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

1.1. Product identifier

Product form : Substance
Physical state : Liquid
Substance name : VINYL METHYL KETONE, 95%
Product code : ENEV4620
Formula : C4H6O
Synonyms : ACETYL ETHYLENE; BUT-3-EN-2-ONE; 3-BUTEN-2-ONE; METHYLENE ACETONE; VINYL METHYL KETONE; 2-BUTENONE; BUTENONE
Chemical family : KETONE

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

1.2.1. Relevant identified uses
Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
info@gelestde.com - www.gelestde.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Flammable liquids, Category 2 H225
Acute toxicity (oral), Category 2 H300
Acute toxicity (inhalation/vapour) Category 1 H330
Skin corrosion/irritation, Category 1B H314
Serious eye damage/eye irritation, Category 1 H318

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP) : GHS02 GHS05 GHS06
VINYL METHYL KETONE, 95%
Safety Data Sheet

Signal word (CLP) : Danger

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour. H300+H330 - Fatal if swallowed or if inhaled. H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P240 - Ground/bond container and receiving equipment. P260 - Do not breathe vapours. P264 - Wash hands thoroughly after handling. P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards
No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl vinyl ketone</td>
<td>(CAS-No.) 78-94-4</td>
<td>95 - 100</td>
<td>Flam. Liq. 2, H225&lt;br&gt;Acute Tox. 2 (Oral), H300&lt;br&gt;Acute Tox. 1 (Inhalation:vapour), H330&lt;br&gt;Skin Corr. 1B, H314&lt;br&gt;Eye Dam. 1, H318</td>
</tr>
<tr>
<td>Hydroquinone</td>
<td>(CAS-No.) 123-31-9</td>
<td>&lt; 0.1</td>
<td>Acute Tox. 4 (Oral), H302&lt;br&gt;Eye Dam. 1, H318&lt;br&gt;Skin Sens. 1, H317&lt;br&gt;Muta. 2, H341&lt;br&gt;Carc. 2, H351&lt;br&gt;Aquatic Acute 1, H400 (M=10)</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of water/…. Get immediate medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Obtain emergency medical attention.

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

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : Fatal if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes (severe) skin burns.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available
SECTION 5: Firefighting measures

5.1. Extinguishing media
Unsuitable extinguishing media: Do not use straight streams.

5.2. Special hazards arising from the substance or mixture
Fire hazard: Highly flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
Explosion hazard: May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters
Firefighting instructions: Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapour and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Eliminate every possible source of ignition. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel
Protective equipment: Wear protective equipment as described in Section 8.
Emergency procedures: 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".

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up: Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Additional hazards when processed: Handle empty containers with care because residual vapours are flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapour and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Use only non-sparking tools.
Hygiene measures: Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
Storage conditions: Keep container tightly closed. Store locked up. Keep in a cool place. Store < 5°C.
Incompatible materials: Oxidizing agent.
Storage area: Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Methyl vinyl ketone (78-94-4)</th>
<th>Country</th>
<th>ACGIH Ceiling (ppm)</th>
<th>Latv. OEL TWA (mg/m³)</th>
<th>Spain VLA-EC (mg/m³)</th>
<th>Spain VLA-EC (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td></td>
<td>0.2 ppm</td>
<td>0.1 mg/m³</td>
<td>0.6 mg/m³</td>
<td>0.2 ppm</td>
</tr>
<tr>
<td>Latvia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Methyl vinyl ketone (78-94-4)

<table>
<thead>
<tr>
<th>Country</th>
<th>Limit Value (mg/m³)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (mg/m³)</td>
<td>0.6 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (ppm)</td>
<td>0.2 ppm</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (8 hours ref) (ppm)</td>
<td>0.2 ppm</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (ppm)</td>
<td>0.6 ppm (calculated)</td>
</tr>
<tr>
<td>Lithuania</td>
<td>IPRV (mg/m³)</td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td>Portugal</td>
<td>OEL - Ceilings (ppm)</td>
<td>0.2 ppm</td>
</tr>
<tr>
<td>Portugal</td>
<td>OEL chemical category (PT)</td>
<td>Sensitizer, skin - potential for cutaneous exposure</td>
</tr>
</tbody>
</table>

## Hydroquinone (123-31-9)

<table>
<thead>
<tr>
<th>Country</th>
<th>Limit Value (mg/m³)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>MAK (mg/m³)</td>
<td>2 mg/m³ (inhalable fraction)</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK Short time value (mg/m³)</td>
<td>4 mg/m³ (inhalable fraction)</td>
</tr>
<tr>
<td>Belgium</td>
<td>Limit value (mg/m³)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>OEL TWA (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>France</td>
<td>VME (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL STEL (mg/m³)</td>
<td>4 mg/m³</td>
</tr>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>ACGIH TWA (mg/m³)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>USA IDLH</td>
<td>US IDLH (mg/m³)</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (ceiling) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Spain</td>
<td>VLA-ED (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Switzerland</td>
<td>KZGW (mg/m³)</td>
<td>2 mg/m³ (inhalable dust)</td>
</tr>
<tr>
<td>Switzerland</td>
<td>MAK (mg/m³)</td>
<td>2 mg/m³ (inhalable dust)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL TWA (mg/m³)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL STEL (mg/m³)</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Expoziční limity (PEL) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (mg/m³)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (15 min)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (8 hours ref) (mg/m³)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (mg/m3)</td>
<td>1.5 mg/m³ (calculated)</td>
</tr>
<tr>
<td>Lithuania</td>
<td>IPRV (mg/m³)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>Lithuania</td>
<td>TPRV (mg/m³)</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdier (AN) (mg/m³)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdier (Kortidisverdi) (mg/m3)</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>Poland</td>
<td>NDS (mg/m³)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Poland</td>
<td>NDSCh (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL TWA (mg/m³)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL STEL (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Slovakia</td>
<td>NPHV (priemerná) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Sweden</td>
<td>nivågränsvärde (NVG) (mg/m³)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>Sweden</td>
<td>kortidsvärde (KTV) (mg/m³)</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>Canada (Quebec)</td>
<td>VEMP (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Australia</td>
<td>TWA (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Portugal</td>
<td>OEL TWA (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

### 8.2. Exposure controls

**Appropriate engineering controls:**

Provide local exhaust or general room ventilation.

**Personal protective equipment:**

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
VINYL METHYL KETONE, 95%
Safety Data Sheet

Hand protection:
Neoprene or nitrile rubber gloves

Eye protection:
Chemical goggles or face shield. Contact lenses should not be worn

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of inadequate ventilation wear respiratory protection. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>70.09 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Straw.</td>
</tr>
<tr>
<td>Odour</td>
<td>Acid. Lachrymator.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.411</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>34 °C @ 120 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>-7 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>370 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>71 mm Hg @ 20°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.864</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>&lt; 3 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Slightly. Soluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>2.1 - 15.6 vol % (lower; upper)</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid

10.5. Incompatible materials
Oxidizing agent.
10.6. Hazardous decomposition products
Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

**Acute toxicity**: Fatal if swallowed. Fatal if inhaled.

**VINYL METHYL KETONE, 95% (78-94-4)**
- ATE CLP (oral) 23.1 mg/kg bodyweight
- ATE CLP (vapours) 0.007 mg/l/4h

**Methyl vinyl ketone (78-94-4)**
- LD50 oral rat 23.1 mg/kg
- LD50 oral mouse 23 mg/kg
- LC50 inhalation rat (mg/l) 0.007 mg/l (Exposure time: 4 h)
- LC50 inhalation mouse 8 mg/m³ (Exposure time: 2 h)
- ATE CLP (oral) 23.1 mg/kg bodyweight
- ATE CLP (vapours) 0.007 mg/l/4h
- ATE CLP (dust,mist) 0.007 mg/l/4h

**Hydroquinone (123-31-9)**
- LD50 oral rat 320 mg/kg
- LD50 dermal rabbit > 2000 mg/kg 24 H

**Skin corrosion/irritation**: Causes severe skin burns and eye damage.
- Skin irritation - rat: 1%: severe irritation effect

**Serious eye damage/irritation**: Causes serious eye damage.

**Respiratory or skin sensitisation**: Not classified

**Germ cell mutagenicity**: Not classified

**Carcinogenicity**: Not classified

**Hydroquinone (123-31-9)**
- IARC group 3 - Not classifiable
- National Toxicology Program (NTP) Status 1 - Evidence of Carcinogenicity

**Reproductive toxicity**: Not classified
**STOT-single exposure**: Not classified
**STOT-repeated exposure**: Not classified

**Aspiration hazard**: Not classified

**Potential adverse human health effects and symptoms**
- RTECS Number: MX3500000.
- Symptoms/effects after inhalation: Fatal if inhaled. Danger of serious damage to health by prolonged exposure through inhalation. May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact: Causes (severe) skin burns.
- Symptoms/effects after eye contact: Causes serious eye damage.
- Symptoms/effects after ingestion: Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

**Reason for classification**: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

**Acute aquatic toxicity**: Not classified
**Chronic aquatic toxicity**: Not classified

**Hydroquinone (123-31-9)**
- LC50 fish 1 0.044 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
- EC50 Daphnia 1 0.29 mg/l (Exposure time: 48 h - Species: Daphnia magna)
- LC50 fish 2 0.044 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

**Hydroquinone (123-31-9)**
- BCF fish 1 40
VINYL METHYL KETONE, 95%

Safety Data Sheet

<table>
<thead>
<tr>
<th>Hydroquinone (123-31-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects: This substance may be hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations: Do not dispose of waste into sewer.

Product/Packaging disposal recommendations: Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.

Additional information: Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 1251
UN-No. (IMDG) : 1251
UN-No. (IATA) : 1251
UN-No. (ADN) : 1251
UN-No. (RID) : 1251

14.2. UN proper shipping name

Proper Shipping Name (ADR) : METHYL VINYL KETONE, STABILIZED
Proper Shipping Name (IMDG) : METHYL VINYL KETONE, STABILIZED
Proper Shipping Name (IATA) : Methyl vinyl ketone, stabilized
Proper Shipping Name (ADN) : METHYL VINYL KETONE, STABILIZED
Proper Shipping Name (RID) : METHYL VINYL KETONE, STABILIZED

Transport document description (ADR) : UN 1251 METHYL VINYL KETONE, STABILIZED, 6.1 (3+8), I, (C/D)
Transport document description (IMDG) : UN 1251 METHYL VINYL KETONE, STABILIZED, 6.1 (3+8), I (-7°C c.c.)
Transport document description (IATA) : UN 1251 Methyl vinyl ketone, stabilized, 6.1
Transport document description (ADN) : UN 1251 METHYL VINYL KETONE, STABILIZED, 6.1 (3+8), I
Transport document description (RID) : UN 1251 METHYL VINYL KETONE, STABILIZED, 6.1 (3+8), I

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 6.1 (3, 8)
Danger labels (ADR) : 6.1, 3, 8

IMDG

Transport hazard class(es) (IMDG) : 6.1 (3, 8)
Danger labels (IMDG) : 6.1, 3, 8
VINYL METHYL KETONE, 95%
Safety Data Sheet

**IATA**
Transport hazard class(es) (IATA) : 6.1 (3, 8)

**ADN**
Transport hazard class(es) (ADN) : 6.1 (3, 8)
Danger labels (ADN) : 6.1, 3, 8

**RID**
Transport hazard class(es) (RID) : 6.1 (3, 8)
Danger labels (RID) : 6.1, 3, 8

---

14.4. **Packing group**
Packing group (ADR) : I
Packing group (IMDG) : I
Packing group (IATA) : Not applicable
Packing group (ADN) : I
Packing group (RID) : I

14.5. **Environmental hazards**
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. **Special precautions for user**
- **Overland transport**
  Classification code (ADR) : TFC
  Special provisions (ADR) : 354
  Limited quantities (ADR) : 0
  Excepted quantities (ADR) : E0
  Packing instructions (ADR) : P601
  Mixed packing provisions (ADR) : MP8, MP17
  Portable tank and bulk container instructions (ADR) : T22
  Portable tank and bulk container special provisions (ADR) : TP2, TP37
  Tank code (ADR) : L15CH
  Vehicle for tank carriage : FL
  Transport category (ADR) : 1
  Special provisions for carriage - Loading, unloading and handling (ADR) : CV1, CV13, CV28
  Special provisions for carriage - Operation (ADR) : S2, S9, S14
  Hazard identification number (Kemler No.) : 639
  Orange plates : 639
  Tunnel restriction code (ADR) : C/D
VINYL METHYL KETONE, 95%
Safety Data Sheet

- Transport by sea
Special provisions (IMDG) : 354
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P601
Tank instructions (IMDG) : T22
Tank special provisions (IMDG) : TP2, TP13, TP37
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-C
Stowage category (IMDG) : D
Stowage and handling (IMDG) : SW2
Segregation (IMDG) : SG5, SG8
Flash point (IMDG) : -7°C c.c.
Properties and observations (IMDG) : Colourless liquid with a pungent odour. Miscible with water. Explosive limits: 2.1% to 15.6%
Flashpoint: -7°C c.c. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.

- Air transport
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden
CAO packing instructions (IATA) : Forbidden
CAO max net quantity (IATA) : Forbidden
Special provisions (IATA) : A209
ERG code (IATA) : 6CH

- Inland waterway transport
Classification code (ADN) : TFC
Special provisions (ADN) : 354, 802
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EP, EX, TOX, A
Ventilation (ADN) : VE01, VE02
Number of blue cones/lights (ADN) : 2

- Rail transport
Classification code (RID) : TFC
Special provisions (RID) : 354
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P601
Special packing provisions (RID) : RR7
Mixed packing provisions (RID) : MP8, MP17
Portable tank and bulk container instructions (RID) : T22
Portable tank and bulk container special provisions (RID) : TP2, TP37
Tank codes for RID tanks (RID) : L15CH
Special provisions for RID tanks (RID) : TU14, TU15, TU38, TE21, TE22, TE25
Transport category (RID) : 1
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31
Hazard identification number (RID) : 639

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
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
VINYL METHYL KETONE, 95%
Safety Data Sheet

No REACH Annex XVII restrictions
VINYL METHYL KETONE, 95% is not on the REACH Candidate List
VINYL METHYL KETONE, 95% is not on the REACH Annex XIV List
VINYL METHYL KETONE, 95% is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

% Volatiles : < 3 %

15.1.2. National regulations

Germany
Reference to AwSV
: Water hazard class (WGK) 3, Highly hazardous to water (Classification according to VwVwS, Annex 3; ID No. 3927)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV
: Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

Netherlands
SZW-lijst van kankerverwekkende stoffen
: The substance is not listed
SZW-lijst van mutagene stoffen
: The substance is not listed
NIET-limietlijst van voor de voortplanting giftige stoffen – Borstvoeding
: The substance is not listed
NIET-limietlijst van voor de voortplanting giftige stoffen – Vruchtbareheid
: The substance is not listed
NIET-limietlijst van voor de voortplanting giftige stoffen – Ontwikkeling
: The substance is not listed

Denmark
Class for fire hazard
: Class I-1
Store unit
: 1 liter
Classification remarks
: Fl <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations
: Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:

Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor

Other information
: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

| Acute Tox. 1 (Inhalation:vapour) | Acute toxicity (inhalation:vapour) Category 1 |
| Acute Tox. 2 (Oral) | Acute toxicity (oral), Category 2 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Muta. 2 | Germ cell mutagenicity, Category 2 |
| Skin Corr. 1B | Skin corrosion/Irritation, Category 1B |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| H225 | Highly flammable liquid and vapour. |
| H300 | Fatal if swallowed. |
| H302 | Harmful if swallowed. |
## VINYL METHYL KETONE, 95%
### Safety Data Sheet

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H330</td>
<td>Fatal if inhaled.</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>H351</td>
<td>Suspected of causing cancer.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
</tbody>
</table>

**SDS EU (REACH Annex II) - Custom**

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