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

1.1 Product identifier

Trade name: 1,2-dichloroethane

- Article number: 0405
- CAS Number: 107-06-2
- EC number: 203-458-1
- Index number: 602-012-00-7
- Registration number: 01-2119484658-20-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
- Sector of Use: SU24 Scientific research and development

Process category

- PROC1 Chemical production or refinery in closed process without likelihood of 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
- PROC15 Use as laboratory reagent

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.

(Contd. on page 2)
Trade name: 1,2-dichloroethylene

GHS08 health hazard

Carc. 1B  H350  May cause cancer.

GHS07

Acute Tox. 4  H302  Harmful if swallowed.
Skin Irrit. 2  H315  Causes skin irritation.
Eye Irrit. 2  H319  Causes serious eye irritation.
STOT SE 3  H335  May cause respiratory irritation.

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  GHS08

· Signal word Danger

· Hazard statements
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H350 May cause cancer.
H335 May cause respiratory irritation.

· 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.

· Additional information:
Restricted to professional users.

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
  107-06-2 1,2-dichloroethane
- Identification number(s)
  - EC number: 203-458-1
  - Index number: 602-012-00-7

**SECTION 4: First aid measures**

- 4.1 Description of first aid measures
  - General information:
    - Immediately remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
  - After inhalation: In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact:
    - Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing:
    - Call for a doctor immediately.

- 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.

- 5.3 Advice for firefighters
  - Protective equipment: No special measures required.

**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.
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 20.04.2018
Revision: 29.01.2018

Trade name: 1,2-dichloroethane

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
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.

Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

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

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace: Not required.
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.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
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
Trade name: 1,2-dichloroethane

- 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 breakthrough 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: Oily
  - Colour: Colourless
- Odour: Like chlorine
- Odour threshold: Not determined.
- pH-value: Not determined.

- Change in condition
  - Melting point/freezing point: -35.5 °C
  - Initial boiling point and boiling range: 84 °C

- Flash point: 13 °C

- Flammability (solid, gas): Not applicable.

- Ignition temperature: 440 °C

- Decomposition temperature: Not determined.

- Auto-ignition temperature: Not determined.

- Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- Explosion limits:
  - Lower: 6.2 Vol %
  - Upper: 16 Vol %

- Vapour pressure at 20 °C: 87 hPa

- Density at 20 °C: 1.25 g/cm³
- Relative density: Not determined.
- Vapour density: Not determined.
- Evaporation rate: Not determined.

- Solubility in / Miscibility with water at 20 °C: 8 g/l
- Partition coefficient: n-octanol/water: Not determined.
Trade name: 1,2-dichloroethane

### SECTION 7: Transport information

- **7.1** Classification
  - No classification according to ADR, ADN and RID.

- **7.2** Transport hazard classification
  - No classification according to ADR, ADN and RID.

- **7.3** Special requirements
  - ADR: No special requirements.
  - ADN: No special requirements.
  - RID: No special requirements.
  - IMDG: No special requirements.

### SECTION 8: Exposition and handling

- **8.1** Personal protective equipment
  - General: Protective gloves and protective clothing.
  - Eyes: Safety glasses or goggles.
  - Skin: Protective clothing and gloves.

- **8.2** Precautions for users
  - Keep container closed.
  - Keep out of reach of children.
  - Do not breathe vapor or mist.
  - Do not get in eyes, on skin, or on clothing.
  - Do not store near heat or sources of ignition.

- **8.3** Storage
  - Store in a cool, dry place.

- **8.4** Disposal
  - Dispose of according to local regulations.

- **8.5** Waste treatment
  - Treat waste according to local regulations.

### SECTION 9: Physical data

- **9.1** Physical state
  - Liquid.

- **9.2** Other information
  - No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1** Reactivity
  - No further relevant information available.

- **10.2** Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

- **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
  - Acute toxicity
    - Harmful if swallowed.

- **LD/LC50 values relevant for classification:*
  - Oral LD50 670 mg/kg (rat)
  - Dermal LD50 2,800 mg/kg (rat)

- **Primary irritant effect:**
  - Skin corrosion/irritation
    - Causes skin irritation.
  - Serious eye damage/irritation
    - Causes serious eye irritation.
  - Respiratory or skin sensitisation
    - Based on available data, the classification criteria are not met.
  - CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
    - Germ cell mutagenicity
      - Based on available data, the classification criteria are not met.
  - Carcinogenicity
    - May cause cancer.
  - Reproductive toxicity
    - Based on available data, the classification criteria are not met.
  - STOT-single exposure
    - May cause respiratory irritation.
  - 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.
Trade name: 1,2-dichloroethane

- Additional ecological information:
  - General notes: Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water. Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground.
  - 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.

<table>
<thead>
<tr>
<th>European waste catalogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 3 Flammable</td>
</tr>
<tr>
<td>HP 4 Irritant - skin irritation and eye damage</td>
</tr>
<tr>
<td>HP 5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity</td>
</tr>
<tr>
<td>HP 6 Acute Toxicity</td>
</tr>
<tr>
<td>HP 7 Carcinogenic</td>
</tr>
</tbody>
</table>

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

**SECTION 14: Transport information**

- 14.1 UN-Number UN1184
  - ADR, IMDG, IATA
- 14.2 UN proper shipping name UN1184 ETHYLENE DICHLORIDE
  - ADR ETHYLENE DICHLORIDE
  - IMDG ETHYLENE DICHLORIDE
- 14.3 Transport hazard class(es)
  - ADR
    - Class 3 (FT1) Flammable liquids.
    - Label 3+6.1
  - IMDG
    - Class 3 Flammable liquids.
Trade name: 1,2-dichloroethane

3/6.1

IATA

Class

Label

3 Flammable liquids.

Label

3 (6.1)

14.4 Packing group

ADR, IMDG, IATA

II

14.5 Environmental hazards:

Marine pollutant:

No

14.6 Special precautions for user

Warning: Flammable liquids.

Danger code (Kemler):

336

EMS Number:

3-03

Segregation groups

Liquid halogenated hydrocarbons

Stowage Category

B

Stowage Code

SW2 Clear of living quarters.

14.7 Transport in bulk according to Annex II of
Marpol and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)

1L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

Excepted quantities (EQ)

2

Tunnel restriction code

D/E

IMDG

Limited quantities (LQ)

1L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

Excepted quantities (EQ)

UN "Model Regulation":

UN 1184 ETHYLENE DICHLORIDE, 3 (6.1), II

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
- GHS08

Signal word: Danger

Hazard statements:
- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H350 May cause cancer.
- H335 May cause respiratory irritation.

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.

Directive 2012/18/EU

Named dangerous substances - ANNEX I Substance is not listed.

Seveso category: P5c 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

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV) Sunset date: 2017-11-22

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 28, 40

Regulation (EU) No 649/2012
- Annex I Part 1
- Annex I Part 3

National regulations:

Additional classification according to Decree on Hazardous Materials, Annex II:
- Carcinogenic hazardous material group I (extremely dangerous).
- Carcinogenic hazardous material group II (very dangerous).
- Carcinogenic hazardous material group III (dangerous).

Information about limitation of use:
Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

Other regulations, limitations and prohibitive regulations:

Substances of very high concern (SVHC) according to REACH, Article 57
- 107-06-2 1,2-dichloroethane
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
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 1B: Carcinogenicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.