



SAFETY DATA SHEET

According to the Regulation (EC) No. 1907/2006 (REACH),
Annex II / Regulation (EU) No. 2015/830

EFFINOX

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

1.1. Product Identifier

Product Name: EFFINOX (Additivised AdBlue)

Registration Number REACH:

Product Type: liquid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Notes: The safety datasheet and any attached exposure scenario are compiled in accordance with the REACH regulation and in no way reflects the specification, purity or quality standards required for specific applications and use of the product identified in section 1.1.

Relevant identified uses: Industrial distribution; Industrial use for flue gas NO_x and SO_x reduction; Industrial use as a laboratory/research chemical; Professional use as reactive agent/processing aid and for general chemical applications; Professional use as a laboratory/research chemical and used of the product identified in section 1.1.

Uses advised against: None identified.

1.3. Details of the supplier of the safety data sheet

Supplier: **GreenChem Holding BV**
Gravinnen van Nassauboulevard 95
4811 BN BREDA - Netherland
Tel. +31 (0)76 – 581 27 27
Email: msds@greenchem-adblue.com

Representative Office SVK: **GreenChem SK, s. r. o.**
Nobelova 34
836 05 Bratislava, Slovakia
Tel. +421 2 4951 2737
Email: msds@greenchem-adblue.com

1.4. Emergency Telephone Number

NÁRODNÉ TOXIKOLOGICKÉ INFORMAČNÉ
CENTRUM:
Univerzitná nemocnica Bratislava
Pracovisko - Nemocnica akad. L. Déreza, Kramáre
Klinika pracovného lekárstva a toxikológie LF UK,
SZU a UNB, Limbová 5, 833 05 Bratislava, SVK

24/7 consultancy service for the acute
intoxications - : **+421 2 5477 4166**

Email: ntic@ntic.sk

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Product definition: Mixture

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

2.2. Label elements

None.

2.3. Other hazards

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable.

3.2. Mixtures

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

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SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Avoid inhalation or vapor, spray or mist. If inhaled, remove to fresh air. Get medical attention if you feel unwell.

Skin contact: Wash skin with warm water and soap.

Eye contact: Wash out the eye with plenty of clean running water 15 min. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Ingestion: Wash out mouth with water. Drink ca. 2 dcl lukewarm water, do not induce vomiting and seek for medical care.

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

4.2. Most important symptoms and effects, both acute and delayed

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

No need for specific treatment.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None identified.

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5.2. Special hazards arising from the substance or mixture

No information available.

5.3. Advice for firefighters

No information available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment during handling with the product (see Section 8). Avoid contact with eyes, skin and clothing. Contamination does not rise. Flush residues down into the sewage and drainage system leading to waste treatment plant in a controlled manner.

6.2. Environmental precautions

Prevent release to water resources, sewerage and soil. The product is not classified as hazardous for environment.

6.3. Reference to other sections

For more information about protective equipment see Section 8.
For more information about the disposal of substance, see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Provide adequate ventilation during manipulation with product and avoid contact with skin and eyes using personal protective equipment. Follow the rules of safe handling of chemicals and basic hygiene habits.

7.2. Conditions for safe storage, including any incompatibilities

Suitable material for storage:	Alloy steels, various plastics, as well as metal tanks with plastic coating.
Unsuitable material for storage:	Plain steels, copper, aluminum, alloys containing copper and aluminum, galvanized steels.

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General recommendations for storage:

In order to avoid crystallization or hydrolysis in the urea solution, store under common conditions (optimally to 25°C).

7.3. Specific end use(s)

See point 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Indicative occupational exposure limit values (IOELVs) for the protection of workers from chemical risks according to the Directive 98/24/EC.

Name of Agent	CAS	NPEL				Notation
		8 hours		Short-term		
		ppm	mg.m ⁻³	ppm	mg.m ⁻³	
Ammonia, anhydrous	7664-41-7	20	14	50	36	XXX

DNEL value (urea EC 200-315-5) for workers		
Exposure Patters	Route	DNEL
Acute – systemic effects	Dermal	580 mg/kg bw/d
Acute – systemic effects	Inhalation	292 mg/m ³
Long-term – systemic effects	Dermal	580 mg/kg bw/d
Long-term – systemic effects	Inhalation	292 mg/m ³
DNEL value (urea EC 200-315-5) for public		
Acute – systemic effects	Dermal	580 mg/kg bw/d
Acute – systemic effects	Inhalation	125 mg/m ³
Acute – systemic effects	Oral	42 mg/kg bw/d
Long-term – systemic effects	Dermal	580 mg/kg bw/d
Long-term – systemic effects	Inhalation	125 mg/m ³
Long-term – systemic effects	Oral	42 mg/kg bw/d
PNEC value (urea EC 200-315-5)		
PNEC	Value	Assessment Factor
Aqua – freshwater	0.047 mg/l	1.000
Aqua – marine water	0.047 mg/l	-

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8.2. Exposure controls

Ensure sufficient local ventilation. Avoid abnormal dust formation. By technical and organizational Measures avoid to the skin contact and do not exceed the highest exposure limit.

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 the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	Liquid
Color:	Clear
Odor:	Slight ammonia-like
Odor threshold:	Information is not available.
pH:	Max. 10 (10% aqueous liquid)
Melting point/freezing point:	Information is not available.
Initial boiling point and boiling range:	Information is not available.
Flash point:	Information is not available.
Evaporation rate:	Information is not available
Flammability (solid, gas):	Information is not available.
Upper/lower flammability or explosive limits:	Information is not available.
Vapor pressure:	Information is not available.
Vapor density:	Information is not available.
Relative density:	1 087 – 1 093 kg/m ³
Solubility (ies):	Information is not available.

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Partition coefficient: n-octanol/water:	Information is not available.
Auto-ignition temperature:	Information is not available
Decomposition temperature:	Information is not available.
Viscosity:	ca. 1,4 mPa.s at 25°C
Explosive properties:	Information is not available.
Oxidizing properties:	Information is not available.

9.2. Other information

Molecular Weight:	60.056 kg/kmol
Thermal conductivity (at 25°C):	ca. 0,57 W/m.K
Specific heat (at 25°C):	ca. 3,4 kJ/kg.K
Surface tension:	1,3814 – 1,3843
Crystallization point:	-11,5 °C

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

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

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

When heated, decomposition of products.

10.4. Conditions to avoid

Heating causes thermal decomposition and the gases formation.

10.5. Incompatible materials

Not know.

10.6. Hazardous decomposition products

Nitrogen oxides (NO_x), ammonia (NH₃) and carbon dioxide CO₂.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity: No information about acute toxicity for product available.

For urea (EC 200-315-5): Oral:	OECD Guideline 401; Acute oral toxicity: Rat (Wistar): LD50: 14 300 mg/kg bw (male)
Skin corrosion/irritation:	Based on available data, classification criteria are not met.
Serious eye damage/irritation:	Based on available data, classification criteria are not met.
Respiratory or skin sensitization:	Based on available data, classification criteria are not met.
Germ cell mutagenicity:	Based on available data, classification criteria are not met.
Carcinogenicity:	Based on available data, classification criteria are not met.
Reproductive toxicity:	Based on available data, classification criteria are not met.
STOT-single exposure:	Information is not available.
STOT-repeated exposure:	Information is not available.
Aspiration hazard:	Information is not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Short-term Oncorhynchus mykiss:	LD ₅₀ : 6,810 mg/l
Invertebrates:	EC ₅₀ /LC ₅₀ : 10,000 mg/l
Algae and Water Plants:	EC ₁₀ /LC ₁₀ (NOEC): 47 mg/l

12.2. Persistence and degradability

It is considered readily biodegradable substance.

12.3. Bioaccumulative potential

Bioaccumulation of urea is not expected.

12.4. Mobility in soil

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Soluble in water.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Improper handling may result in pollution of surface and ground waters.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Depending on the degree and character of contamination use for agricultural purposes or dispose under control by authorized waste disposal contractors.

Empty container damaged through using must be stored at the designed place and disposed of in a solid waste incineration plant.

SECTION 14: TRANSPORT INFORMATION

Product is not classified as dangerous good for transport according to ADR/RID/IMDG Code.

- 14.1. UN Number:** Unassigned
- 14.2. UN proper shipping name:** Unassigned
- 14.3. Transport hazard class(es):** Unassigned
- 14.4. Packing group:** Unassigned
- 14.5. Environmental hazards:** Product is not classified as environmentally hazardous substance according to ADR/RID/IMDG Code.
- 14.6. Special precautions for user:** Transported in insulated tank trucks or palletized plastic tanks (IBC). Materials suitable for these tanks are alloy steels, various plastics, as well as metal tanks with plastic coating. Plain steels, copper, aluminum, alloys containing copper and aluminum, galvanized steels must not be used.

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14.7. Transport in bulk according to Annex II of Marpol and the IBC Code: Unassigned

SECTION 15: REGULATORY INFORMATION

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

Corrigendum to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and as amended;

REGULATION (EC) No 1272/2008 of the European Parliament 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 and as amended;

Commission Regulation (EU) 2015/830 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH);

Directive of European parliament and Council No 2014/27/EU;

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work and as amended;

Act No 79/2015 Z.z. on waste;

Regulation (EC) No 2015/830, changing the Regulation of European Parliament and Council (ES) No 1907/2006 on registration, evaluation, authorization and restriction of chemicals (REACH).

15.2. Chemical Safety Assessment

According to the Regulation REACH, Article 14 was carried out a chemical safety assessment of this substance.

SECTION 16: OTHER INFORMATION

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16.1. Used information sources

Available information from DUSLO, a.s. and chemical safety report for urea.

16.2. Instructions for the training

Instructions for working with the product should be included to the educational system about the safety work (initial training, training at the workplace, repeated training) according to the specific conditions at the workplace.

16.3. List of relevant H-phrases

XXX

16.4. Changes executed within the revision

Completely new document.

16.5. Other information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall GreenChem be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if GreenChem has been advised of the possibility of such damages.

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