

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

**febi 46329 Ad Blue – Diesel Exhaust Fluid (DEF)
Article number 46329**

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

1.2.1 Relevant uses

after-treatment of exhaust gases for diesel automotive

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Ferdinand Bilstein GmbH + Co. KG
Wilhelmstr. 47
58256 Ennepetal / GERMANY
Phone +49 2333 911-0
Fax +49 2333 911-444
Homepage www.febi.com
E-mail info@febi.com

Address enquiries to

Technical information

info@febi.com

Safety Data Sheet

sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body

+49 (0)89-19240 (24h) (english)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

No classification.

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

No classification.

2.2 Label elements

The product does not require a hazard warning label in accordance with GHS/CLP-directives.

Labelling according to Directive 67/548/EEC or 1999/45/EC

Hazard symbols

none

R-phrases

none

2.3 Other hazards

Environmental hazards

Does not contain any PBT or vPvB substances.

Other hazards

none

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
25 - < 40	Urea
	CAS: 57-13-6, EINECS/ELINCS: 200-315-5

Comment on component parts

No dangerous components.
Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Take off contaminated clothing and wash before reuse.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek for medical treatment.
Skin contact	When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse out mouth and give plenty of water to drink. In the event of symptoms seek for medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to the doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.
Extinguishing media that must not be used	Full water jet.

5.2 Special hazards arising from the substance or mixture

In the event of fire the following can be released:
Carbon monoxide (CO)
Nitrogen oxides (NOx).
Hydrogen cyanide (HCN).
Ammonia (NH₃).

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections

See SECTION 8+13



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SECTION 7: Handling and storage

7.1 Precautions for safe handling

The normal safety precautions for handling chemicals must be observed.

Wash hands before breaks and after work.

Do not eat, drink or smoke when using this product.

Keep away from food and drink.

Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Do not store together with oxidizing agents.

Keep container tightly closed and store it in a well-ventilated place.

Recommended storage temperature: -10 - 25 °C

Keep in a cool place. Store in a dry place.

Do not keep at temperatures above 35 °C.

Do not keep at temperatures below - 11 °C.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

Ingredients with occupational exposure limits to be monitored (GB)

8.1 Control parameters

not applicable

DNEL

Range [%]	Substance
25 - < 40	Urea, CAS: 57-13-6
	worker, inhalative, Long-term - systemic effects: 292 mg/m ³ .
	worker, dermal, Long-term - systemic effects: 580 mg/kg.
	general population, oral, Long-term - systemic effects: 42 mg/kg.
	general population, dermal, Long-term - systemic effects: 580 mg/kg.
	general population, inhalative, Long-term - systemic effects: 125 mg/m ³ .

PNEC

Range [%]	Substance
25 - < 40	Urea, CAS: 57-13-6
	freshwater, 0,047 mg/l.

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8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Safety glasses.
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. 0,4 mm: Nitrile rubber, >120 min (EN 374). 0,7 mm: butyl rubber, > 120 min (EN 374)
Skin protection	Not required under normal conditions.
Other	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier. Avoid prolonged and/or repeated contact with skin.
Respiratory protection	Not required under normal conditions.
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	colourless
Odor	ammoniac-like
Odour threshold	not determined
pH-value	9 -10
pH-value [1%]	not determined
Boiling point [°C]	ca. 100
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	2,3 (20 °C)
Density [g/ml]	1,087 - 1,093 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	completely miscible
Partition coefficient [n-octanol/water]	-1,73
Viscosity	2,5 mPa.s (20 °C)
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	~ -11
Autoignition temperature [°C]	not applicable
Decomposition temperature [°C]	not determined

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).



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10.3 Possibility of hazardous reactions

Reactions with strong alkalis and oxidizing agents.

10.4 Conditions to avoid

See SECTION 7.2.
 Strong heating.

10.5 Incompatible materials

Strong oxidizing agent.

10.6 Hazardous decomposition products

In the case of heating following (decomposition) products may occur:
 Ammonia.
 Nitrous oxides (NOx).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
25 - < 40	Urea, CAS: 57-13-6
	LD50, dermal, Rat: 8200 mg/kg (IUCLID).
	LD50, oral, Rat: 14300 mg/kg.

Serious eye damage/irritation	Non-irritant.
Skin corrosion/irritation	Non-irritant.
Respiratory or skin sensitisation	No sensitizing effects known.
Specific target organ toxicity — single exposure	not determined
Specific target organ toxicity — repeated exposure	not determined
Mutagenicity	not determined
Reproduction toxicity	not determined
Carcinogenicity	not determined
General remarks	

Toxicological data of complete product are not available.
 The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
25 - < 40	Urea, CAS: 57-13-6
	Pseudomonas putida: > 10000 mg/l /16h.
	Scenedesmus quadricauda (alga): > 10000 mg/l /8d.
	LC50, Leuciscus idus: > 6810 mg/l (DIN 38412).
	LC50, (96h), fish: 12000 mg/l (IUCLID).
	EC50, (48h), Daphnia magna: > 10000 mg/l (Lit.).

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	Biodegradable.



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12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

Ecological data of complete product are not available.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the disposal contractor/authorities if necessary.

Waste no. (recommended)

070199

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

Contaminated packing should be disposed of as product waste.

Waste no. (recommended)

150102

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

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14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

not applicable

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2013); IMDG-Code (2013, 36. Amdt.); IATA-DGR (2013).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	no
- VOC (1999/13/CE)	0 %

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information**16.1 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 ELINCS = European List of Notified Chemical Substances
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 TLV@/TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.2 Other information**Classification procedure****Modified position** none



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