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

- **1.1 Product identifier**
  - **Trade name:** ethyl acetate
  - **Article number:** 0540
  - **CAS Number:** 141-78-6
  - **EC number:** 205-500-4
  - **Index number:** 607-022-00-5
  - **Registration number:** 01-2119475103-46-XXXX

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - Only for the use of professionals users
  - **Life cycle stages**
    - IS Use at industrial Sites
    - F Formulation or re-packing
  - **Sector of Use**
    - SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
    - SU9 Manufacture of fine chemicals
    - SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
    - SU24 Scientific research and development
  - **Product category**
    - PC9a Coatings and paints, thinners, paint removers
    - PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
    - PC21 Laboratory chemicals
    - PC29 Pharmaceuticals
    - PC40 Extraction agents
  - **Process category**
    - PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
    - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
    - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
    - PROC4 Chemical production where opportunity for exposure arises
    - PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
    - PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
    - PROC9 Use as laboratory reagent
    - PROC15 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
    - PROC5 Mixing or blending in batch processes
    - PROC7 Industrial spraying
    - PROC10 Roller application or brushing
    - PROC13 Treatment of articles by dipping and pouring
    - PROC19 Manual activities involving hand contact
    - PROC11 Non industrial spraying

- **Environmental release category**
  - ERC1 Manufacture of the substance
  - ERC2 Formulation into mixture
  - ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
  - ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
  - ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
  - ERC6a Use of intermediate

(Contd. on page 2)
Trade name: ethyl acetate

· Application of the substance / the mixture
  Chemical for research, development, manufacturing, laboratory chemical for analysis.

· 1.3 Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
  Biosolve Chimie
  20 Rue Roger Husson, 57260 Dieuze, France
  Tel: +33 3 878 675 80/81/82/83/84/85
  Email: info@biosolvechimie.com

  Biosolve B.V.
  Leenderweg 78, 5555 CE Valkenswaard, the Netherlands.
  Tel: +31-(0)40-2071300
  Fax:+31-(0)40-2048537
  Email: info@biosolve-chemicals.com

  · Further information obtainable from: Product safety department.
  · 1.4 Emergency telephone number:
  For emergency telephone numbers of the poisons centers in Europe please use this link: http://www.eapcct.org/

* SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture
  Classification according to Regulation (EC) No 1272/2008

  GHS02 flame
  Flam. Liq. 2  H225  Highly flammable liquid and vapour.

  GHS07
  Eye Irrit. 2  H319  Causes serious eye irritation.
  STOT SE 3  H336  May cause drowsiness or dizziness.

· 2.2 Label elements
  Labelling according to Regulation (EC) No 1272/2008
  The substance is classified and labelled according to the CLP regulation.

· Hazard pictograms

  GHS02  GHS07

· Signal word Danger

· Hazard statements
  H225 Highly flammable liquid and vapour.
  H319 Causes serious eye irritation.
  H336 May cause drowsiness or dizziness.
Trade name: ethyl acetate

- **Precautionary statements**
  - P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
  - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Additional information:
  - EUH066 Repeated exposure may cause skin dryness or cracking.

- **2.3 Other hazards**
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

**SECTION 3: Composition/information on ingredients**

- **3.1 Chemical characterisation: Substances**
  - CAS No. Description
    - 141-78-6 ethyl acetate
  - Identification number(s)
    - EC number: 205-500-4
    - Index number: 607-022-00-5

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
  - General information: Immediately remove any clothing soiled by the product.
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Immediately rinse with water.
  - After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing: If symptoms persist consult doctor.

- **4.2 Most important symptoms and effects, both acute and delayed**
  - No further relevant information available.

- **4.3 Indication of any immediate medical attention and special treatment needed**
  - No further relevant information available.

**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
  - Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - For safety reasons unsuitable extinguishing agents: Water with full jet

- **5.2 Special hazards arising from the substance or mixture**
  - No further relevant information available.
**SECTION 6: Accidental release measures**

- 6.1 **Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.
- 6.2 **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- 6.3 **Methods and material for containment and cleaning up:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- 6.4 **Reference to other sections**
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

**SECTION 7: Handling and storage**

- 7.1 **Precautions for safe handling**
  Store in cool, dry place in tightly closed receptacles.
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
  Keep ignition sources away - Do not smoke.
  Protect against electrostatic charges.
- 7.2 **Conditions for safe storage, including any incompatibilities**
  Storage:
  - Requirements to be met by storerooms and receptacles: Store in a cool location.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions:
    - Keep container tightly sealed.
    - Store in cool, dry conditions in well sealed receptacles.
- 7.3 **Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- 8.1 **Control parameters**
  **Ingredients with limit values that require monitoring at the workplace:**
  141-78-6 ethyl acetate
  **IOELV** Short-term value: 1468 mg/m³, 400 ppm
  Long-term value: 734 mg/m³, 200 ppm
- **Additional information:** The lists valid during the making were used as basis.
- 8.2 **Exposure controls**
  **Personal protective equipment:**
  General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed.

(Contd. on page 5)
Trade name: ethyl acetate

Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Fluid
Colour: Colourless
Odour: Fruit-like
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/freezing point: -83.57 °C
Initial boiling point and boiling range: 77-78 °C

Flash point: -4 °C

Flammability (solid, gas): Not applicable.
Ignition temperature: 460 °C
Decomposition temperature: Not determined.
Trade name: ethyl acetate

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Product is not explosive. However, formation of explosive air/vapour mixtures are possible.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>2.1 Vol %</td>
</tr>
<tr>
<td>Upper</td>
<td>11.5 Vol %</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C</td>
<td>97 hPa</td>
</tr>
<tr>
<td>Density at 20 °C</td>
<td>0.9 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water at 20 °C</td>
<td>79 g/l</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic at 20 °C</td>
<td>0.44 mPas</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**: No further relevant information available.
- **10.2 Chemical stability**: No decomposition if used according to specifications.
- **10.3 Thermal decomposition / conditions to be avoided**: No decompositions known.
- **10.4 Conditions to avoid**: No further relevant information available.
- **10.5 Incompatible materials**: No further relevant information available.
- **10.6 Hazardous decomposition products**: No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**: Based on available data, the classification criteria are not met.

#### LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD₅₀</td>
<td>5,620 mg/kg (rabbit)</td>
</tr>
<tr>
<td>Inhalative LC₅₀/4 h</td>
<td>1,600 mg/l (rat)</td>
</tr>
</tbody>
</table>

- **Primary irritant effect**: Based on available data, the classification criteria are not met.
- **Skin corrosion/irritation**: Causes serious eye irritation.
- **Serious eye damage/irritation**: Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**: Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**: Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity**: Based on available data, the classification criteria are not met.
- **Carcinogenicity**: Based on available data, the classification criteria are not met.
- **Reproductive toxicity**: Based on available data, the classification criteria are not met.
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date: 20.04.2018
Revision: 29.01.2018

Trade name: ethyl acetate

- STOT-single exposure
  May cause drowsiness or dizziness.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- 12.1 Toxicity
  - Aquatic toxicity: No further relevant information available.
  - 12.2 Persistence and degradability No further relevant information available.
  - 12.3 Bioaccumulative potential No further relevant information available.
  - 12.4 Mobility in soil No further relevant information available.
  - Additional ecological information:
    - General notes:
      Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
      Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - 12.5 Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods
  - Recommendation
    Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- European waste catalogue

<table>
<thead>
<tr>
<th>HP 3</th>
<th>Flammable</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 4</td>
<td>Irritant - skin irritation and eye damage</td>
</tr>
<tr>
<td>HP 5</td>
<td>Specific Target Organ Toxicity (STOT)/Aspiration Toxicity</td>
</tr>
</tbody>
</table>

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

- 14.1 UN-Number
  - ADR, IMDG, IATA UN1173

- 14.2 UN proper shipping name
  - ADR UN1173 ETHYL ACETATE
  - IMDG, IATA ETHYL ACETATE

(Contd. on page 8)
**Trade name: ethyl acetate**

<table>
<thead>
<tr>
<th>14.3 Transport hazard class(es)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADR</strong></td>
</tr>
<tr>
<td><img src="image" alt="Flammable symbol" /></td>
</tr>
<tr>
<td><strong>Class</strong></td>
</tr>
<tr>
<td><strong>Label</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.4 Packing group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADR, IMDG, IATA</strong></td>
</tr>
<tr>
<td><strong>Class</strong></td>
</tr>
<tr>
<td><strong>Label</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.5 Environmental hazards:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marine pollutant:</strong> No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.6 Special precautions for user</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Danger code (Kemler):</strong> 33</td>
</tr>
<tr>
<td><strong>EMS Number:</strong> F-E,S-D</td>
</tr>
<tr>
<td><strong>Stowage Category:</strong> B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not applicable.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport/Additional information:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADR</strong></td>
</tr>
<tr>
<td><strong>Limited quantities (LQ):</strong> 1L</td>
</tr>
<tr>
<td><strong>Excepted quantities (EQ):</strong> Code: E2</td>
</tr>
<tr>
<td><strong>Maximum net quantity per inner packaging:</strong> 30 ml</td>
</tr>
<tr>
<td><strong>Maximum net quantity per outer packaging:</strong> 500 ml</td>
</tr>
<tr>
<td><strong>Transport category:</strong> 2</td>
</tr>
<tr>
<td><strong>Tunnel restriction code:</strong> D/E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>IMDG</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limited quantities (LQ):</strong> 1L</td>
</tr>
<tr>
<td><strong>Excepted quantities (EQ):</strong> Code: E2</td>
</tr>
<tr>
<td><strong>Maximum net quantity per inner packaging:</strong> 30 ml</td>
</tr>
<tr>
<td><strong>Maximum net quantity per outer packaging:</strong> 500 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>UN &quot;Model Regulation&quot;:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 1173 ETHYL ACETATE, 3, II</td>
</tr>
</tbody>
</table>
SECTION 15: Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS02 GHS07

Signal word
Danger

Hazard statements
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU

Named dangerous substances - ANNEX I Substance is not listed.
Seveso category P3c FLAMMABLE LIQUIDS

Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS: Product safety department
Contact: Product safety department

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
**Trade name:** ethyl acetate

<table>
<thead>
<tr>
<th>EINECS: European Inventory of Existing Commercial Chemical Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>LC50: Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50: Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT: Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB: very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>Flam. Liq. 2: Flammable liquids – Category 2</td>
</tr>
<tr>
<td>Eye Irrit. 2: Serious eye damage/eye irritation – Category 2</td>
</tr>
<tr>
<td>STOT SE 3: Specific target organ toxicity (single exposure) – Category 3</td>
</tr>
</tbody>
</table>

* Data compared to the previous version altered.