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

1.1 Product identifier

Trade name: Eni RADULA 320

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

General use: Hydraulic oil, Functional fluids

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)

This mixture is classified as not hazardous.

2.2 Label elements

Labelling (CLP)

Hazard statements: not applicable

Precautionary statements: not applicable

Special labelling

EUH210 Safety data sheet available on request.

2.3 Other hazards

Special danger of slipping by leaking/spilling product.
With exposure to moisture, product will release hydrogen sulfide.
Formation of an oil film on water impairs the oxygen exchange and may cause significant adverse effects in the aquatic environment.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

This mixture 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 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 hydrocarbons and additives.

Hazardous ingredients:

Identifiers	Designation Classification	Content
REACH 01-2119488707-21-xxxx EC No. 265-101-6 CAS 64742-01-4	Residual oils (petroleum), solvent-refined not classified	70 - 80 %
REACH 01-2119489969-06-xxxx EC No. 309-877-7 CAS 101316-72-7	Distillates (petroleum), solvent-dewaxed heavy paraffinic not classified	20 - 25 %

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

Additional information: 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: 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.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water. In case of skin reactions, consult a physician.
Following fire: Apply bandage with sterile gauze. Immediately get medical attention.

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. Immediately get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation:
Inhaling the vapours leads to irritation of the respiratory tract and mucous membranes, headache, sick-feeling, dizziness, vomiting.
In case of ingestion: Swallowing may cause gastrointestinal irritation and pain of guts.
After contact with skin: Hot product can cause severe burns.
After eye contact: Direct contact with eyes may cause temporary irritation.

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.
In case of inhalation (hydrogen sulfide): Take to a hospital immediately.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water spray jet, foam, extinguishing powder, carbon dioxide.
In case of large fires: Water spray jet, foam.

Extinguishing media which must not be used for safety reasons:

Full water jet

5.2 Special hazards arising from the substance or mixture

Combustible.
May form dangerous gases and vapours in case of fire.
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Furthermore, there may develop: sulphur oxides, nitrogen oxides (NOx), Hydrogen sulphide, aldehydes, Carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Use fine water spray to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely.
Contaminated fire-fighting water must be collected separately. 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 oil mist formation. Provide adequate ventilation.
Eliminate all ignition sources if safe to do so.
Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Avoid contact with skin, eyes, and clothing. Keep unprotected people away.

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 (sand, diatomaceous earth, acid- or universal binding agents).
Make sure spills can be contained, e.g. in sump pallets or kerbed areas.
Never return spills in original containers for re-use.
Clean contaminated articles and floor according to the environmental legislation.

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.
Avoid oil mist formation. Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Do not put any product-impregnated cleaning rags into your trouser pockets.
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.

Precautions against fire and explosion:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take action to prevent static discharges.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:
Store container tightly closed in a dry and cool place.
Store only in original container.
Make sure spills can be contained, e.g. in sump pallets or kerbed areas.
Protect from heat and direct sunlight.

Hints on joint storage: Do not store together 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

Additional information: Contains no substances with occupational exposure limit values.

DNEL/DMEL: Information about Distillates (petroleum), solvent-dewaxed heavy paraffinic:
DNEL workers, long-term, systemic, dermal: 0,97 mg/kg/d
DNEL workers, long-term, systemic, inhalative: 2,73 mg/m³
DNEL workers, long-term, local, inhalative: 5,58 mg/m³
DNEL consumers, long-term, systemic, oral: 0,74 mg/kg

PNEC: Information about Distillates (petroleum), solvent-dewaxed heavy paraffinic:
PNEC oral, Secondary poisoning: 9,33 mg/kg (Food)

8.2 Exposure controls

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

Personal protection equipment

Occupational exposure controls

Respiratory protection: In case of inadequate ventilation wear respiratory protection. Use combination filter type A/P according to EN 14387.
Approved respiratory protection equipment shall be used in spaces where hydrogen sulfide may accumulate. full face mask (EN 136) with filter type B.
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.
Glove material: nitrile rubber (NBR), PVC
Breakthrough time: > 240 min
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. Take off contaminated clothing and wash it before reuse. Avoid contact with skin, eyes, and clothing.
Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Protect skin by using skin protective cream.
Have eye wash bottle or eye rinse ready at work place.

Environmental exposure controls

Do not allow to enter into surface water or drains. Do not apply industrial sludge to natural soils.

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 Form: clear
Colour:	yellow-brown
Odour:	weak, like petroleum
Odour threshold:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available

Flash point/flash point range:	281 °C (ASTM D 92)
Decomposition temperature:	No data available
pH:	No data available
Viscosity, kinematic:	at 40 °C: 320 mm²/s (ASTM D 445)
Water solubility:	Insoluble
Partition coefficient: n-octanol/water:	No data available
Vapour pressure:	No data available
Density:	at 15 °C: 905 kg/m³ (ASTM D 4052)
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:	Negligible (Butyl acetate = 1)
Additional information:	Pour point: -6 °C (ASTM D 97)

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

Exothermic reactions with strong oxidizing agents. Risk of fire.

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

With exposure to moisture, product will release hydrogen sulfide.

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

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

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.
Direct contact with eyes may cause temporary irritation.

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

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

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:

This mixture 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.

Other information:

Information about Residual oils (petroleum), solvent-refined:
LD50 Rat, oral: 5.000 mg/kg (OECD 401)
LD50 Rabbit, dermal: > 2.000 mg/kg bw/d (OECD 402)
LC50 Rat, inhalative: 5 mg/L/4 h (OECD 403)

Information about Distillates (petroleum), solvent-dewaxed heavy paraffinic:
LD50 Rat, oral: 5.000 mg/kg (OECD 401)
LD50 Rabbit, dermal: > 2.000 mg/kg bw/d (OECD 402)
LC50 Rat, inhalative: 5 mg/L/4 h (OECD 403)

Symptoms

In case of inhalation:
Inhaling the vapours leads to irritation of the respiratory tract and mucous membranes, headache, sick-feeling, dizziness, vomiting.
In case of ingestion: Swallowing may cause gastrointestinal irritation and pain of guts.
After contact with skin: Hot product can cause severe burns.
After eye contact: Direct contact with eyes may cause temporary irritation.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Information about Residual oils (petroleum), solvent-refined:
LL50 Pimephales promelas (fathead minnow): > 100 mg/L/96h (OECD 203)
Daphnia toxicity:
EL50 Daphnia magna (Big water flea): 10.000 mg/L/48h (OECD 202)

Information about Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Fish toxicity:
LC50 Pimephales promelas (fathead minnow): > 100 mg/L (OECD 203)
NOEC: > 1.000 mg/L/14d
Daphnia toxicity: EC50: > 1.000 mg/L (OECD 202)
crustaceans NOEC, chronic: > 1.000 mg/L/21d (OECD 211)
Algae toxicity:
NOEC Pseudokirchneriella subcapitata (green algae): >100 mg/L/72h (OECD 201)

Water Hazard Class: 1 = slightly hazardous to water (Self-classification (mixture).)

12.2 Persistence and degradability

Further details: Product is not readily biodegradable. Inherently biodegradable.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

No data available

12.4 Mobility in soil

Product is not soluble in water, and floats on water. Formation of an oil film on water impairs the oxygen exchange and may cause significant adverse effects in the aquatic environment.

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

This mixture 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.

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: 13 02 05* = mineral-based non-chlorinated engine, gear and lubricating oils
* = Evidence for disposal must be provided.

Recommendation: Dispose of waste according to applicable legislation.

Package

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

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: 1 = slightly hazardous to water (Self-classification (mixture).)

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

Labelling of packaging with <= 125mL content

Hazard statements: EUH210 Safety data sheet available on request.

Precautionary statements: not applicable

Further regulations, limitations and legal requirements:

No data available

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:

EUH210 = Safety data sheet available on request.

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

Date of first version: 11.1.2023

Department issuing data sheet:

see section 1: Department responsible for information

Abbreviations and acronyms:

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
AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DIN: German Insitute for Standardization
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EC50: Effective Concentration 50%
EL50: Effective loading rate 50%
EN: European Standard
EQ: Excepted quantities
EU: European Union
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
NF: French Standard
NOEC: No Observed Effect Concentration
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
PVC: Polyvinyl chloride
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative

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/6my4dn4b