SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Methyl formate
259705-1L

Version 2.1 Revision Date 24.08.2020 Supersedes 1

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

1.1. Product identifier

Product name : Methyl formate
SDS-number : 000000021190
Type of product : Substance
Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name : methyl formate
Index-No. : 607-014-00-1
REACH Registration Number : 01-2119487303-38

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

Use of the Substance/Mixture : Laboratory chemicals
Uses advised against : none

1.3. Details of the supplier of the safety data sheet

Company : Honeywell Specialty Chemicals Seelze
           Honeywell International, Inc.
           Wunstorfer Straße 40
           30926 Seelze
           Germany

           115 Tabor Road
           Morris Plains, NJ 07950-2546
           USA

Telephone : (49) 5137-999 0
Telefax : (49) 5137-999 123
For further information, please contact: PMTEU Product Stewardship:
                                       SafetyDataSheet@Honeywell.com

1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)
                             +1-303-389-1414 (Medical)
Country based Poison Control Center : see chapter 15.1

SECTION 2: Hazards identification
2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Flammable liquids Category 1
H224 Extremely flammable liquid and vapour.
Acute toxicity Category 4 - Oral
H302 Harmful if swallowed.
Acute toxicity Category 4 - Inhalation
H332 Harmful if inhaled.
Eye irritation Category 2
H319 Causes serious eye irritation.
Specific target organ toxicity - single exposure Category 3 - Respiratory system
H335 May cause respiratory irritation.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms : ☢️❗️

Signal word : Danger

Hazard statements : H224 Extremely flammable liquid and vapour.
H302 + H332 Harmful if swallowed or if inhaled.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements : P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
2.3. Other hazards

No information available. Results of PBT and vPvB assessment, see chapter 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Index-No.</th>
<th>Classification 1272/2008</th>
<th>Concentration</th>
<th>Remarks</th>
</tr>
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<tr>
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<td>107-31-3</td>
<td>607-014-00-1</td>
<td>Flam. Liq. 1; H224</td>
<td>97.1 %</td>
<td>1*</td>
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<tr>
<td></td>
<td>01-2119487303-38</td>
<td>203-481-7</td>
<td>Acute Tox. 4; H302</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4; H332</td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2; H319</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3; H355</td>
<td></td>
<td></td>
</tr>
<tr>
<td>methanol (Impurity)</td>
<td>67-56-1</td>
<td>603-001-00-X</td>
<td>Flam. Liq. 2; H225</td>
<td>&lt; 3 %</td>
<td>1*</td>
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<tr>
<td></td>
<td>200-659-6</td>
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<td>Acute Tox. 3; H331</td>
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<td>Acute Tox. 3; H311</td>
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<td>Acute Tox. 3; H301</td>
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<td></td>
<td></td>
<td></td>
<td>STOT SE 1; H370</td>
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<td></td>
</tr>
</tbody>
</table>

1* - For specific concentration limits see Annexes of 1272/2008

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:
First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:
Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.

Skin contact:
Wash off immediately with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists.
**Eye contact:**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. Remove contact lenses. Call a physician.

**Ingestion:**
Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is fully conscious, give a cupful of water. Call a physician.

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

No data available

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

No data available

See Section 11 for more detailed information on health effects and symptoms.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media:**
- Water spray
- Dry chemical
- Alcohol-resistant foam
- Carbon dioxide (CO2)

**Extinguishing media which shall not be used for safety reasons:**
Do not use a solid water stream as it may scatter and spread fire.

#### 5.2. Special hazards arising from the substance or mixture

Flammable.
Vapours may form explosive mixtures with air.
Vapours are heavier than air and may spread along floors.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
In case of fire hazardous decomposition products may be produced such as:
- Carbon monoxide
- Carbon dioxide (CO2)
5.3. **Advice for firefighters**

Wear self-contained breathing apparatus and protective suit. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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**SECTION 6: Accidental release measures**

6.1. **Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation. Remove all sources of ignition. Avoid breathing vapours, mist or gas. Avoid contact with skin, eyes and clothing.

6.2. **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system.

6.3. **Methods and materials for containment and cleaning up**

Ventilate the area.

No sparking tools should be used.

Soak up with inert absorbent material.

Sweep up and shovel into suitable containers for disposal.

Dispose of in accordance with local regulations.

6.4. **Reference to other sections**

For personal protection see section 8.

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**SECTION 7: Handling and storage**

7.1. **Precautions for safe handling**

**Advice on safe handling:**

Wear personal protective equipment. Use only in well-ventilated areas. Avoid breathing vapours, mist or gas. Avoid contact with skin, eyes and clothing.

**Advice on protection against fire and explosion:**

Keep product and empty container away from heat and sources of ignition. Vapours may form explosive mixtures with air. Use explosion-proof equipment. Take precautionary measures against static discharges.

**Hygiene measures:**

Remove and wash contaminated clothing before re-use. Keep working clothes separately. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.
7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Store in area designed for storage of flammable liquids. Protect from physical damage. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep away from direct sunlight.

Advice on common storage:
Do not store together with: Oxidizing agents Acids Bases

7.3. Specific end use(s)
no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis / Value type</th>
<th>Value / Form of exposure</th>
<th>Exceeding Factor</th>
<th>Remarks</th>
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<tr>
<td>methyl formate</td>
<td>EU ELV TWA</td>
<td>125 mg/m3 50 ppm</td>
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<td>Indicative</td>
</tr>
<tr>
<td>methyl formate</td>
<td>EU ELV SKIN DES</td>
<td></td>
<td></td>
<td>Can be absorbed through the skin.</td>
</tr>
<tr>
<td>methyl formate</td>
<td>EU ELV STEL</td>
<td>250 mg/m3 100 ppm</td>
<td></td>
<td>Indicative</td>
</tr>
<tr>
<td>methyl formate</td>
<td>EU ELV STEL</td>
<td>250 mg/m3 100 ppm</td>
<td></td>
<td>Indicative</td>
</tr>
<tr>
<td>methyl formate</td>
<td>EU ELV SKIN DES</td>
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<td>Can be absorbed through the skin.</td>
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<tr>
<td>methyl formate</td>
<td>EU ELV TWA</td>
<td>125 mg/m3 50 ppm</td>
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<td>Indicative</td>
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</table>
### Methanol

<table>
<thead>
<tr>
<th></th>
<th>EH40 WEL</th>
<th>STEL</th>
<th>333 mg/m³</th>
<th>250 ppm</th>
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<tbody>
<tr>
<td>Methanol</td>
<td>EH40 WEL</td>
<td>TWA</td>
<td>266 mg/m³</td>
<td>200 ppm</td>
</tr>
<tr>
<td>Methanol</td>
<td>EU ELV</td>
<td>SKIN DES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methanol</td>
<td>EU ELV</td>
<td>TWA</td>
<td>260 mg/m³</td>
<td>200 ppm</td>
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</tbody>
</table>

TWA - Time weighted average  
STEL - Short term exposure limit  
SKIN DES - Skin designation:

### DNEL/ PNEC-Values

No DNEL-data available.

No PNEC data available.

### 8.2. Exposure controls

#### Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards: respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Do not breathe vapours or spray mist.

#### Engineering measures

Use with local exhaust ventilation.  
Prevent vapour buildup by providing adequate ventilation during and after use.

#### Personal protective equipment

**Respiratory protection:**

In the case of vapour formation use a respirator with an approved filter.

**Hand protection:**

Glove material: butyl-rubber  
Break through time: 240 min  
Glove thickness: 0,7 mm  
Butoject® 898  
Gloves must be inspected prior to use.  
Replace when worn.
Remarks: Supplementary note: The specifications are based on information and tests from similar substances by analogy.
Due to varying conditions (e.g., temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.
Manufacturer’s directions for use should be observed because of great diversity of types.
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Safety goggles

Skin and body protection:
Wear suitable protective equipment.
Wear as appropriate:
Protective suit

Environmental exposure controls
Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form: liquid
Colour: colourless
Odour: ester-like
molecular weight: 60.05 g/mol
Flash point: -19 °C
Ignition temperature: 440 °C
Lower explosion limit: 4.5 % (V)
Upper explosion limit: 23 % (V)
Vapour pressure: 644 hPa at 20 °C
Vapour pressure: 1.400 hPa
Methyl formate
259705-1L

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Density</td>
<td>0.970 g/cm³</td>
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<tr>
<td>Viscosity, dynamic</td>
<td>0.351 mPa.s at 20 °C</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>0.328 mPa.s at 25 °C</td>
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<tr>
<td>Viscosity, kinematic</td>
<td>0.361 mm²/s at 20 °C</td>
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<tr>
<td>pH</td>
<td>4 - 5</td>
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<tr>
<td>Water solubility</td>
<td>ca. 230 g/l</td>
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<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow -0.21 at: 25 °C</td>
</tr>
</tbody>
</table>

9.2 Other Information

no additional data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

85 °C
Decomposition

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Heat, flames and sparks.
Keep away from direct sunlight.

10.5. Incompatible materials
10.6. Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO2)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

**Acute oral toxicity:**
LD50
Species: Rat
Value: 1.500 mg/kg

**Acute dermal toxicity:**
LD50
Species: Rat
Value: > 4.000 mg/kg

**Acute inhalation toxicity:**
LC50
Species: Rat
Value: 5.2 mg/l
Exposure time: 4 h

**Skin irritation:**
Species: Rabbit
Result: non-irritant
Method: Draize Test

**Eye irritation:**
Species: Rabbit
Result: Irritating to eyes.
Method: Draize Test

**Respiratory or skin sensitisation:**
Buehler Test
Species: Guinea pig
Result: non-sensitizing
Method: OECD Test Guideline 406

**Carcinogenicity:**
Note: No data available
**Germ cell mutagenicity:**
Note: Not classified due to data which are conclusive although insufficient for classification.

**Aspiration hazard:**
No data available

**Other information:**
No data available

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**SECTION 12: Ecological information**

**12.1. Toxicity**

**Toxicity to fish:**
LC50
Static test
Species: Leuciscus idus (Golden orfe)
Value: ca. 115 mg/l
Exposure time: 96 h

**Toxicity to aquatic plants:**
EC50
Static test
Species: Scenedesmus subspicatus
Value: 1.079 mg/l
Exposure time: 72 h

**Toxicity to Microorganisms:**
EC50
Species: Pseudomonas putida
Value: > 10.000 mg/l
Exposure time: 17 h

**Toxicity to aquatic invertebrates:**
EC50
Static test
Species: Daphnia magna (Water flea)
Value: > 500 mg/l
Exposure time: 48 h

**12.2. Persistence and degradability**

**Biodegradability:**
Result: rapidly biodegradable
12.3. Bioaccumulative potential

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

*Product:* Dispose according to legal requirements.

*Packaging:* Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:* Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

**ADR/RID**

<table>
<thead>
<tr>
<th>UN Number</th>
<th>Description of the goods</th>
<th>Class</th>
<th>Packaging group</th>
<th>Classification Code</th>
<th>Hazard Identification</th>
<th>Number</th>
<th>ADR/RID-Labels</th>
<th>Environmentally hazardous</th>
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<tbody>
<tr>
<td>1243</td>
<td>METHYL FORMATE</td>
<td>3</td>
<td>I</td>
<td>F1</td>
<td>33</td>
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<td>3</td>
<td>no</td>
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**IATA**

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<td>1243</td>
<td>Methyl formate</td>
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</table>
SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006  

Methyl formate  
259705-1L  

Version 2.1  Revision Date 24.08.2020  Supersedes 1

Class : 3  
Packaging group : I  
Hazard Labels : 3  

IMDG  
UN Number : 1243  
Description of the goods : METHYL FORMATE  

Class : 3  
Packaging group : I  
Hazard Labels : 3  
EmS Number : F-E, S-D  
Marine pollutant : no  

SECTION 15: Regulatory information

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

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<tr>
<th>Basis</th>
<th>Value</th>
<th>Remarks</th>
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<tr>
<td>Regulation (EC) No. 1907/2006, Annex XVII</td>
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<td>This product contains an ingredient according to Annex XVII of the REACH Regulation1907/2006/EC.</td>
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</table>

<table>
<thead>
<tr>
<th>Basis</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
</table>
| Directive 2012/18/EC  
Listed in Regulation : P5a: FLAMMABLE LIQUIDS | Amount 1: 10.000 kg  
Amount 2: 50.000 kg | |

Poison Control Center

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>+4314064343</td>
</tr>
<tr>
<td>Belgium</td>
<td>070 245245</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>(+35929154233</td>
</tr>
<tr>
<td>Croatia</td>
<td>(+3851)23-48-342</td>
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<tr>
<td>Cyprus</td>
<td>+357 2240 5611</td>
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<tr>
<td>Czech Republic</td>
<td>+420224919293; +420224915402</td>
</tr>
<tr>
<td>Denmark</td>
<td>82121212</td>
</tr>
<tr>
<td>Estonia</td>
<td>16662; (+372)6269390</td>
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<tr>
<td>Finland</td>
<td>9471977</td>
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<table>
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<td>+41 442515151</td>
</tr>
<tr>
<td>Lithuania</td>
<td>+370532362052</td>
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<tr>
<td>Luxembourg</td>
<td>070245245; (+352)80002-5500</td>
</tr>
<tr>
<td>Malta</td>
<td>+356 2395 2000</td>
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<tr>
<td>Netherlands</td>
<td>030-2748888</td>
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<tr>
<td>Norway</td>
<td>22591300</td>
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<tr>
<td>Poland</td>
<td>+48 42 25 38 400</td>
</tr>
<tr>
<td>Portugal</td>
<td>808250143</td>
</tr>
<tr>
<td>Romania</td>
<td>+40 21 318 3606</td>
</tr>
</tbody>
</table>
Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory
15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

Methyl formate

- H224: Extremely flammable liquid and vapour.
- H302 + H332: Harmful if swallowed or if inhaled.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

Methanol

- H225: Highly flammable liquid and vapour.
- H331: Toxic if inhaled.
- H311: Toxic in contact with skin.
- H301: Toxic if swallowed.
- H370: Causes damage to organs.

Further information

All directives and regulations refer to amended versions. Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccumulative and toxic substance
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.