1. Identification

**Product identifier**
SynOil, M10.120.08

**Recommended use of the chemical and restrictions on use**

**Use of the substance/mixture**
Heat transfer oil

**Uses advised against**
Any non-intended use.

**Details of the supplier of the safety data sheet**
- **Company name:** Huber USA Inc.
- **Street:** 1101 Nowell Rd Suite 110
- **Place:** USA-NC 27607 Raleigh
- **Telephone:** 800-726-4877
- **E-mail:** info@huber-online.com
- **Internet:** www.huber-usa.com
- **Emergency phone number:** Toll Free: 1-800-424-9300; Local: +1-703-527-3887

2. Hazard(s) identification

**Classification of the chemical**

29 CFR Part 1910.1200
- Acute toxicity: Acute Tox. 4 (inhalation)
- Aspiration hazard: Asp. Tox. 1

**Label elements**

29 CFR Part 1910.1200
- **Signal word:** Danger
- **Pictograms:**

**Hazard statements**
- May be fatal if swallowed and enters airways
- Harmful if inhaled

**Precautionary statements**
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- If swallowed: Immediately call a poison center/doctor.
- Do NOT induce vomiting.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- Call a poison center/doctor if you feel unwell.
- Store locked up.
- Dispose of contents/container to local/regional/national/international regulations.

**Hazards not otherwise classified**
- The components in this formulation do not meet the criteria for classification as PBT or vPvB.

3. Composition/information on ingredients

**Mixtures**
4. First-aid measures

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
Most important symptoms and effects, both acute and delayed
See sections 2 and 11

Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2), Dry extinguishing powder. Alcohol resistant foam. Atomized water.

Unsuitable extinguishing media
High power water jet.

Specific hazards arising from the chemical
Can be released in case of fire: Carbon monoxide (CO), Carbon dioxide (CO2).

Special protective equipment and precautions for fire-fighters
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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General advice
See protective measures under point 7 and 8.

For non-emergency personnel
Wear personal protection equipment (refer to section 8).
For emergency responders
No special measures are necessary.

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.

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.

Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

7. Handling and storage

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/sparks/open flames/hot surfaces. - 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 vapors. Wash soiled clothing immediately.

Further information on handling
General protection and hygiene measures: See section 8.

Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage

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

8. Exposure controls/personal protection

Control parameters
Additional advice on limit values
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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). Standards: EN 166 or 29 CFR 1910.133

Hand protection
Wear suitable gloves.
Suitable material:
- FKM (fluororubber). - Thickness of the glove material 0,4 mm
  Breakthrough time >= 8 h
- Butyl rubber. - Thickness of the glove material 0,5 mm
  Breakthrough time >= 8 h
- CR (polychloroprenes, Chloroprene rubber). - Thickness of the glove material 0,5 mm
  Breakthrough time >= 8 h
- NBR (Nitrile rubber). - Thickness of the glove material 0,35 mm
  Breakthrough time >= 8 h
- PVC (Polyvinyl chloride). - Thickness of the glove material 0,5 mm
  Breakthrough time >= 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 should satisfy the specifications of standards like EN 374.
Before using check leak tightness / impermeability. 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
Suitable respiratory protective equipment: half-mask with filter EN 149 or 29 CFR 1910.134.
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.

Environmental exposure controls
No special precautionary measures are necessary.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>colourless</td>
</tr>
<tr>
<td>Odor:</td>
<td>odourless</td>
</tr>
</tbody>
</table>

Test method

<table>
<thead>
<tr>
<th>Melting point/freezing point:</th>
<th>-73 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling point or initial boiling point and boiling range:</td>
<td>223 °C</td>
</tr>
</tbody>
</table>
## Lower explosion limits:
not determined

## Upper explosion limits:
not determined

## Flash point:
> 150 °C

## Auto-ignition temperature:
324 °C

## Decomposition temperature:
not determined

## pH-Value:
not applicable

## Viscosity / kinematic:
5 mm²/s ASTM D 445

## (at 40 °C)

## Water solubility:
Immiscible

## Solubility in other solvents
not determined

## Partition coefficient n-octanol/water:
SECTION 12: Ecological information

## Vapor pressure:
< 0,1 hPa

## (at 20 °C)

## Density (at 20 °C):
0,794 g/cm³

## Relative vapour density:
not determined

## Information with regard to physical hazard classes

### Explosive properties
none

### Sustaining combustion:
Not sustaining combustion

### Self-ignition temperature

#### Gas:
not determined

### Oxidizing properties
none

## Other safety characteristics

### Evaporation rate:
not determined

### Solvent separation test:
not determined

### 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

## 10. Stability and reactivity

### Reactivity
No information available.

### Chemical stability

#### Stability:
Stable

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

### Possibility of hazardous reactions

#### Hazardous reactions:
Will not occur

No information available.

### Conditions to avoid

Protect against: UV-radiation/sunlight, heat.

### Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.
Hazardous decomposition products
Can be released in case of fire: Carbon monoxide, Carbon dioxide (CO2).

Further information
It should be noted that the heat transfer fluid has a limited lifespan and its condition must be checked regularly.

11. Toxicological information

Route(s) of Entry
Ingestion: May be harmful if swallowed. Inhalation: May be harmful if inhaled. Skin contact: May cause irritation. Eye contact: May cause irritation.

Information on toxicological effects
Toxicokinetics, metabolism and distribution
No data available.

Acute toxicity
Harmful if inhaled

ATEmix calculated
ATE (oral) > 2000 mg/kg; ATE (dermal) 2500 mg/kg; ATE (inhalation vapour) 11,00 mg/l; ATE (inhalation dust/mist) 1,500 mg/l

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>68649-11-6</td>
<td>Dec-1-ene, dimers, hydrogenated</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt; 5000</td>
<td>Rat</td>
<td>Study report (1994)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td>Study report (1995)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation vapour</td>
<td>ATE</td>
<td>11 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation dust/mist</td>
<td>ATE</td>
<td>1,5 mg/l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.

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

Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met.

Carcinogenicity (OSHA): No ingredient of this mixture is listed.
Carcinogenicity (IARC): No ingredient of this mixture is listed.
Carcinogenicity (NTP): No ingredient of this mixture is listed.

Aspiration hazard
May be fatal if swallowed and enters airways

Specific effects in experiment on an animal
No data available.

Information on other hazards
Endocrine disrupting properties
No data available.
12. Ecological information

Ecotoxicity
The product has not been tested.

Persistence and degradability
The product has not been tested.

Bioaccumulative potential
No indication of bioaccumulation potential.

Mobility in soil
No data available.

Endocrine disrupting properties
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meet the criteria.

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

Other adverse effects
No data available.

Further information
Do not allow to enter into surface water or drains.

13. Disposal considerations

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.

RCRA Hazardous wastes (Resource Conservation and Recovery Act)
None

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

14. Transport information

U.S. DOT 49 CFR 172.101

Proper shipping name: Not a hazardous material with respect to these transport regulations. &&
Not controlled under DOT

Marine transport (IMDG)

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

Air transport (ICAO-TI/IATA-DGR)

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

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Special precautions for user
See section 8.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

15. Regulatory information

U.S. Regulations
National Inventory TSCA
Dec-1-ene, dimers, hydrogenated listed in the TSCA inventory 8 (b): (x) active,
Dec-1-ene, dimers, hydrogenated not listed under TSCA 12(b)
National regulatory information
SARA Section 311/312 Hazards:
Dec-1-ene, dimers, hydrogenated (68649-11-6): Immediate (acute) health hazard

State Regulations
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or
other reproductive harm.
This preparation is hazardous in the sense of regulation 29 CFR Part 1910.1200.

16. Other information

Hazardous Materials Identification System (HMIS)
Health: 2
Flammability: 1
Physical Hazard: 0
Personal Protection: B

NFPA Hazard Ratings
Health: 2
Flammability: 1
Reactivity: 0
Unique Hazard: -

Changes
Revision date: 07/21/2023
Revision No: 4.0
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
ACGIH: American Conference of Governmental Industrial Hygienists
ATE: acute toxicity estimate
BCF: Bio concentration factor
ECHA: European Chemicals Agency
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
d: days
EC50: Half maximal effective concentration
EN: European Norm
EPA: Environmental Protection Agency
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
h: hours
Safety Data Sheet
according to 29 CFR 1910.1200(g)

SynOil, M10.120.08

Revision date: 07/21/2023

HMIS: Hazardous Materials Identification System
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IBC: Intermediate Bulk Container
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
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
MARPOL: marine pollution
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NTP: National Toxicology Program
N/A: not applicable
NFPA: National Fire Protection Association
UN: United Nations
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PBT: Persistent bioaccumulative toxic
RTECS: Registry of Toxic Effects of Chemical Substances
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
SARA: Superfund Amendments and Reauthorization Act
STEL: short-term exposure limits
TSCA: Toxic Substances Control Act
TWA: time weighted average
VOC: Volatile Organic Compounds

Other data
Classification according 29 CFR Part 1910.1200: - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data and / or calculated and / or estimated.

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.)