

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Identification of the product

Trade name	Top!Blue AdBlue® - an aqueous urea solution (32.5 wt%)
Commonly used synonyms	NOx reducing agent ISO 22241
Chemical name	Carbonyl diamide
Application area	Reducing agent to reduce NOx gases in SCR gas after treatment catalyst for diesel engines
CAS Number	57-13-6
EINECS Number	200-315-5
EINECS Name	Preparation, therefore not relevant
Molecular formula	NH ₂ CONH ₂
Molecular mass	60, 06 kg-kmol

1.2 Company

Top Blue Limited, a fully controlled subsidiary of Sichuan Meifeng Chemical Industry Co., Ltd
Product name: AdBlue®
Compliance: Product conforms to ISO 22241 and can be marketed as AdBlue under VDA license no. 0002246

2. COMPOSITION / INFORMATION ON INGREDIENTS

2.1 Nature of ingredients and concentration

Aqueous solution of 32.5 weight % urea.

2.2 Classification

Not classed as hazardous material according to EC Directive 67/548/EC.

3. HAZARDS IDENTIFICATION

The product is not dangerous.

4. FIRST-AID MEASURES

4.1 Product

a) Skin Contact

Wash the affected area with soap and water.

b) Eye Contact

Flush/irrigate eyes with copious amounts of water for at least 15 minutes.

Obtain medical attention if eye irritation persists.

c) Ingestion

Do not induce vomiting.

Give a lot of water to drink.

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

d) Inhalation

Remove from source; fresh air.

5. FIRE-FIGHTING MEASURES

The product is not flammable.

Ammonia might exposure due to constantly heating.

5.1 If AdBlue is involved in 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.

Prevent water containing product into drains or watercourse.

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 product 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 an authorised waste facility.

7. HANDLING AND STORAGE

7.1 Handling

No special rules are necessary to handle AdBlue.

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.

To prevent crystallisation and hydrolysis of the product, a storage temperature of 20 - 25° Celsius is strongly recommended. At a constantly environmental temperature of minus 10° Celsius, the product storage tank, pipes and equipment which comes in contact with the product, must be isolated and heated.

Recommended material for storage:

High Density Polyethylene (HDPE),
Low Density Polyethylene (LDPE),
Cr-Ni-stainless steel and Cr-Ni-Mo stainless steel according to ISO 22241.
Unqualified materials are iron and metals containing copper and/or zinc alloys.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Personal Protection

Wear suitable gloves when handling the product over long periods.

Use chemical safety goggles or full face shield.

Don't eat, drink or smoke during handling of the product.

After handling the product, clean your hands.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless clear liquid when free from crystals.
Odour	Almost odourless.
PH water solution (conc. 10 %)	8 - 10
Crystallization point	-11 °C
Explosive properties	not explosive good.
Oxidizing properties	none
Solubility in water	completely
Density	1090 kg/m ³ at 20 °C

Vapour pressure

approx. 48 mm Hg (at 40 °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

Temperatures below crystallisation point.

At higher temperatures, hydrolysis of urea with formation of ammonia and carbon dioxide might occur above 40 degrees Celsius.

10.3 Materials to avoid

Strong oxidizers, acids, nitrates and nitrite.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.

11.2 Toxicity Data

LD50 (oral, rat) > 15.000 mg/kg

Skin irritation (Rabbit)

: short term irritation

Eye irritation (Rabbit)

: slightly harmful

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 Eco-toxicity

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. Acute fish toxicity LC 50: for urea: > 10000 mg/l 48 hours (gold fish).

13. DISPOSAL CONSIDERATIONS

13.1 General

Any spillage of product 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 an authorised waste facility.

14. TRANSPORT INFORMATION

14.1 UN classification

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

15. REGULATORY INFORMATION

Not classed as hazardous material according to EC Directive 67/548/EC and therefore no obligation for registration.

16. OTHER INFORMATION

The information in this safety data sheet is given in good faith and belief in its accuracy based on our knowledge of the substance/preparation concerned at the date of publication. It does not imply the acceptance of any legal liability or responsibility whatsoever by the Company for the consequences of its use or misuse in any particular circumstances.