

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 14/10/2025 Revision date: 14/10/2025 Version: 1.0

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

1.1. Product identifier

Product form Mixture

Product name Kluebersynth GEM 4-220 N (H)

Product code BU ET&A

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

1.2.1. Relevant identified uses

Industrial/Professional use spec For professional use only

Use of the substance/mixture Lubricant

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier Department issuing data specification sheet

Klüber Lubrication München GmbH & Co. KG Hilti AG

 Geisenhausenerstr. 7
 Feldkircherstraße 100

 81379 München
 FL 9494 Schaan

 Germany
 Liechtenstein

 T +49 89 7876-0
 T +423 234 2111

mcm@klueber.com product.compliance-power.tools@hilti.com

1.4. Emergency telephone number

Emergency number Emergency CONTACT (24-Hour-Number):

GBK GmbH Global Regulatory Compliance

+49 (0)6132-84463

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Road 9	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements EUH208 - Contains Amines, C10-C14-tert-alkyl. May produce an allergic reaction.

EUH210 - Safety data sheet available on request.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

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Component		
1-Propene, 2-methyl-, sulfurized (68511-50-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
Amines, C10-C14-tert-alkyl (68955-53-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
1-Propene, 2-methyl-, sulfurized (68511-50-2)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605
Amines, C10-C14-tert-alkyl (68955-53-3)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc.	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-Propene, 2-methyl-, sulfurized	CAS-No.: 68511-50-2	1 – 2.5	Aquatic Chronic 4, H413
Amines, C10-C14-tert-alkyl	CAS-No.: 68955-53-3 EC-No.: 701-175-2	0.01 – 0.1	Acute Tox. 4 (Oral), H302 (ATE=612 mg/kg bodyweight) Acute Tox. 3 (Dermal), H311 (ATE=251 mg/kg bodyweight) Acute Tox. 2 (Inhalation:vapour), H330 (ATE=1.19 mg/l/4h) Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing. Allow the victim to rest. If experiencing respiratory symptoms: Call a poison center or a doctor. If breathing is irregular or stopped, administer artificial respiration.



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First-aid measures after skin contact

Take off contaminated clothing. Wash skin with plenty of water. If skin irritation occurs: Get

medical advice/attention.

First-aid measures after eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing. Consult an ophthalmologist if irritation persists.

First-aid measures after ingestion Move the affected person to the fresh air. Rinse mouth. Do NOT induce vomiting. Get

medical advice/attention.

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

Symptoms/effects No additional information.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray. Alcohol resistant foam. Dry powder. Carbon dioxide.

Unsuitable extinguishing media Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Explosion hazard No direct explosion hazard.

Reactivity in case of fire Decomposition products may be a hazard to health.

Hazardous decomposition products in case of fire Carbon oxides (CO, CO2). Sulphur oxides.

5.3. Advice for firefighters

Firefighting instructions Exercise caution when fighting any chemical fire. Do not enter fire area without proper

protective equipment, including respiratory protection. Prevent fire fighting water from

entering the environment.

Protection during firefighting Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment Wear recommended personal protective equipment.

Emergency procedures Ventilate spillage area. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment Do not attempt to take action without suitable protective equipment. Equip cleanup crew

with proper protection. For further information refer to section 8: "Exposure

controls/personal protection".

Emergency procedures Ventilate area. Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to

prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

Other information Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

Methods for cleaning up

See Section 8. Exposure controls and personal protection. For further information refer to section 13.



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling Ensure good ventilation of the work station. Wear personal protective equipment. Do not get

> in eyes, on skin, or on clothing. Do not breathe vapours, spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures Keep in a cool, well-ventilated place away from heat. Comply with applicable regulations. Storage conditions

Keep cool. Protect from sunlight. Keep container closed when not in use. Keep only in

original container.

Heat and ignition sources Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

7.3. Specific end use(s)

Hygiene measures

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

Monitoring methods

Monitoring methods A specific exposure sampling method is not available.

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):







8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses



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8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

protective gloves. Nitrile rubber gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Avoid breathing dust, mist or spray. In order to avoid inhalation of mist/vapour, all spraying must be done wearing adequate respirator

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid Colour Yellow Odour characteristic. Odour threshold Not available Not available Melting point Not available Freezing point **Boiling point** Not available Flammability Not available Lower explosion limit Not available Upper explosion limit Not available ≥ 200 °C Flash point Not available Auto-ignition temperature Not available Decomposition temperature Not available рΗ Viscosity, kinematic 220 mm²/s (40 °C) Solubility insoluble in water. Partition coefficient n-octanol/water (Log Kow) Not available < 0.001 hPa (20 °C) Vapour pressure Not available Vapour pressure at 50°C Density 0.86 a/cm3 (20°C) Not available Relative density Relative vapour density at 20°C Not available Relative gas density 0.861 (20°C) Particle characteristics Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content < 3 %



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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral) Not classified Acute toxicity (dermal) Not classified Acute toxicity (inhalation) Not classified

Amines, C10-C14-tert-alkyl (68955-53-3)		
LD50 oral rat	612 mg/kg	
LD50 dermal rat	251 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 190 - 322	
LC50 Inhalation - Rat	1.19 mg/l/4h	
Skin corrosion/irritation	Not classified	
Additional information	Based on available data, the classification criteria are not met	

Serious eye damage/irritation Not classified

Additional information Based on available data, the classification criteria are not met

Respiratory or skin sensitisation

Additional information Based on available data, the classification criteria are not met

Germ cell mutagenicity Not classified

Additional information Based on available data, the classification criteria are not met

Carcinogenicity Not classified

Additional information Based on available data, the classification criteria are not met

Reproductive toxicity Not classified

Additional information Based on available data, the classification criteria are not met Not classified

STOT-single exposure Additional information Based on available data, the classification criteria are not met

STOT-repeated exposure Not classified

Based on available data, the classification criteria are not met Additional information

Aspiration hazard Not classified

Additional information Based on available data, the classification criteria are not met

Kluebersynth GEM 4-220 N (H)	
Viscosity, kinematic	220 mm²/s (40 °C)



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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

11.2.2. Other information

Potential adverse human health effects and

symptoms

Based on available data, the classification criteria are not met

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general The product is not considered harmful to aquatic organisms nor to cause long-term adverse

effects in the environment.

Hazardous to the aquatic environment, short-term

(acute)

Not classified

Hazardous to the aquatic environment, long-term

(chronic)

Not classified

Amines, C10-C14-tert-alkyl (68955-53-3)		
LC50 - Fish [1]	1.3 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)	
EC50 - Crustacea [1]	0.24 – 6 mg/l Test organisms (species): Daphnia magna	
EC50 72h - Algae [1]	0.44 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)	
NOEC chronic fish	0.078 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '96 d'	

12.2. Persistence and degradability

Kluebersynth GEM 4-220 N (H)	
Persistence and degradability	No additional information available.

12.3. Bioaccumulative potential

Kluebersynth GEM 4-220 N (H)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation Disposal must be done according to official regulations.

Waste treatment methods Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations Disposal must be done according to official regulations.

Product/Packaging disposal recommendations Dispose in a safe manner in accordance with local/national regulations.

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Additional information Ecological waste information European List of Waste (LoW, EC 2000/532) Do not re-use empty containers.

Avoid release to the environment.

unused product:

13 02 06* - synthetic engine, gear and lubricating oils

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID /

ADR	IMDG	IATA	RID		
14.1. UN number or ID number	14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated		
14.2. UN proper shipping name					
Not regulated	Not regulated	Not regulated	Not regulated		
14.3. Transport hazard class(es)			_		
Not regulated	Not regulated	Not regulated	Not regulated		
14.4. Packing group	14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated		
14.5. Environmental hazards					
Not regulated	Not regulated	Not regulated	Not regulated		
No supplementary information availa	No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(b)	Amines, C10-C14-tert-alkyl
3(c)	1-Propene, 2-methyl-, sulfurized ; Amines, C10-C14-tert-alkyl



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REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List < 0.1% or SCL.

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

VOC Directive (2004/42)

VOC content < 3 %

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acron	Abbreviations and acronyms:		
ACGIH	American Conference of Government Industrial Hygienists		
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		
ATE	Acute Toxicity Estimate		
BCF	Bioconcentration factor		
BLV	Biological limit value		
BOD	Biochemical oxygen demand (BOD)		
CAS-No.	Chemical Abstract Service number		
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008		
COD	Chemical oxygen demand (COD)		
CSA	Chemical safety assessment		
DMEL	Derived Minimal Effect level		
DNEL	Derived-No Effect Level		
EC-No.	European Community number		



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Abbreviations and acronyms:		
EC50	Median effective concentration	
ED	Endocrine disruptor	
EN	European Standard	
EWC	European waste catalogue	
IARC	International Agency for Research on Cancer	
IATA	International Air Transport Association	
IMDG	International Maritime Dangerous Goods	
LC50	Median lethal concentration	
LD50	Median lethal dose	
LOAEL	Lowest Observed Adverse Effect Level	
Log Kow	Partition coefficient n-octanol/water (Log Kow)	
Log Pow	Partition coefficient n-octanol/water (Log Pow)	
MAK	maximum workplace concentration	
NOAEC	No-Observed Adverse Effect Concentration	
NOAEL	No-Observed Adverse Effect Level	
NOEC	No-Observed Effect Concentration	
N.O.S.	Not Otherwise Specified	
OECD	Organisation for Economic Co-operation and Development	
OEL	Occupational Exposure Limit	
OSHA	Occupational Safety Health Administration	
PBT	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
PPE	Personal protection equipment	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
SDS	Safety Data Sheet	
STP	Sewage treatment plant	
TF	Technical function	
ThOD	Theoretical oxygen demand (ThOD)	
TLM	Median Tolerance Limit	
TWA	Time Weighted Average	
VOC	Volatile Organic Compounds	
vPvB	Very Persistent and Very Bioaccumulative	
UFI	Unique Formula Identifier	

Other information None.



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Full text of H- and EUH-statements:		
Acute Tox. 2 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 2	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4	
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1	
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1	
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1	
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B	
Skin Sens. 1A	Skin sensitisation, category 1A	
H302	Harmful if swallowed.	
H311	Toxic in contact with skin.	
H314	Causes severe skin burns and eye damage.	
H317	May cause an allergic skin reaction.	
H318	Causes serious eye damage.	
H330	Fatal if inhaled.	
H400	Very toxic to aquatic life.	
H410	Very toxic to aquatic life with long lasting effects.	
H413	May cause long lasting harmful effects to aquatic life.	
EUH208	Contains Amines, C10-C14-tert-alkyl. May produce an allergic reaction.	
EUH210	Safety data sheet available on request.	

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.