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

1.1 Product identifier

Trade name: Eni Antifreeze Evo DE

UFI: CT90-V0GU-K009-7HK8

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

General use: Anti-freezing agent, Refrigerant.

1.3 Details of the supplier of the safety data sheet

Company name: Eni Schmiertechnik GmbH
Street/POB-No.: Paradiesstraße 14
Postal Code, city: 97080 Würzburg
Germany
WWW: www.enischmiertechnik.de
E-mail: info.wuerzburg@eni.com
Telephone: +49 (0)931-90098-0
Telefax: +49 (0)931-98442

Department responsible for information:
Application Engineering & Product Management (AEPM)
Telephone: +49 (0)931-90098-0
E-mail: technik.wuerzburg@eni.com

1.4 Emergency telephone number

GIZ-Nord, Göttingen
Telephone: +49 (0)551-19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Acute Tox. 4; H302 Harmful if swallowed.
STOT RE 2; H373 May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (CLP)

Signal word: **Warning**

Hazard statements:	H302	Harmful if swallowed.
	H373	May cause damage to organs through prolonged or repeated exposure.
Precautionary statements:	P101	If medical advice is needed, have product container or label at hand.
	P102	Keep out of reach of children.
	P260	Do not breathe mist/vapours/spray.
	P264	Wash hands and face thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P314	Get medical advice/attention if you feel unwell.
	P501	Dispose of contents/container to hazardous or special waste collection point.

Special labelling

Text for labelling: Contains: Ethylene glycol

2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

This product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% (w/w) or higher.
The product contains no components classified as PBT or as vPvB at concentrations of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Hazardous ingredients:

Identifiers	Designation Classification	Content
REACH 01-2119456816-28-xxxx EC No. 203-473-3 CAS 107-21-1	Ethylene glycol Acute Tox. 4; H302. STOT RE 2; H373.	80 - 98 %
EC No. - CAS 2532-53-8	Acetic acid, 2-(2-benzothiazolylthio)-, potassium salt (1:1) Acute Tox. 4; H302. Eye Dam. 1; H318. Repr. 2; H361. Aquatic Chronic 3; H412.	0,1 - 0,25 %
REACH 01-2119979081-35-xxxx EC No. 249-596-6 CAS 29385-43-1	Methyl-1H-benzotriazole Acute Tox. 4; H302. Repr. 2; H361d. Aquatic Chronic 2; H411. Acute toxicity estimate (ATE): Oral: 720 mg/kg bw.	< 0,25 %

Full text of H- and EUH-statements: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: If medical advice is needed, have product container or label at hand.
Take off contaminated clothing and wash it before reuse.

In case of inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if problems persist.

Following skin contact: Immediately clean with water and soap followed by thorough rinsing.
In case of skin reactions, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart.
Remove contact lenses, if present and easy to do. Continue rinsing.
In case of troubles or persistent symptoms, consult an opthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed.
Spasms, drowsiness, nausea, vomiting, abdominal pain.
Formation of: oedema (swelling).
Chronic exposure may cause permanent damage of health.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
It can take hours before symptoms of poisoning show up following exposure.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray jet, alcohol resistant foam, extinguishing powder.
Extinguishing is to be in accordance with the surrounding fire.

Extinguishing media which must not be used for safety reasons:
Full water jet

5.2 Special hazards arising from the substance or mixture

May form dangerous gases and vapours in case of fire.
Furthermore, there may develop: Smoke, compounds of low molecular weight, carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Cool endangered containers with water jetspray.
Do not allow fire water to penetrate into surface or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the substance. Do not breathe mist/vapours/spray.
Provide adequate ventilation. If possible, eliminate leakage.
Wear appropriate protective equipment. Keep unprotected people away. Take off contaminated clothing and wash it before reuse.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.
If necessary notify appropriate authorities.

6.3 Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Final cleaning.
Never return spills in original containers for re-use.

Additional information: Special danger of slipping by leaking/spilling product.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not breathe mist/vapours/spray. Wear appropriate protective equipment.
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Do not get in eyes, on skin, or on clothing. Take off contaminated clothing and wash it before reuse.

Precautions against fire and explosion:
Keep away from heat.
When handling larger quantities, take precautionary measures against electrostatic charging.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:
Store container tightly closed in a dry and cool place. Keep only in the original container.
Protect from heat and direct sunlight. Store containers in upright position.

Hints on joint storage: Do not store together with: Strong oxidizing agents, strong acids, nitrates, peroxides, chlorates.
Keep away from food, drink and animal feedingstuffs.

Storage class: 10 = Combustible liquids, unless storage class 3

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
107-21-1	Ethylene glycol	Europe: IOELV: STEL	104 mg/m³; 40 ppm (may be absorbed through the skin)
		Europe: IOELV: TWA	52 mg/m³; 20 ppm (may be absorbed through the skin)
		Germany: TRGS 900 Kurzzeit	52 mg/m³; 20 ppm (Aerosol and vapour, may be absorbed through the skin)
		Germany: TRGS 900 Langzeit	26 mg/m³; 10 ppm (Aerosol and vapour, may be absorbed through the skin)

DNEL/DMEL: Information about Ethylene glycol:
DNEL long-term, workers, inhalative, local: 35 mg/m³
DNEL long-term, workers, dermal, systemic: 106 mg/kg bw/d
DNEL long-term, consumers, inhalative, local: 7 mg/m³
DNEL long-term, consumers, dermal, systemic: 53 mg/kg bw/d

Information about Methyl-1H-benzotriazole:
DNEL long-term, workers, dermal, systemic: 0,3 mg/kg bw/d
DNEL long-term, workers, inhalative, systemic: 21,2 mg/m³
DNEL long-term, consumers, oral, systemic: 0,01 mg/kg bw/d
DNEL long-term, consumers, dermal, systemic: 0,01 mg/kg bw/d
DNEL long-term, consumers, inhalative, systemic: 0,35 mg/m³

PNEC:

Information about Ethylene glycol:
PNEC water (freshwater): 10 mg/L
PNEC water (marine water): 1 mg/L
PNEC sediment (freshwater): 37 mg/kg dw
PNEC sediment (marine water): 3,7 mg/kg dw
PNEC STP: 199,5 mg/L
PNEC soil: 1,53 mg/kg dw

Information about Methyl-1H-benzotriazole:
PNEC water (freshwater): 0,008 mg/L
PNEC water (marine water): 0,02 mg/L
PNEC sediment (freshwater): 0,117 mg/kg dw
PNEC sediment (marine water): 0,292 mg/kg dw
PNEC STP: 39,4 mg/L
PNEC soil: 0,0187 mg/kg dw

8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.

Personal protection equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded. Use combination filter type A-P2 according to EN 14387.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection: Protective gloves according to DIN EN 374.
During full contact:
Breakthrough time: 480 min
Layer thickness: 0,38 mm
Glove material:
Nitrile rubber (NBR), neoprene, butyl caoutchouc (butyl rubber).
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to DIN EN ISO 16321-1:2022.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:
Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state at 20 °C and 101.3 kPa	liquid
Colour:	Slightly cloudy, colourless-light yellow
Odour:	Weak
Odour threshold:	Not determined
Melting point/freezing point:	<= -36,4 °C (50%)
Initial boiling point and boiling range:	> 163 °C
Flammability:	combustible
Upper/lower flammability or explosive limits:	No data available
Flash point/flash point range:	122 °C (c.c.)

Decomposition temperature:	No data available
pH:	at 20 °C, 50%: 8,2
Viscosity, kinematic:	No data available
Solubility:	No data available
Partition coefficient: n-octanol/water:	-1,36 log K(o/w) (Ethylene glycol) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Vapour pressure:	No data available
Density:	at 20 °C: 1,1195 kg/L
Vapour density:	No data available
Particle characteristics:	Not applicable

9.2 Other information

Explosive properties:	No data available
Oxidizing characteristics:	No data available
Auto-ignition temperature:	398 °C (Ethylene glycol)
Refraction index:	at 20 °C: 1,420 - 1,450 (ASTM D1218)
Water content:	4,0 % (ASTM D1123)
Evaporation rate:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to subsection "Possilbility of hazardous reactions".

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Protect against heat /sun rays. Keep away from sources of ignition and heat.

10.5 Incompatible materials

Strong oxidizing agents, strong acids, nitrates, peroxides, chlorates.

10.6 Hazardous decomposition products

Elevated temperature: Ketone, aldehydes.

Thermal decomposition: No data available

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological effects:

The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Acute Tox. 4; H302 = Harmful if swallowed.
ATEmix (calculated): 1.740 mg/kg

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Based on available data, the classification criteria are not met.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure): STOT RE 2; H373 = May cause damage to organs through prolonged or repeated exposure. (Kidney)

Aspiration hazard: Lack of data.

11.2 Information on other hazards

Endocrine disrupting properties: None

Other information:

Information about Ethylene glycol:
LD50 Cat, oral: 1.600 mg/kg
LD50 Mouse, dermal: > 3.500 mg/kg
LC50 Rat, inhalative (aerosol): > 2,5 mg/L/6h

Information about Methyl-1H-benzotriazole:
LD50 Rat, oral: 720 mg/kg
LOAEL Rat, oral: 30 mg/kg bw/d (OECD 414)
LD50 Rabbit, dermal: > 2.000 mg/kg

Information about Acetic acid, 2-(2-benzothiazolylthio)-, potassium salt (1:1):
ATE, oral: 500 mg/kg

Symptoms

Spasms, drowsiness. nausea, vomiting, abdominal pain.
Formation of: oedema (swelling).
Chronic exposure may cause permanent damage of health.

In case of inhalation:
Inhalation of high concentration may cause irritations of nose, throat, and respiratory systems.

In case of ingestion:
Nausea, vomiting, abdominal pain, loss of sight, liver and kidney damage, irritation, neurotoxic effects, spasms, pulmonary oedema, pneumonia. May cause damage to heart if swallowed.
Fetal developement hazard.

After contact with skin: Lengthy or repeated contact may cause skin irritation.

After eye contact: Direct contact with eyes may cause temporary irritation.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Information about Ethylene glycol:
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): > 100 mg/L/48h
Fish toxicity:
LC50 Pimephales promelas (fathead minnow): 49.000 mg/L/96h

Information about Methyl-1H-benzotriazole:
algae toxicity:
EC50 Pseudokirchneriella subcapitata (green algae): 75 mg/L/72h
Daphnia toxicity:
EC50: 8,58 mg/L/48h
EC10: 0,4 mg/L/21d
Fish toxicity:
LC50 Danio rerio (zebrafish): 180 mg/L/72h

Water Hazard Class: 2 = obviously hazardous to water (Self-classification (mixture).)

12.2 Persistence and degradability

Further details: Information about Ethylene glycol:
Biodegradability: > 90 %/10 d (OECD 301 A), easily bio-degradable.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

-1,36 log K(o/w) (Ethylene glycol)
Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

The product contains no components classified as PBT or as vPvB at concentrations of 0.1% or higher.

12.6 Endocrine disrupting properties

None

12.7 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 16 01 14* = Antifreeze fluids containing hazardous substances
* = Evidence for disposal must be provided.

Recommendation: Dispose of waste according to applicable legislation.
Liquid product may not be disposed of with household waste or landfilled. Do not allow to enter into drains/waters or in the soil.

Package

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID, ADN, IMDG, IATA-DGR:
not applicable

14.2 UN proper shipping name

ADR/RID, ADN, IMDG, IATA-DGR:
Not restricted

14.3 Transport hazard class(es)

ADR/RID, ADN, IMDG, IATA-DGR:
not applicable

14.4 Packing group

ADR/RID, ADN, IMDG, IATA-DGR:
not applicable

14.5 Environmental hazards

Dangerous for the environment: Substance/mixture is not environmentally hazardous according to the criteria of the UN model regulations.

Marine pollutant - IMDG: no

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

National regulations - Germany

Storage class: 10 = Combustible liquids, unless storage class 3

Water Hazard Class: 2 = obviously hazardous to water (Self-classification (mixture).)

Technical guidance air: 5.2.5

Information on working limitations:
Observe employment restrictions for young people.
Observe employment restrictions for expectant or nursing mothers.

Further regulations, limitations and legal requirements:
The product is not subject to the Chemicals Prohibition Ordinance (ChemVerbotsV).

National regulations - EC member states

Further regulations, limitations and legal requirements:
Use restriction according to REACH annex XVII, no.: 3, 75

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Wording of the H-phrases under paragraph 2 and 3:

H302 = Harmful if swallowed.
H318 = Causes serious eye damage.
H361 = Suspected of damaging fertility or the unborn child.
H361d = Suspected of damaging the unborn child.
H373 = May cause damage to organs through prolonged or repeated exposure.
H411 = Toxic to aquatic life with long lasting effects.
H412 = Harmful to aquatic life with long lasting effects.

Reason of change:
Changes in section 1: UFI
Changes in section 3: Composition / Information on ingredients
Changes in section 9: Physical and chemical properties
Changes in section 15: Water hazard class
General revision

Date of first version: 21.9.2022

Department issuing data sheet: see section 1: Department responsible for information

Abbreviations and acronyms:
Acute Tox.: Acute toxicity
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
Aquatic Chronic: Hazardous to the aquatic environment - chronic
AS/NZS: Australian Standards/New Zealand Standards
ATE: Acute toxicity estimate
Bw: Body weight
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EC50: Effective Concentration 50%
EN: European Standard
EQ: Excepted quantities
EU: European Union
Eye Dam.: Eye damage
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
LOAEL: Lowest observed adverse effect level
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.: Reproductive toxicity
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
STOT RE: Specific target organ toxicity - repeated exposure
STP: Sewage Treatment Plant
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
UFI: Unique Formula Identifier
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.

Most recent product information is available at:
http://sumdat.net/fdwxksvx