Product Life: The life of the product is 12 months as long as its temperature doesn't exceed 30° C. It is important to ensure the containers are kept closed.

1.3 – Company Identification:

FERTIBERIA, S.A.

Address: Paseo de la Castellana 259D

28046 MADRID

Telephone 91 586 62 00

Fax 91 586 58 08

Production Plant:

Palos de la Frontera (Huelva)

Address: Apartado 44 21080 HUELVA

Telephone: 959 49 24 00

Fax 959 49 24 03

1.4– Emergency telephone numbers:

Factory telephone numbers: +34 959 49 24 00/ +34 959 49 24 05

Official body of contact: CECM, CECOP

2. COMPOSITION / INFORMATION ON INGREDIENTS

2.1– Identification of product components:

Product is composed of an aqueous Urea Solution 32.5%:

Name	CAS No.	EINECS No.	PM (g/mol)	% in weight
Urea	57-13-6	200-315-5	60,06	32,5
Water	7732-18-5	231-791-2	18	67,5

2.2– Classification:

It is not classified as a dangerous product by Directive 67/548/ EC for chemical products.

3. HAZARD IDENTIFICATION

3.1– For Human Health

The product has a low toxicity and it is not considered that it could be harmful to health. Nevertheless, the following advice must be taken into account:

3.1.1. – *Contact with the skin:*

An extended or repeated contact as well as an extended immersion can cause irritation or inflammation.

3.1.2. – *Contact with the eyes:*

A direct contact with the eyes, although the product is not considered irritating, can cause slight pain such as irritation and reddening.

3.1.3. – *Ingestion:*

It is possible that there will not be not to have toxic effects if small quantities are swallowed. However, in the case of big quantities gastrointestinal disorders can result.

3.1.4. – *Inhalation:*

Although the product it is not classified as toxic, inhalation exposure must be avoided. In the case of solidification, the inhalation of swept dust in high concentrations can cause irritation of the nose and the upper respiratory passages.

3.1.5. – *Long-term effects:*

Adverse effects are unknown. Urea is a substance that appears in the body as a result of proteins during metabolism, it is eliminated with the urine.

3.2– Others: Fire and warming

Heat has the effect of decomposing the urea solution producing an ammonia separation. In the case of fire and very high temperatures this can give off toxic fumes of ammonia and nitrogen oxides.

4. FIRST AID MEASURES

4.1. – Product

4.1.1 – *If it comes into contact with the skin:*

Wash the affected parts with water and soap.

4.1.2 – *If it comes into contact with the eyes:*

Immediately rinse with fresh water or with an eyewash solution for at least 10 minutes, make sure that the water or the solution is all over the eye.

If the pain or the irritation continues seek emergency medical assistance

4.1.3. – *In case of ingestion: DO NOT provoke vomiting.*

Give water to the person affected to rinse out the mouth and then a liquid such as water or milk to drink slowly for as long as he/she can drink it.

Seek emergency medical assistance if necessary.

4.1.4. – *In case of inhalation:*

If there are fumes, combustion or decomposition of product, move away from the affected area.

Look for medical assistance if big quantities of dust or fumes are inhaled.

5. FIRE FIGHTING MEASURES

The product is not flammable, although the possibility of fire must be taken into account.

5.1– *Extinction:* There are no restrictions on the type of extinguisher that can be used. Water can be used if it is compatible with the burning material.

5.2– *Fire Fighting:* Alert the fire fighting personnel and inform them of the localization and nature of the danger.

Use the respirators and the protecting gloves only for the fire.

Avoid breathing the fumes.

Use adequate procedures for the considered area.

Do not approximate to the containers that seem to be warm.

Cool down the containers and the exposed to fire structures spraying them with water from a protected place.

If possible move the containers away from the fire.

5.3– *Danger of fire and Explosion:* There is not considered to be a significant risk of fire. Expansion or decomposition because of warming can result in a violent rupture of the container. The product decomposes because of warming and can cause toxic fumes of ammonia and NOx. It can give off noxious and corrosive fumes.

5.4– *Incompatibilities:* Avoid AdBlue contact with strong oxidizing agents and acids as there is a risk of ignition.

6. ACCIDENTAL RELEASE MEASURES

6.1- Small spill: The **spills are slippery** and as such should be cleaned immediately with water.

6.2- Large spill: As mentioned **spills are slippery**.

- All staff should be moved from the area.
- Direct contact with the AdBlue should be avoided, using protective equipment as necessary e.g.gloves, boots etc.
- Spills should be contained using sand or gravel.
- Divert spill away from drains or waterways. If it does reach a waterway or drain, contact relevant authorities immediately.
- If possible, gather the recoverable product in labeled containers for recycling or elimination. Do not use it as AdBlue as it may have become contaminated.

7. HANDLING AND STORAGE

7.1- Handling

Limit or avoid direct contact with AdBlue. The product should be used only in well ventilated areas. Good work procedures should be followed at all times.

7.2- Storage

- AdBlue should be stored in correct containers e.g. stainless steel, polyethylene and polypropylene.
- Seals should be left on containers until required.
- AdBlue storage area should always be kept clean.
- Store product away from incompatible materials and foodstuffs.
- Keep containers protected from physical damage and check regularly that leaks or spillages have not occurred.
- Container should be stored away from heat sources or fire.
- Product must be kept above -11°C and below 30°C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1-Exposure limits

Currently there are no official limits for this product.

8.2-Exposure controls

- Extractor fans should be used where necessary to prevent excessive exposure to vapor.
- There should be a plentiful supply of clean running water on hand, in case of spillages or contact with eyes or skin.

- Staff handling the product should wear protective clothing, gloves and eye protection.

8.3- Environmental exposure controls
See section 6.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1-General Information

Physical state: Liquid

Appearance: Colorless and light

Odor: Almost odorless. May gradually develop slight odor of ammonia as time goes by.

9.2-Important information related to health, security and environment

Density: 1.090 g/l at 20°C.

Solubility in water: Total .

Crystallization point: -11°C.

PH: approx. 9.5.

Explosive power limits: None.

Explosive properties: The urea solution when uncontaminated does not hold a risk of explosion. However, it can become so if it is contaminated with strong acids or nitrates.

Oxidant properties: None.

9.3-Other data

Auto ignition temperature: Not applicable.

10. STABILITY AND REACTIVITY

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

10.1-Conditions to avoid

High temperature- above 30°C as hydrolysis can occur resulting in the production of ammonia and carbon dioxide.

Temperatures under -11°C should also be avoided.

10.2- Materials to avoid

Acids, alkali, nitrates, sodium or calcium hypochlorite and strong oxidants.

11. TOXICOLOGICAL INFORMATION

11.1-General

See section 3.1

11.2-Toxicological data

This information is not available for the urea solution at 32.5% in water; however, the corresponding information for pure urea is as follows:

UREA, LD50 (Oral, rats): >2000 mg/Kg

12. ECOLOGICAL INFORMATION

12.1-Ecotoxicity

AdBlue has a relatively low toxicity, however it could be harmful to aquatic life if it were to reach drains or waterways.

12.2-Mobility

Soluble in water

12.3-Persistence and degradability

Substantially biodegradable.

12.4-Bioaccumulation

Low bioaccumulation potential.

13. WASTE DISPOSAL CONSIDERATIONS

13.1-General

If there is any possibility of contamination to the product **DO NOT USE IT AS ADBLUE**. Consult the manufacturer about the possibility of recycling or of an agricultural use.

13.2-Other residues

Contaminated residues should be taken to an authorized dump or following consultation can be taken for use in agriculture.

14. TRANSPORT

14.1- UN Classification

It is not classified as a dangerous substance when carried by road (ADR), Train (RID) or maritime (IMDG).

15. REGULATORY

There is no specific regulation relating to AdBlue itself, however the legislation relating to Urea is listed below.

15.1 - CE Regulation

Regulation (CE) 2003/2003 de 13/10/03, relating to fertilizers.

15.2 –National Laws

RD 72/88 de 5/2/88, BOE nº 32 de 6/2/88

RD 877/91 de 31/5/91, BOE nº 140 de 12/6/91

OM de 28/5/98, BOE nº 131 de 2/6/98, relating to fertilizers.

16. ADDITIONAL INFORMATION

16.1 -References

“Guidance for the Compilation of Safety Data Sheets for Fertilizer Materials” edited by EFMA (European Fertilizer Manufacturers’ Association),

“Ficha de Datos de Seguridad de la Urea”, Fertiberia, Review 16-09-99.

16.2 –Other information

Guide for the Quality Assurance AUS 32, of the Sector Group AGU (Automotive Grade Urea) of CEFIC (Council for the European Federation of the Chemical Industry). Available in: www.petrochemistry.net

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