Borealis Agrolinz Melamine GmbH

St.-Peter-Strasse 25
A-4021 Linz/Austria
Tel: +43 732 6914-DW
Fax: +43 732 6914-DW
www.borealisgroup.com

Safety Data Sheet
according to 1907/2006/EC, Article 31

Printing date 11.08.2009 Revision: 11.08.2009

* 1 Identification of substance

. **Product details:**

. **Trade name:** **AdBlue, AUS 32 Aqueous Urea Solution 32.5 %**
NOx-reducing agent AUS 32 DIN 70070
Automotive Grade Urea (AGU)

. **Article number:** -

. **Application of the substance / the preparation:**
For reducing of nitrogen oxides in exhaust gases of Diesel engines (SCR-technology)

. **Manufacturer/Supplier:**
Borealis Agrolinz Melamine GmbH
St.-Peter-Straße 25
4021 Linz / Austria
sds@borealisgroup.com

. **Emergency information:**
Pho. (+43) 732/6914-2466 or 2991
Fax (+43) 732/6914-2403

2 Hazards identification

. **Hazard designation:** Void

. **Information pertaining to particular dangers for man and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

. **Classification system:**
The classification is in accordance with current EU lists. It is expanded by information from technical literature and by information furnished by supplier companies.

* 3 Composition/information on ingredients

. **Chemical characterization:**

. **Description:** Aqueous solution of high purity urea (CAS 57-13-6, EINECS 200-315-5)

. **Dangerous components:** Void

. **Additional information:** Refer to chapter 16 for description of the listed risk phrases.

4 First aid measures

. **General information:** No special measures required.

. **After inhalation:** Supply fresh air; consult doctor in case of symptoms.

. **After skin contact:** Instantly wash with water and soap and rinse thoroughly.

. **After eye contact:**
Rinse opened eye for several minutes inder running water. In case of persistent symptoms consult doctor.

. **After swallowing:**
Rinse out mouth and then drink plenty of water.
In case of persistent symptoms consult doctor.

5 Fire fighting measures

. **Suitable extinguishing agents:** CO_2, water sprinklejet or alcohol resistant foam.

. **Unsuitable extinguishing agents (for safety reasons):** Water jet.

. **Special hazards caused by the material, its products of combustion or flue gases:** Non-combustible.

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. **Protective equipment:** Independent respiratory apparatus is recommended.
. **Additional information:**
Cool endangered containers with water spray jet.
Usual measures for fires with chemicals.

6 Accidental release measures

. **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Particular danger of slipping on leaked/spilled product.
. **Measures for environmental protection:**
Prevent material from reaching sewage system, holes and cellars.
. **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, sawdust).
Dispose of the material collected according to regulations.
Wash up residues with much water.

* 7 Handling and storage

. **Handling:**
. **Information for safe handling:** No special measures required.
. **Information on protection against explosions and fires:** No special measures required.

. **Storage:**
. **Requirements to be met by storagerooms and containers:**
Materials to be used in direct contact with AdBlue:
highly alloyed austenitic Cr-Ni-steels and Cr-Ni-Mo-steels acc. to DIN EN 10088-1 to -3 (i.e. 1.4541 and 1.4571), worked according industrial standard, Titanium, HDPE, HDPP, Viton.
Don´t use:
unalloyed steels, copper, coppery alloys and zinced steels
Test other material before use on corrosiveness and on contamination potential of AdBlue. In general, before use materials have to be cleaned to avoid any contamination of AdBlue.
. **Information on storage in one common storage facility:**
Do not store together with oxidizing and acidic materials.
Don´t store or transport together with nitrites and salts containing nitrates.
. **Further information about storage conditions:**
Room temperature recommended to avoid cristallization below -11.5 °C and hydrolysis at temperature above 30 °C. Use heated and insulated containers and tanks, included tubes, valves and fittings, at ambient temperatures lower than -10 °C and higher than 30 °C, resp.
Sun light protection.
. **Storage class:** VCI: 10 - 13

8 Exposure controls and personal protection

. **Additional information about design of technical systems:** No further data; see item 7.

. **Components with critical values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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. **Additional information:** The lists that were valid during the compilation were used as basis.

. **Personal protective equipment:**
. **General protective and hygienic measures:**
The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Do not eat, drink or smoke while working.
Instantly remove any soiled and impregnated garments.
Wash hands and face before breaks.
Shower or take a bath at the end of the work.
. **Breathing equipment:** Not required.
. **Protection of hands:** Gloves when risk of splashing.
. **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
. **Penetration time of glove material:**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
. **Eye protection:** Safety glasses when risk of splashing.
. **Body protection:** Protective work clothing

9 Physical and chemical properties

. **General Information:**	
Form:	Aqueous solution
Colour:	Clear Colourless
Odour:	Slightly like Ammonia
. **Change in condition:** **Melting point/Melting range:**	- 11.5℃ (Eutektikum)
. **Flash point:**	Not applicable
. **Ignition temperature:**	
. **Decomposition temperature:**	> 30℃
. **Self-inflammability:**	Product is not selfigniting.
. **Danger of explosion:**	Product is not explosive.
. **Density at 20℃:**	1.087 - 1.092 g/cm³
. **Solubility in / Miscibility with:** **Water:**	Miscible with water. Slightly soluble in aliphatic hydrocarbons.
. **pH-value at 20℃:**	8.8

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. **Viscosity:**
dynamic at 25°C: ~ 1.4 mPas

10 Stability and reactivity

. **Conditions to be avoided:**
Brisk hydrolysis at high temperatures, risk of burst of containers.
Thermal decomposition from ~ 30, with formation of ammonia.
. **Materials to be avoided:**
nitrates, nitrites
Strong oxidizing agents.
strong acid
corrode base metalls.
. **Dangerous products of composition:** Ammonia (NH_3)

11 Toxicological information

. **Acute toxicity:**

. **LD/LC50 values that are relevant for classification:**		
57-13-6 urea		
Oral	LD50	8471 mg/kg (rat)
Dermal	LD50	8200 mg/kg (rat)

. **Specific symptoms in biological assay:**
CAS 57-13-6 (UREA)
Eye irritation test (rabbit): No irritation
Skin irritation test (rabbit): No irritation
. **Primary irritant effect:**
. **Skin:** No irritant effect.
. **Eye:** No irritant effect.
. **Sensitization:** No sensitizing effect known.
. **Subacute to chronic toxicity:**
CAS 57-13-6 (UREA)
Sensitization:
Experience in man: No sensitization effect
. **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

. **Ecotoxical effects:**
. **Aquatic toxicity:**
Growth inhibition of algae: TGK / 16 h / Pseudomonas putida > 10 000 mg/L

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57-13-6 urea	
EC50	> 10000 mg/l/24h (Daphnia magna (water flea))
LC50	> 6810 mg/l/96h (Leuciscus idus (orfe))

. **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.

13 Disposal considerations

. **Product:**
. **Recommendation:**
Recycling is preferred to disposal or incineration. Contact the proper local authorities.
Contact manufacturer.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
. **Waste disposal key number:**
ÖNORM S2100: 51507, Fertilizer residues
Accountability: yes

. **European waste catalogue:**	
06 10 99	wastes not otherwise specified

. **Uncleaned packagings:**
. **Recommendation:** Dispose of packaging according to regulations on the disposal of packagings.
. **Recommended cleaning agent:** Water, if necessary with cleaning agent.

14 Transport information

. **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic):**
. **ADR/RID-GGVS/E Class:** -

. **Maritime transport IMDG/GGVSea:**
. **IMDG/GGVSea Class:** -

. **Air transport ICAO-TI and IATA-DGR:**
. **ICAO/IATA Class:** -

. **Transport/Additional information:** Product will be transported with a temperature of max. 30 ℃.

15 Regulatory information

. **Designation according to EC guidelines:**
The product has been labelled in accordance with EC Directives / relevant national laws.
Observe the normal safety regulations when handling chemicals.
The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials (GefStoffV).

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. **National regulations:**

. **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

The above information is based on the current state of our knowledge and experience at the time this document was prepared. It is provided without warranty as to completeness and accuracy, does not constitute a binding assurance of product characteristics and hence shall not form the basis for any warranty or other liability claims of whatever kind. Nor shall it establish an independent legal relationship. The user shall himself or herself determine the suitability of the product for the intended purpose of use, and shall comply with all relevant regulations when processing or using the product, including any conflicting third-party industrial property rights and any safety measures also required.

. **Training hints:**
Before handling, storing or using the present substance for the first time, employees must be informed about its properties and about measures to ensure safety and environment protection.

. **Recommended restriction of use:**
For applications other than those set out in Chapter 1, please consult the manufacturer of the product to avoid unsafe activities.

. **User:** Kolm Angelika

. *** Data compared to the previous version altered.**