

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### SynOil, M10.120.08

Revision date: 21.07.2023

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

##### 1.1. Product identifier

SynOil, M10.120.08

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

###### Use of the substance/mixture

Heat transfer oil

###### Uses advised against

Any non-intended use.

##### 1.3. Details of the supplier of the safety data sheet

Company name:	Peter Huber Kältemaschinenbau SE	
Street:	Werner-von-Siemens-Strasse 1	
Place:	D-77656 Offenburg	
Telephone:	+49 (0) 781 9603-0	Telefax: +49 (0) 781 57211
E-mail:	info@huber-online.com	
Internet:	www.huber-online.com	
Responsible Department:	info@huber-online.com	

##### 1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

##### Further Information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No 1272/2008

Acute Tox. 4; H332

Asp. Tox. 1; H304

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### Regulation (EC) No 1272/2008

###### Hazard components for labelling

Dec-1-ene, dimers, hydrogenated

Signal word: Danger

###### Pictograms:



###### Hazard statements

H304	May be fatal if swallowed and enters airways.
H332	Harmful if inhaled.

###### Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P331	Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents/container to local/regional/national/international regulations.

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**2.3. Other hazards**

The substances in the mixture (> 0.1%) do not meet the PBT/vPvB criteria according to REACH, annex XIII. This product does not contain a substance (> 0,1%) that has endocrine disrupting properties with respect to humans as no components meets the criteria. This product does not contain a substance (> 0,1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
68649-11-6	Dec-1-ene, dimers, hydrogenated			>=90 %
	500-228-5		01-2119493069-28	
	Acute Tox. 4, Asp. Tox. 1; H332 H304			

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

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
68649-11-6	500-228-5	Dec-1-ene, dimers, hydrogenated	>=90 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg		

**Further Information**

Product does not contain listed SVHC substances > 0.1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

**After contact with skin**

Gently wash with plenty of soap and water. Remove contaminated clothing immediately. In case of skin irritation consult a doctor.

**After contact with eyes**

Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After ingestion**

Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

See sections 2 and 11

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

Treat symptomatically.

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**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. Alcohol resistant foam. Atomized water.**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. Wear chemical resistant suit. Cool endangered containers with water spray jet.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Safe handling: see section 7

**For non-emergency personnel**

Wear personal protection equipment (refer to section 8).

**For emergency responders**

No special measures are necessary.

**6.2. Environmental precautions**

Discharge into the environment must be avoided. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not empty into drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**For cleaning up**

Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Wear suitable protective clothing. See section 8.

**Advice on protection against fire and explosion**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Usual measures for fire prevention.

**Advice on general occupational hygiene**

Always close containers tightly after the removal of product. When using do not eat, drink or smoke. Wash hands before breaks and after work. Do not inhale vapours. Wash soiled clothing immediately.

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#### Further information on handling

General protection and hygiene measures: See section 8.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Store only in original container.

##### Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

##### Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: 20 °C

Protect against: frost. UV-radiation/sunlight. heat. Humidity

#### 7.3. Specific end use(s)

See section 1.

## SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Additional advice on limit values

To date, no national critical limit values exist.

#### 8.2. Exposure controls



##### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation.

##### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). EN 166

##### Hand protection

Wear suitable gloves.

Suitable material:

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time  $\geq$  8 h

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

The selected protective gloves have to satisfy the specifications of EU Directive EC/2016/425 and the standard EN 374 derived from it.

Check leak tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well.

##### Skin protection

Suitable protective clothing: Lab apron.

##### Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

-Exceeding exposure limit values

-Insufficient ventilation and aerosol or mist formation

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Suitable respiratory protective equipment: particulates filter device (DIN EN 143). type: P2  
 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. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

#### Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	-73 °C
Boiling point or initial boiling point and boiling range:	223 °C
Flammability:	This material is combustible, but will not ignite readily.
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	> 150 °C
Auto-ignition temperature:	324 °C
Decomposition temperature:	not relevant
pH-Value:	not applicable
Viscosity / kinematic: (at 40 °C)	5 mm <sup>2</sup> /s
Water solubility:	not determined
Solubility in other solvents	not determined
Dissolution rate:	not relevant
Partition coefficient n-octanol/water:	not relevant
Dispersion stability:	not relevant
Vapour pressure: (at 20 °C)	< 0,1 hPa
Density (at 20 °C):	0,794 g/cm <sup>3</sup>
Bulk density:	not determined
Relative vapour density:	not determined
Particle characteristics:	not relevant

#### 9.2. Other information

##### Information with regard to physical hazard classes

Explosive properties	none
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not relevant
Gas:	not relevant
Oxidizing properties	none

##### Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined

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Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

**Further Information**

No information available.

**SECTION 10: Stability and reactivity**
**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

Refer to chapter 10.5.

**10.4. Conditions to avoid**

Protect against: UV-radiation/sunlight. heat.

**10.5. Incompatible materials**

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

**10.6. Hazardous decomposition products**

Does not decompose when used for intended uses.

**SECTION 11: Toxicological information**
**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**
**Toxicokinetics, metabolism and distribution**

No data available.

**Acute toxicity**

Harmful if inhaled.

**ATEmix calculated**

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) 11,00 mg/l; ATE (inhalation dust/mist) 1,500 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
68649-11-6	Dec-1-ene, dimers, hydrogenated				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1994)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1995)	OECD Guideline 402
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

**Irritation and corrosivity**

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

**Sensitising effects**

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

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**Carcinogenic/mutagenic/toxic effects for reproduction**

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Specific effects in experiment on an animal**

No data available.

**11.2. Information on other hazards**
**Endocrine disrupting properties**

This product does not contain a substance (&gt; 0,1%) that has endocrine disrupting properties with respect to humans as no components meets the criteria.

**Other information**

No data available.

**SECTION 12: Ecological information**
**12.1. Toxicity**

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
68649-11-6	Dec-1-ene, dimers, hydrogenated					
	Acute fish toxicity	LL50 > 1000 mg/l	96 h	Oncorhynchus mykiss	Study report (1995)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 1000 mg/l	96 h	Raphidocelis subcapitata	Study report (1995)	OECD Guideline 201
	Acute crustacea toxicity	EL50 > 1000 mg/l	48 h	Daphnia magna	Study report (1995)	OECD Guideline 202

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**
**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
68649-11-6	Dec-1-ene, dimers, hydrogenated	> 6,5

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

**12.6. Endocrine disrupting properties**

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 aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

**12.7. Other adverse effects**

No data available.

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**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

**List of Wastes Code - residues/unused products**

120110 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; synthetic machining oils; hazardous waste

**List of Wastes Code - used product**

120110 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; synthetic machining oils; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)**

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

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**14.6. Special precautions for user**

refer to chapter 6 - 8

**14.7. Maritime transport in bulk according to IMO instruments**

not relevant

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

Restrictions on use (REACH, annex XVII):

Entry 3

2010/75/EU (VOC): not determined

2004/42/EC (VOC): not determined

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

REACH 1907/2006 Appendix XVII, No (mixture): 3

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Changes**

Rev. 1,0; Initial release: 29.09.2020

Rev. 2,0; 27.09.2021, Revision

Rev. 3,0; 30.09.2021, Revision 2-16

Rev. 4,0; 21.07.2023, Revision

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

AGW: Arbeitsplatzgrenzwert

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging of substances and mixtures

DNEL: Derived No Effect Level

d: day(s)

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWC: European Waste Catalogue

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

h: hour

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect concentration

NLP: No-Longer Polymers

N/A: not applicable

OECD: Organisation for Economic Co-operation and Development

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail

REACH: Registration, Evaluation, Authorisation of Chemicals

SVHC: substance of very high concern

TRGS: Technische Regeln für Gefahrstoffe

UN: United Nations

VOC: Volatile Organic Compounds

WGK: Water Hazard Class (Germany)

**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Acute Tox. 4; H332	Calculation method
Asp. Tox. 1; H304	Calculation method

**Relevant H and EUH statements (number and full text)**

H304 May be fatal if swallowed and enters airways.

H332 Harmful if inhaled.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*