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

1.1 Product identifier

Trade name: Eni aquamet LMK - ACT

UFI: 9330-D0NV-P00P-NW47

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

General use: Metalworking fluid

1.3 Details of the supplier of the safety data sheet

Company name: Enilive Schmiertechnik GmbH
Street/POB-No.: Paradiesstraße 14
Postal Code, city: 97080 Würzburg
Germany
E-mail: info.wuerzburg@enilive.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@enilive.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)

Skin Irrit. 2; H315	Causes skin irritation.
Eye Irrit. 2; H319	Causes serious eye irritation.
Aquatic Chronic 3; H412	Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (CLP)

Signal word: **Warning**

Hazard statements:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P264	Wash hands and face thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container to hazardous or special waste collection point.

Special labelling

EUH208	Contains 3-Iodo-2-propynyl butylcarbamate. May produce an allergic reaction.

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 a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
The product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: A mixture of base oils and additives.

Hazardous ingredients:

Identifiers	Designation Classification	Content
REACH 01-2119475104-44-xxxx EC No. 203-961-6 CAS 112-34-5	2-(2-Butoxyethoxy)ethanol Eye Irrit. 2; H319.	< 5 %
REACH 01-2119493354-33-xxxx EC No. 202-980-7 CAS 101-83-7	Dicyclohexylamine Acute Tox. 3; H301. Acute Tox. 3; H311. Skin Corr. 1B; H314. Eye Dam. 1; H318. Aquatic Acute 1; H400. Aquatic Chronic 1; H410.	< 2 %
CAS 1702655-09-1	Alkylamine Polyol Alkylphosphate Eye Irrit. 2; H319. STOT RE 2; H373.	< 0,5 %
EC No. 223-362-3 CAS 3855-32-1	N-[3-(Dimethylamino)propyl]-N,N',N'-trimethylpropane-1,3-diamine Acute Tox. 4; H302. Acute Tox. 3; H311. Skin Corr. 1B; H314. Eye Dam. 1; H318. Aquatic Chronic 3; H412.	< 0,5 %
EC No. 259-627-5 CAS 55406-53-6	3-Iodo-2-propynyl butylcarbamate Acute Tox. 4; H302. Acute Tox. 3; H331. Eye Dam. 1; H318. Skin Sens. 1; H317. STOT RE 1; H372. Aquatic Acute 1; H400. Aquatic Chronic 1; H410. M-factors: Aquatic Acute 1: M = 10. Aquatic Chronic 1: M = 1.	< 0,25 %

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

Additional information: Contains: Mineral oil and Triethanolamine. The maximum workplace exposure limits are, where necessary, listed in section 8.
The highly refined mineral oil contains <3% (w/w) DMSO extract, according to IP346.

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. Subsequently consult an ophthalmologist.

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

Causes skin irritation. Causes serious eye irritation. May cause allergic reactions in already sensitized persons.

4.3 Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water spray jet, water mist, foam, extinguishing powder, carbon dioxide.

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, nitrogen oxides (NOx), phosphorus oxides, 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:

Use fine water spray to cool endangered containers.
Do not allow water used to extinguish fire to enter drains, ground or waterways.
Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe mist/vapours/spray. Avoid contact with the substance.
If possible, eliminate leakage. Provide adequate ventilation.
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 enter into ground-water, surface water or drains.
If necessary notify appropriate authorities.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal.
Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Prevent spread over a wide area (e.g. by containment or oil barriers).

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. Do not get in eyes, on skin, or on clothing. Wear appropriate protective equipment.
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse.
Have eye wash bottle or eye rinse ready at work place.

Precautions against fire and explosion:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:
Keep container tightly closed and in a well-ventilated place.
Keep container dry. Keep only in the original container.
Protect from heat and direct sunlight.
Store containers in upright position.
Storage temperature: 5 - 40 °C (Shelf life: 12 months)

Hints on joint storage: Do not store with strong oxidizing agents.
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
112-34-5	2-(2-Butoxyethoxy) ethanol	Europe: IOELV: STEL	101,2 mg/m³; 15 ppm
		Europe: IOELV: TWA	67,5 mg/m³; 10 ppm
		Germany: TRGS 900 Kurzzeit	100,5 mg/m³; 15 ppm (Aerosol and vapour)
		Germany: TRGS 900 Langzeit	67 mg/m³; 10 ppm (Aerosol and vapour)
101-83-7	Dicyclohexylamine	Germany: TRGS 900 Kurzzeit	10 mg/m³; 1,4 ppm (Aerosol and vapour, may be absorbed through the skin)
		Germany: TRGS 900 Langzeit	5 mg/m³; 0,7 ppm (Aerosol and vapour, may be absorbed through the skin)
55406-53-6	3-Iodo-2-propynyl butylcarbamate	Germany: TRGS 900 Kurzzeit	0,106 mg/m³; 0,01 ppm (Aerosol and vapour)
		Germany: TRGS 900 Langzeit	0,058 mg/m³; 0,005 ppm (Aerosol and vapour)
102-71-6	Triethanolamine	Germany: TRGS 900 Kurzzeit	1 mg/m³ (inhalable fraction)
		Germany: TRGS 900 Langzeit	1 mg/m³ (inhalable fraction)

DNEL/DMEL:

Information about 2-(2-Butoxyethoxy)ethanol:
DNEL workers, long-term, dermal, systemic: 20 mg/kg
DNEL workers, long-term, inhalative, local: 67,5 mg/m³
DNEL workers, short-term, inhalative, local: 101,2 mg/m³
DNEL consumers, long-term, oral, systemic: 6,25 mg/kg bw/d

Information about Dicyclohexylamine:
DNEL workers, long-term, dermal, systemic: 0,1 mg/kg bw/d
DNEL workers, long-term, inhalative, systemic: 0,353 mg/m³

Information about Triethanolamine:
DNEL workers, long-term, dermal, systemic: 6,3 mg/kg bw/d
DNEL workers, long-term, inhalative, systemic: 5 mg/m³

PNEC:

Information about 2-(2-Butoxyethoxy)ethanol:
PNEC water (freshwater): 1,1 mg/L
PNEC water (marine water): 0,11 mg/L
PNEC sediment (freshwater): 4,4 mg/kg dw
PNEC sediment (marine water): 0,44 mg/kg dw
PNEC soil: 0,32 mg/kg dw
PNEC oral: 56 mg/kg Food

Information about Dicyclohexylamine:
PNEC water (freshwater): 0,002 mg/L
PNEC water (marine water): 0 mg/L
PNEC sediment (freshwater): 0,075 mg/kg dw
PNEC sediment (marine water): 0,007 mg/kg dw
PNEC sewage treatment plant: 21 mg/L
PNEC soil: 0,014 mg/kg dw

Information about Triethanolamine:
PNEC water (freshwater): 0,32 mg/L
PNEC water (marine water): 0,032 mg/L
PNEC sediment (freshwater): 1,7 mg/kg
PNEC sediment (marine water): 0,17 mg/kg
PNEC soil: 0,151 mg/kg

8.2 Exposure controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment.

Personal protection equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

Hand protection: Protective gloves according to DIN EN 374.

During full contact:
Glove material: Nitrile rubber, chloroprene rubber, polychloroprene.
Breakthrough time: > 480 min.
Layer thickness: 0,7 mm

During splash contact:
Glove material: Nitrile rubber, polychloroprene, chloroprene rubber
Breakthrough time: > 30 min
Layer thickness: 0,4 mm
Unsuitable material: Polyvinyl alcohol

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.
Take off contaminated clothing and wash it before reuse.
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Have eye wash bottle or eye rinse ready at work place.

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:	yellow
Odour:	Characteristic
Odour threshold:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	> 100 °C (1013 hPa)
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Flash point/flash point range:	> 100 °C (DIN EN ISO 2592)
Auto-ignition temperature:	> 220 °C
Decomposition temperature:	No data available
pH:	at 20 °C, 5%: 9,2 (DIN 51369)
Viscosity, kinematic:	at 20 °C: approx. 233 mm²/s (DIN EN ISO 3104)
Water solubility:	at 20 °C: Miscible
Partition coefficient: n-octanol/water:	Not applicable
Vapour pressure:	No data available
Density:	at 15 °C: 0,958 g/mL (DIN EN ISO 12185)
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:	No data available
Evaporation rate:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Refer to subsection "Possibility of hazardous reactions".

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

Keep away from heat sources, sparks and open flames.
Protect from direct sunlight.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

No decomposition when used properly.

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): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Skin Irrit. 2; H315 = Causes skin irritation.

Serious eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Based on available data, the classification criteria are not met. Contains 3-Iodo-2-propynyl butylcarbamate. May produce an allergic reaction.

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

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

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

Aspiration hazard: Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties:

No data available

Other information: Information about 2-(2-Butoxyethoxy)ethanol:
LD50, Mouse, oral: 2.410 mg/kg (OECD 401)
LD50, Rabbit, dermal: 2.764 mg/kg (OECD 402)

Information about Dicyclohexylamine:
LD50, Rat, oral: 200 mg/kg
LC50, Rat, inhalative: > 1,4 mg/L/6h
LD50, Rabbit, dermal: 200 mg/kg

Symptoms

After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Harmful to aquatic life with long lasting effects.

Information about 2-(2-Butoxyethoxy)ethanol:
Fish toxicity:
LC50 Lepomis macrochirus (bluegill): 1.300 mg/L/96h (OECD 203)
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): > 100 mg/L/48h (EU Method C.2)
Algae toxicity:
EC50 Desmodesmus subspicatus (green algae): > 100 mg/L/96h (OECD 201)

Information about Dicyclohexylamine:
Fish toxicity:
LC50 Danio rerio (zebrafish): 62 mg/L/96h (EU Method C.1)
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): 8 mg/L/48h (OECD 202)
Algae toxicity:
EC50 Desmodesmus subspicatus (green algae): 0,38 mg/L/72h (EU Method C.3)

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

12.2 Persistence and degradability

Further details: Part of the components is biodegradable.

Poorly eliminated from water.

12.3 Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient: n-octanol/water:

Not applicable

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

The product does not contain any substances classified as PBT or vPvB.

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

Recommendation: ASN 120107*: Mineral-based machining oils free of halogens (except emulsions and solutions)
ASN 120109*: Machining emulsions and solutions free of halogens

Dispose of waste according to applicable legislation.
Do not dispose of with household waste.

Package

Recommendation: Dispose of waste according to applicable legislation.
Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number or ID number

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

ADN: ID 9006

14.2 UN proper shipping name

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

ADN: ID 9006, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3 Transport hazard class(es)

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

ADN: Class 9, Code: M12

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

Inland waterway craft (ADN)

Hazard label: -

Transport permitted: T

Equipment necessary: PP

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.

Further regulations, limitations and legal requirements:

The product is not subject to the Chemicals Prohibition Ordinance (ChemVerbotsV).

National regulations - EC member states

Volatile organic compounds (VOC):

2,2 % by weight

Labelling of packaging with <= 125mL content

Signal word: **Warning**

Hazard statements:
H412 Harmful to aquatic life with long lasting effects.
EUH208 Contains 3-Iodo-2-propynyl butylcarbamate. May produce an allergic reaction.

Precautionary statements:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.

Further regulations, limitations and legal requirements:

Use restriction according to REACH annex XVII, no.: 3, 55, 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:

H301 = Toxic if swallowed.
H302 = Harmful if swallowed.
H311 = Toxic in contact with skin.
H314 = Causes severe skin burns and eye damage.
H315 = Causes skin irritation.
H317 = May cause an allergic skin reaction.
H318 = Causes serious eye damage.
H319 = Causes serious eye irritation.
H331 = Toxic if inhaled.
H372 = Causes damage to organs through prolonged or repeated exposure.
H373 = May cause damage to organs through prolonged or repeated exposure.
H400 = Very toxic to aquatic life.
H410 = Very toxic to aquatic life with long lasting effects.
H412 = Harmful to aquatic life with long lasting effects.
EUH208 = Contains 3-Iodo-2-propynyl butylcarbamate. May produce an allergic reaction.

Reason of change: Changes in section 1: Details of the supplier of the safety data sheet
General revision

Date of first version: 9.3.2022

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 Acute: Hazardous to the aquatic environment - acute
Aquatic Chronic: Hazardous to the aquatic environment - chronic
AS/NZS: Australian Standards/New Zealand Standards
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
Eye Irrit.: Eye irritation
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%
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
M-factor: Multiplication factor
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
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
Skin Corr.: Skin corrosion
Skin Irrit.: Skin irritation
Skin Sens.: Skin sensitisation
STOT RE: Specific target organ toxicity - repeated exposure
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
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/r4w1nf3n