

SAFETY DATA SHEET (MSDS)	Logo
Madin Diesel Exhaust Fluid (AUS20/AUS32/AUS40/Adblue)	

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name: Madin Aqueous Urea Solution (AUS)
Trade name: Madin AUS20/ AUS32/ AUS40/ Adblue
CAS number: 57-13-6
Other name (not scientific name): Aqueous Urea Solution
Manufacturer: Madin Co,ltd
Address: 13 Le Ngung St, Tran Hung Dao Ward, Quang Ngai City, Quang Ngai
Binh Duong Branch: 180 Thong Nhat Street, Hiep Thang Quarter, Dong Hoa Ward, Ho Chi Minh City, Vietnam
HCM OFFICE: 11th floor, 728 730 Vo Van Kiet Street, Ward 01, District 5, HCMC, Vietnam VP
HN: 706 Nguyen Khoai St, Thanh Tri Ward, Hoang Mai District, Ha Noi City, Vietnam
Phone: +84888718778
Purpose of Use: the SCR system in Diesel engines reduces the Nox emissions during combustion of diesel.

1.2 Relevant identified uses of the mixture and uses advised against

1.2.1 Uses:
Industrial use: - Industrial use [SU23]: for exhaust gas cleaning – NOx reducing agent.

1.2.2 Uses advised against: none.

1.3 Details of the supplier of the safety data sheet

Manufacturer: Madin Co,ltd
Address: 13 Le Ngung St, Tran Hung Dao Ward, Quang Ngai City, Quang Ngai
Binh Duong Branch: 180 Thong Nhat Street, Hiep Thang Quarter, Dong Hoa Ward, Ho Chi Minh City, Vietnam
HCM OFFICE: 11th floor, 728 730 Vo Van Kiet Street, Ward 01, District 5, HCMC, Vietnam
VP HN: 706 Nguyen Khoai St, Thanh Tri Ward, Hoang Mai District, Ha Noi City, Vietnam
Phone: +84888718778
Country: Vietnam

Website: madin.vn**Person responsible for the Safety Data Sheet (with e-mail address):** Tien Huynh, contact@madin.vn

1.4 Emergency telephone number

Please contact: Poison Information and Control Office in Ha Noi, Vietnam by phone +84 888718778**Helpdesk services work:** Office Hours in GMT+7: 08:00AM-05:00PM**Other remarks (language in which assistance is provided):** assistance is provided in English, Vietnamese.

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance

Mixture is not classified as dangerous according to the Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

2.2 Label elements

Signal word: No signal word**Hazard statements:** No known significant effects or critical hazards

2.3 Other hazards

The substance does not meet the criteria for PBT and vPvB..

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Composition

AUS20:

Substance	Cas No	Chemical Formula	Conc (%)
Urea	57-13-6	(NH ₂) ₂ CO	20
Water	7732-18-5	H ₂ O	80

Adblue / AUS32:

Substance	Cas No	Chemical Formula	Conc (%)
Urea	57-13-6	(NH ₂) ₂ CO	32,5
Water	7732-18-5	H ₂ O	67,5

AUS40:

Substance	Cas No	Chemical Formula	Conc (%)
Urea	57-13-6	(NH ₂) ₂ CO	40
Water	7732-18-5	H ₂ O	60

3.2. Mixtures

According to the REACH Regulation (EU) No. 1907/2006 the product is a multi-constituent.

Hazardous ingredients in the mixture: none.

SECTION 4. FIRST-AID MEASURES**4.1 Description of necessary first aid measures**

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if symptoms occur.

Inhalation: If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treatment should in general be symptomatic and directed to relieving any effects. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: water and carbon dioxide, powder, sand or other fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: none

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical: In a fire or if heated, a pressure increase will occur and the container may burst

Hazardous thermal decomposition products: Combustion products may include the following: carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO₂ etc.)

5.3 Advice for firefighters

Special protective actions for fire-fighters: No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters: Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling

6.1.2. For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air)

6.3 Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See section 8 for personal protective equipment and section 13 for waste disposal

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Usage requirements and recommendations: AUS20/AUS32/AUS40/Adblue must be used as per instructions for motor vehicles.

Storage conditions: store in a closed, dry room with good ventilation at temperature not below +5 °C and not above +35 °C. Avoid temperatures below 0 °C and above 40 °C.

Constant ambient storage temperature (°C)	Minimum shelf life (months)
<= 10	36
<= 25	18
<=30	12
<=35	6
>35	Madin provides checks and advice

Instructions on the limit quantity of the substance/preparation to be stored under the conditions specified: none.
Keep away from spillage and getting into a sewer system..

7.2 Conditions for safe storage, including any incompatibilities

Incompatible products: Due to very strict requirements applied for product cleanliness, contact with other substances shall not be allowed.

Requirements to packages: packages (containers) manufactured of high alloyed austenitic Cr-Ni, Cr-Ni-Mo steels, titanium, Ni-Mo-Cr-Mn-Cu-Si-Fe alloys, polyethylene, polypropylene, polyisobutylene, polyfluoroethylene (PFE), polyvinylidene fluoride (PVDF), perfluoroalkoxy alkane (PFA), polytetrafluoroethylene (PTFE), copolymers (vinylidene fluorides and hexafluoropropylenes).

Non suitable packaging materials: paper, glass, carbon (non alloyed or low-alloy) steels, copper and its alloys, zinc (galvanized steel), silver alloys, aluminum and its alloys, magnesium and its alloys, plastics and metals with nickel.

According to the Resolution of the Government of the Republic of Lithuania No.16.08.2004. 966 "On the Approval of the Description and Listing of Criteria for the Listing and Classification of Substances, Mixtures or Preparations of Hazardous Substances in Hazardous Substances" (Official Gazette, 2004, No. 130-4649), as well as subsequent amendments and supplements Requirements for hazardous objects restrictions for the product are not applicable. In accordance with Regulation (EU) No. 98/2013.

7.3 Specific end use(s)

Aqueous urea solutions AUS20/AUS32/AUS40/Adblue is NOx reducing agents.

Aqueous urea solution AUS20/AUS32/AUS40/Adblue is used to inject to the exhaust systems of diesel engines before a selective catalytic converter..

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Chemical, worker exposure limit value in air:

Long-term exposure limit (IPRD): none.

Short-term exposure limit (TPRD): none.

Non-limiting value (s) (DNEL): The product is aqueous urea solution. DNEL of the product is not determined. The physicochemical properties of the pure urea DNEL product which could have the greatest negative effect, according to urea REACH dossier are provided

Workers exposure

Exposure mode	Exposure type	Hazardous	Physicochemical property that could have the greatest negative effect
Inhalation	Systemic effect – long lasting	DNEL: 292 mg/m ³	Toxicity
Inhalation	Systemic effect - acute	DNEL: 292 mg/m ³	Toxicity
Inhalation	Local effect – long lasting	The hazard is not known, but there is no need to collect more hazard information because there is no human exposure	
Inhalation	Local effect – acute	The hazard is not known, but there is no need to collect more hazard information because there is no human exposure	
Dermal	Systemic effect – long lasting	DNEL: 580 mg/kg bw/ day	Toxicity
Dermal	Systemic effect-acute	DNEL: 580 mg/kg bw/ day	Toxicity

Public exposure

Exposure mode	Exposure type	Hazardous	Physicochemical property that could have the greatest negative effect
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Inhalation	Systemic effect – long lasting	DNEL: 125 mg/m ³	Toxicity
Inhalation	Systemic effect- acute	DNEL: 125 mg/m ³	Toxicity
Inhalation	Local effect – long lasting	The hazard is not known, but there is no need to collect more hazard information because there is no human exposure	
Inhalation	Local effect – acute	The hazard is not known, but there is no need to collect more hazard information because there is no human exposure	
Dermal	Systemic effect – long lasting	DNEL: 580 mg/kg bw/ day	Toxicity
Dermal	Systemic effect- acute	DNEL: 580 mg/kg bw/ day	Toxicity
Dermal	Local effect – long lasting	The hazard is not known	
Dermal	Local effect – acute	The hazard is not known	
If swallowed	Systemic effect – long lasting	DNEL: 42 mg/kg bw/day	Toxicity
If swallowed	Systemic effect- acute	DNEL: 42 mg/kg bw/day	Toxicity
In in eyes	Local effect	The hazard is not known	

Predicted Inactive Concentration (s) (PNEC). PNEC of the product is not determined. PNEC of pure urea product according to urea REACH dossier are provided

Section	Hazardous	Comments / Grounds
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<i>Fresh water</i>	PNEC aqua (fresh water): 0,47 mg/l Periodic releases: there is no PNEC	Exposure factor: 100 Extrapolation method: exposure factor The PNEC of water was derived using an effect factor of 100, up to 47 mg / l in aeruginosa (the most sensitive culture) Justification for the re-release of the PNEC: Separate PNEC re-release was not proposed.
<i>Sea water</i>	PNEC aqua (sea water): 0,047mg/L Periodic releases: there is no PNEC	Exposure factor: 100 Extrapolation method: exposure factor No effect is expected due to the inclusion of urea in the urea cycle.
<i>Freshwater sediment</i>	There is no probability of sediment exposure	No data available: It is proposed that the PNEC value should not be set..
<i>Sea water sediment</i>	There is no probability of sediment exposure	No data available: It is proposed that the PNEC value should not be set.
<i>Microorganisms in sewage treatment system</i>	The hazard is not known	Urea is naturally low toxic to microorganisms and is used as a nutrient and source of nitrogen (N). Based on this, PNEC is not proposed.
<i>Soil</i>	No hazard to soil	No data available: It is proposed that the PNEC value should not be set.
<i>Air</i>	The hazard is not known	
<i>Food chain</i>	No bioaccumulation potential	

8.2 Exposure controls

8.2.1 Appropriate engineering controls: inlet and exhaust ventilation

8.2.2. Individual protection measures:

Ensure sufficient local ventilation.

Eye/face protection: Use protective goggles with side shields

Skin protection: Hand protection: the breakthrough time: > 8 hours; suitable glove material: PVC, natural rubber (latex), butyl rubber, Nitrile rubber; Material to be avoided: leather.

Other: Wear suitable protective gloves and shoes.

Respiratory protection: In case of insufficient ventilation system, use effective respirator, mask with ammonia-proof filter.

Thermal hazards: Information is not available.

8.3. Environmental exposure controls: Prevent uncontrolled release to environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties.

Appearance	Liquid
Color	Clear
Odor	Ammoniacal. (Slight)
Odor threshold	Information is not available.
pH	(8-10) 10 % solution
Melting point/freezing point	-11.5°C (11.3°F)
Initial boiling point and boiling range:	100°C (212°F)
Flash point:	No flash point - Measurement made up to the boiling point.
Evaporation rate:	Information is not available
Flammability (solid, gas):	Not applicable. Based on - Physical state
Upper/lower flammability or explosive limits:	Not available.
Vapor pressure:	6.4 kPa (48 mm Hg) [40°C (104°F)]
Vapor density:	Information is not available
Relative density:	AUS 32 (1,087 ÷ 1,093) at 20 °C
Solubility (ies):	Infinitely soluble in water
Partition coefficient: n-oktanol/water:	Information is not available.
Auto-ignition temperature:	Information is not available.
Decomposition temperature:	100°C (212°F)
Viscosity:	Information is not available.
Explosive properties:	Information is not available.
Oxidizing properties:	Information is not available.

9.2 Other informatio

None

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under regular conditions (see section 7, handling and storage)

10.2 Chemical stability

Stable under regular handling and storage conditions

Conditions to avoid the substance causing hazardous chemical reactions: lower than the crystallization temperature and higher than 30 °C (urea hydrolysis takes place). Any entry material will contaminate the product and can not be used for its intended purpose.

10.3 Possibility of hazardous reactions

Any entry material will contaminate the product and can not be used for its intended purpose. Stabilizers need: not necessary.

10.4 Conditions to avoid

Environment temperature lower than crystallization temperature and higher than 30 °C (urea hydrolysis takes place). Entrance of any materials will pollute the substance and it will be impossible to use the substance for intended purpose

10.5 Incompatible materials

No specific data.

10.6 Hazardous decomposition products

Heated under vacuum at its melting point (120 °C - 130 °C) it sublimes without change. At 160 °C - 190 °C under vacuum urea sublimes and is converted to ammonium cyanate. At atmospheric pressure at 180 °C - 190 °C it sublimes completely and decomposes partially to biuret, cyanic acid and alkali metals. At higher temperature than 200 °C urea sublimes and is converted to ammonium and cyanic acid

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Information on toxicological effects

Information on likely routes of exposure: Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility.

Skin contact: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Eye contact: Potential risk of transient stinging or redness if accidental eye contact occurs.

Inhalation: Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Skin contact: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/ or dermatitis.

Ingestion: Ingestion of large quantities may cause nausea and diarrhoea

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards

Mutagenicity: No known significant effects or critical hazards

Teratogenicity: No known significant effects or critical hazards

Developmental effects: No known significant effects or critical hazards

Fertility effects: No known significant effects or critical hazards

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

In bodies of drinking water, maximum allowable concentration of urea shall not exceed the amount of organic matter established by calculations against the amounts of biochemical possible concentration (BPC) and dissolved oxygen. In water bodies of fishing farms, maximum allowable concentration of urea is 80mg/dm³.

Leuciscus idus (orfe) 96-h LC₅₀> 6810 mg/l

Daphnia magna (short-term): 24-h EC₅₀: > 10000 mg/l

Daphnia magna (long-term): no data.

Toxicity for fish

Exposure dose / concentration	Test duration	The name of the organism used in the test	Results	Method
LC ₅₀ : > 10 000 mg / l	48 h	Golden orphan	Urea is of inherently low toxicity for fish	OECD 203
LC ₅₀ : 6 810 mg / l	96 h	Golden orphan	Urea is of inherently low toxicity for fish	OECD 203

Toxicity to aquatic invertebrates (short-term effects)

Exposure dose / concentration	Test duration	The name of the organism used in the test	Results	Method
LC50: > 10 000 mg / l	24 h	Daphnia magna	Low toxicity level	OECD 202
LC50: 14 241 mg/l	24 h	Herisoma trivolvis	Low toxicity level	OECD 202

Toxicity to aquatic invertebrates (long-term effects): no data available.

Toxicity to algae and aquatic plants

Exposure dose / concentration	Test duration	The name of the organism used in the test	Results	Method
LC50: > 10 000 mg / l	192 h	Algae	Low toxicity level	OECD 202
LC50: > 10 000 mg / l	7 h	Algae	Low toxicity level	OECD 202

12.2 Persistence and degradability

The compound is well degradable. 4 mg/l in 1 h at 20 °C / 68 °F Zahn-Wellens-Test / 400 mg/l: 3h: 2 %, 7d: 52 %, 14d: 85 %, 16 d: 96 %.

12.3 Bio accumulative potential

Octanol-water partition coefficient (Kow): considered to be low (based on high water solubility). Urea does not have any bio accumulative properties, does not form any toxic compound with other substances present in the air or drainage waters.

Bio concentration factor (BCF): low potential for bioaccumulation (based on substance properties).

12.4 Mobility in soil

Adsorption coefficient: well-soluble in water; NO3 ion is extremely mobile. NH4 cation is absorbed in soil.

12.5 Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted

12.6 Other hazards effect

None

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste from residues: The contaminant free waste according to Regulation (EC) No. 1357/2014 is classified as non-hazardous waste. Depending on degree and nature of contamination dispose of by use as fertilizer (after dilution) or must be transferred to an authorized waste handling companies. Do not empty into drains. Wastes in Lithuania must be handled in accordance with Law on Waste Disposal of the Republic of Lithuania, in other countries – in accordance with national legislation.

Package waste disposal: According to Regulation (EC) No. 1357/2014 the contaminant free packaging of product is classified as non-hazardous waste. Depending on degree and nature of contamination dispose of by use as fertilizer (after dilution) or must be transferred to an authorized waste handling companies. Wastes in Lithuania must be handled in accordance with Law on Waste Disposal of the Republic of Lithuania, in other countries – in accordance with national legislation.

Do not remove label, prepared according to Regulation (EC) No. 1272/2008, until package is thoroughly cleaned.

SECTION 14. TRANSPORT INFORMATION

14.1 UN Number

None

14.2 Proper shipping name

AdBlue, Aqueous urea solution AUS 32, aqueous urea solution AUS 40, aqueous urea solution AUS 20

14.3 Transport hazard classes

None

14.4 Packaging group

None

14.5 Environmental hazards

None

14.6 Special precautions for users

None.

14.7. Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code

Not applicable

14.8. Transport by air (IATA)

Not applicable

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

EU legislation:

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;
- Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);
- Commission Regulation (EC) No 552/2009 of 22 June 2009 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII;
- REGULATION (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;
- Commission Regulation (EU) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives;
- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC;
- Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors;
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR);
- The International Rule for Transport of Dangerous Substances by Railway (RID);
- The International Maritime Dangerous Goods (IMDG); - International Convention for the Prevention of Pollution from Ships (MARPOL 73/78);
- The International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code) (the IBC Code).

National legislation (Lithuania):

- Applicable Law on Waste Disposal of the Republic of Lithuania;
- Applicable Law on Package and Package Waste Handling of the Republic of Lithuania;

- HN23 Maximum Allowable Concentrations of Hazardous Chemical Substances and Preparations in Working Environment. General Requirements; - HN36 Banned and Restricted Substances;

- Applicable Regulations for Workers "Protection against the Impact of Chemical Factors" and Regulations for Workers "Protection against Carcinogenous and Mutagenous Impacts";

- Applicable Procedure of Safety Data Sheet Requirements and Supply thereof to Professional Users;

- Applicable Rules on Labeling of Items (Products) to be Sold in Lithuania and Referring Price thereof;

- Applicable Rules on Waste Disposal;

17 of August 2004 Governments of the LR resolution No. 966 „On Prevention, Response and Investigation of dangerous objects and substances, mixtures or preparations classified as hazardous materials, and a list of criteria for designation of the Approval, as subsequently amended and supplemented. (Official Gazette, 2004, No. 130-4649; 2005 No. 131- 4731, 2008, No. 109-4159; 2009 No. 90-3855; 2010, No. 59-2894; 2012 No. 61-3078), as amended and supplemented.

Additional information provided on the label of the chemical preparation package:

Visual signs No. 14 „Temperature limitation“ (-5°C ÷ 25°C) and No. 4 „Protect from sun“ in compliance with LST EN ISO 780.

Additional information about the relevant Community provisions on safety, health and the environment for the product.

The product is not subject to requirements according to the Government Resolution No. 966 of the Government of the Republic of Lithuania of 2004.08.07 „On Approval of the Description of the List and Attribution Criteria for List of Materials, Mixtures or Preparations of Hazardous Substances in the Hazardous Objects“ (Official Gazette, 2004, No. 130-4649) with all subsequent amendments and supplements).

Restrictions on the product according to Regulation (EU) No. 98/2013: not applicable.

15.2 Chemical safety assessment

As in accordance with Regulation No. 1272/2008 [CLP] aqueous urea solution is not classified as hazardous consequently in accordance with REACH Article 14 no Chemical Safety Assessment has been carried out for this mixture.

SECTION 16. OTHER INFORMATION

Revision date: 2026.01.29

Revision No. 12

Issuing date: 2026.01.29

(i) A clear evidence of added, deleted or modified information:

The safety data sheet, as compared to its previous version, has been modified in accordance with Commission Regulation (EU) No. 2015/830 requirements.

(ii) List of abbreviations and acronyms used throughout the Safety Data Sheet:

ATE – acute toxicity estimate;

ADR – European Agreement on Dangerous Goods by Road;

CLP – Classification, Labeling and Packaging Regulation; Regulation (EC) No 1272/2008;
CAS – Chemical Abstracts Service;
DNEL – Derived No-Effect value;
EU – European Union;
ECHA – European Chemicals Agency;
EC No. – EINECS or ELINCS numbers;
EINECS – European List of Existing Commercial Chemical Substances;
ELINCS – European Register of Substances;
Eye Irrit. 2 – eye irritating 2 category; HS – Hygiene Standard;
IBC Code – International Code for the Construction and Equipment of Ships Carrying Bulk Hazardous Substances;
IMDG – International Maritime Organisation;
IST – Company Standard; IMSBC – International Bulk Cargo Code;
IUCLID – International Database of General Information on Chemicals;
RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail;
IUPAC – International Union of Pure and Applied Chemistry;
UN – United Nations;
Kow – octanol-water partition coefficient;
LC50 – Lethal concentration of 50% of tested population;
LD50 – Lethal dose for 50% of tested population;
MARPOL 73/78 – International Convention for the Prevention of Pollution from Ships;
OJ – Official Journal;
Oxid. Solid 3 – oxidizing solids, 3 category;
PBT – Persistent, Bioaccumulative, Toxic;
PNEC(s) – Forecast(-s) no effect(-s) concentration(-s);
SDS – Safety Data Sheet;
vPvB – very Persistent, very Bio accumulative.
Explanation of the utilization sector (SU):
SU23 – Electricity, current, gas, water supply and sewage treatment.

(iii) Bibliography:

- 1) Registration of urea according to the REACH dossier is published on the website of the European Chemicals Agency.
- 2) Company Standard No. 156667399-76 „Aqueous urea solution“; (v) Relevant precautionary and hazard statements: P102 – Keep out of reach of children;

- 3) DIN EN 149 „Respiratory protective devices. Filtering half masks to protect against particles. Requirements, testing, marking“;
- 4) DIN EN 166: Standard specifies functional requirements for various types of personal eye-protectors;
- 5) CSN EN 374: Protective gloves against dangerous chemicals and micro-organisms;
- 6) DIN EN 388 Protective gloves against mechanical risks;
- 7) CSN EN 402: Standa for respiratory protective devices. Lung governed demand self-contained opencircuit compressed air breathing apparatus with full face mask or mouthpiece assembly for escape;
- 8) DIN EN 403: Respiratory protective devices for self-rescue – Filtering devices with hood for escape from fire – Requirements, testing, marking;
- 9) CSN EN 407: Protective gloves against thermal risks (heat and/or fire);
- 10)DIN EN 14605: Protective clothing against liquid chemicals - Performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4]).
- (iv) Applicable classification and procedures used to determine the classification of mixtures in accordance with Regulation (EC) No. 1272/2008 [CLP Regulation]:** The product is a single substance. It is classified based on the classification of urea in the urea registration according to the REACH dossier.
- (v) Relevant precautionary and hazard statements:** P102 – Keep out of reach of children;

Madin Digital Signature