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

- **1.1 Product identifier**
  - Trade name: K-FLEX K-420

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **1.3 Details of the supplier of the safety data sheet**
  - Manufacturer/Supplier:
    - L'Isolante K-FLEX S.p.A.
    - Via Don Locatelli, 35 20877 Roncello (MB) ITALY
    - tel. +39 039 6824.1
    - e-mail: Kflex-Reach@isolante.com

- **1.4 Emergency telephone number:**
  - Italija Centro Antiveleni Ospedale Niguarda "Ca' Granda" MILANO tel. 02/66101029; Fondazione Maugeri - Clinica del lavoro e della Riabilitazione PAVIA tel. 0382/4444; Centro Documentazione Tossicologica - Università degli Studi PADOVA tel. 049/8275078; Centro Antiveleni Istituto Scientifico "G. Gaslini" GENOVA tel. 010/5636245; Centro Antiveleni Azienda Ospedaliera "Careggi" FIRENZE tel. 055/4277328; Centro Antiveleni "Policlinico Gemelli" ROMA tel. 06/3054343; Centro Antiveleni Università degli Studi di Roma "La Sapienza" ROMA tel. 06/49970698; Centro Antiveleni Azienda Ospedaliera "A. Cardarelli" NAPOLI tel. 081/7472870; Centro antiveleni Azienda Ospedaliera Universitaria FOGGIA tel. 081/731111
  - Austria Vergiftungsinformationszentrale +43 1 406 43 43
  - Belgium Centre Antipoisons-Antigifcentrum +32 30245245
  - Bulgaria National Toxicology Centre at National Clinical Toxicology Centre +359 2 9154 233
  - Croatia Poison Control Centre Zagreb +385 1 2348342
  - Czech Republic Toxicological Information Centre +420224919 293
  - Denmark Poison Information Centre n +45 82 12 12 12
  - Estonia Estonian Poison Information centre +372 626 93 90
  - Finland Finnish Poison Information Centre +358 9 4719777
  - France Centre Antipoison et de Toxicovigilance de Angers +33 2 41 35 33 30
  - Hungary Health Toxicology Information Service +36 80 20 11 99
  - Ireland Poison Information Centre of Ireland +353 1 809 2166
  - Latvia Valsts Toksikologijas centra +371 6704273
  - Lithuania Lithuanian Poison Control and Information Bureau +370 5 236 20 52
  - Norway Giftinformasjonen : 22 59 13 00 (døgnåpen)
  - Portugal CIAV Centro de Informacao Antivelenos +351 808 250 143
  - Slovakia National Toxicological Information Center +421 2 54 774 166
  - Poland Informacja toksykogiczna w Polsce +48 42 631 47 24 (czymna 7:00-15:00)
  - Spain Instituto Nacional de Toxicología +34 156 20420

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**
    - [GHS02 flame](https://ghsdefinition.org/)
      - Flam. Liq. 2 H225 Highly flammable liquid and vapour.
    - [GHS09 environment](https://ghsdefinition.org/)
      - Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

(Contd. on page 2)
Trade name: K-FLEX K-420

(Contd. of page 1)

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 product is classified and labelled according to the CLP regulation.
- Hazard pictograms

GHS02 GHS07 GHS09

- Signal word Danger
- Hazard-determining components of labelling:
Solvent naphtha (petroleum), hydrotreated light naphthenic; Hydrocarbons C6-C7 isomeric alkanes cyclics < 5% n-hexane (REACH Registered Name)
- Hazard statements
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
- Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P280 Wear eye protection / face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P312 Call a POISON CENTER/doctor if you feel unwell.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Additional information:
Contains Rosin. May produce an allergic reaction.
- 2.3 Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)
Trade name: K-FLEX K-420

(Contd. of page 2)

- **Dangerous components:**

  | CAS: 92062-15-2 | Solvent naphtha (petroleum), hydrotreated light naphthenic:Hydrocarbons C6-C7 isoalkanes cyclics < 5% n-hexane (REACH Registered Name) | 40-60% |
  | EC number: 926-605-8 | Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336 |
  | Reg.nr.: 01-2119486291-36 | |

  | CAS: 141-78-6 | Ethyl acetate | 15-25% |
  | EINECS: 205-500-4 | Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 |
  | Reg.nr.: 01-2119475103-46 | |

  | CAS: 64742-49-0 | Naphtha (petroleum), hydrotreated light; hydrocarbons C6 isoalkanes < 5% n-hexane (REACH Registered Name) | 5-15% |
  | EC number: 931-254-9 | Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336 |
  | Reg.nr.: 01-2119484651-34 | |

  | CAS: 67-64-1 | Acetone | 5-15% |
  | EINECS: 200-662-2 | Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 |
  | Reg.nr.: 01-2119471330-49 | |

  | CAS: 8050-09-7 | Rosin | 0.1-0.5% |
  | EINECS: 232-475-7 | Skin Sens. 1, H317 |
  | Reg.nr.: 01-2119480418-32 | |

  | CAS: 128-37-0 | Butylated hydroxytoluene | 0.05-0.2% |
  | EINECS: 204-881-4 | Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302 |
  | Reg.nr.: 01-2119555270-46 | |

- **UVCB (Unknown Variable Complex reaction product or Biological Origin)**

  | 64742-49-0 | Naphtha (petroleum), hydrotreated light; hydrocarbons C6 isoalkanes < 5% n-hexane (REACH Registered Name) |

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
  - **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:** 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, sand, extinguishing powder. Do not use water.
  - **For safety reasons unsuitable extinguishing agents:**
    - Water
    - 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:
  Prevent seepage into sewage system, workpits and cellars.
  Inform respective authorities in case of seepage into water course or sewage system.
  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.
  Do not flush with water or aqueous cleansing agents

- 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
  Ensure good ventilation/exhaustion at the workplace.

- 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: No special requirements.
  Information about storage in one common storage facility: Not required.
  Further information about storage conditions:
  Keep receptacle 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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>WEL Short-term value</th>
<th>WEL Long-term value</th>
<th>GB Short-term value</th>
<th>GB Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6 Ethyl acetate</td>
<td></td>
<td></td>
<td>400 ppm</td>
<td>200 ppm</td>
</tr>
<tr>
<td>67-64-1 Acetone</td>
<td>3620 mg/m³</td>
<td>1500 ppm</td>
<td>1210 mg/m³</td>
<td>500 ppm</td>
</tr>
<tr>
<td>8050-09-7 Rosin</td>
<td>0.15 mg/m³</td>
<td>0.05 mg/m³</td>
<td>63 mg/kg (workers)</td>
<td></td>
</tr>
</tbody>
</table>

*SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.

- 8.1 Control parameters

<table>
<thead>
<tr>
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<th>WEL Short-term value</th>
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<td>0.05 mg/m³</td>
<td>63 mg/kg (workers)</td>
<td></td>
</tr>
</tbody>
</table>

SENs

- Dermal Long term-Systemic effect 63 mg/kg (workers)
Inhalative Long term-Systemic effect 1,468 mg/m³ (workers)
Long term-Local effect 1,468 mg/m³ (workers)

647-42-49-0 Naphtha (petroleum), hydrotreated light; hydrocarbons C₆ isoalkanes < 5% n-hexane (REACH Registered Name)

Dermal Long term-Systemic effect 13,964 mg/kg (workers)
Inhalative Long term-Local effect 5,306 mg/m³ (workers)

67-64-1 Acetone

Dermal Long term-Systemic effect 186 mg/kg (workers)
Inhalative Long term-Local effect 2,420 mg/m³ (workers)

PNECs

141-78-6 Ethyl acetate

<table>
<thead>
<tr>
<th>Environment</th>
<th>Concentration (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water</td>
<td>0.26</td>
</tr>
<tr>
<td>marine water</td>
<td>26</td>
</tr>
<tr>
<td>Intermittent release</td>
<td>650</td>
</tr>
</tbody>
</table>

67-64-1 Acetone

<table>
<thead>
<tr>
<th>Environment</th>
<th>Concentration (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water</td>
<td>10.6</td>
</tr>
<tr>
<td>marine water</td>
<td>1.06</td>
</tr>
<tr>
<td>Intermittent release</td>
<td>21</td>
</tr>
<tr>
<td>sediment-marine water</td>
<td>3.04</td>
</tr>
<tr>
<td>sediment-fresh water</td>
<td>30.4</td>
</tr>
<tr>
<td>sewage treatment plant</td>
<td>100</td>
</tr>
<tr>
<td>Soil</td>
<td>29.5</td>
</tr>
</tbody>
</table>

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

8.2.1 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.
  - Do not inhale gases / fumes / aerosols.
  - Avoid contact with the eyes and skin.

- Respiratory protection: Filter A/P2

- Protection of hands:
  - Rubber gloves

Material of gloves: Butyl rubber, BR

Penetration time of glove material

For the mixture of chemicals mentioned below the penetration time has to be at least 240 minutes (Permeation according to EN 374 Part 3: Level 5). The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.
**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - Form: Fluid
    - Colour: Orange
    - Odour: Characteristic
  - **Change in condition**
    - Melting point/freezing point: Undetermined.
    - Initial boiling point and boiling range: 36 °C
  - **Flash point:** -20 °C
  - **Ignition temperature:** >200 °C
  - **Auto-ignition temperature:** Product is not selfigniting.
  - **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
  - **Explosion limits:**
    - Lower: 1.2 Vol %
    - Upper: 11.5 Vol %
  - **Vapour pressure at 20 °C:** 110 hPa
  - **Density:** Not determined.
  - **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
  - **Viscosity:**
    - Dynamic at 20 °C: 700 mPas
    - Kinematic: Not determined.
  - **Solvent content:**
    - Organic solvents: 79.4 %
    - Water: 0.0 %
    - VOC (EU): 793.8 g/l
  - **Solids content:** 20.6 %
  - **9.2 Other information**
    - 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
Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50</th>
<th>LC50/4h</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6 Ethyl acetate</td>
<td>4,935 mg/kg (rabbit)</td>
<td>1,600 mg/l (rat)</td>
</tr>
<tr>
<td>67-64-1 Acetone</td>
<td>5,800 mg/kg (rat)</td>
<td>20,000 mg/kg (rabbit)</td>
</tr>
<tr>
<td>128-37-0 Butylated hydroxytoluene</td>
<td>890 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitisation 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.

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:

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50/48h</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6 Ethyl acetate</td>
<td>165,000 µg/l (daphnia magna)</td>
</tr>
<tr>
<td>67-64-1 Acetone</td>
<td>8,800,000 µg/l (daphnia magna)</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>LogPow</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6 Ethyl acetate</td>
<td>30</td>
</tr>
<tr>
<td>64742-49-0 Naphtha (petroleum), hydrottreated light; hydrocarbons C6 isoalkanes &lt; 5% n-hexane (REACH Registered Name)</td>
<td>3.6</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Toxic for fish

Additional ecological information:

General notes:
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

(Contd. on page 8)
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.

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

SECTION 14: Transport information

14.1 UN-Number
• ADR, IMDG, IATA
  UN1133

14.2 UN proper shipping name
• ADR
  1 1 3 3  A D H E S I V E S,  s p e c i a l  p r o v i s i o n  6 4 0 D ,  E N V I R O N M E N T A L L Y H A Z A R D O U S

• IMDG
  ADHESIVES, MARINE POLLUTANT

• IATA
  ADHESIVES

14.3 Transport hazard class(es)
• ADR, IMDG
  • Class
    3 Flammable liquids.
  • Label
    3
  • IATA

14.4 Packing group
• ADR, IMDG, IATA
  II

14.5 Environmental hazards:
• Product contains environmentally hazardous substances:
  Yes
• Marine pollutant:
  Symbol (fish and tree)
• Special marking (ADR):
  Symbol (fish and tree)

14.6 Special precautions for user
• Warning: Flammable liquids.
  33
• Danger code (Kemler):
  F-E,S-D
• EMS Number:
  F-E,S-D

(Contd. on page 9)
### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - Directive 2012/18/EU
  - Named dangerous substances - ANNEX I None of the ingredients is listed.
  - Seveso category
    - E2 Hazardous to the Aquatic Environment
    - P5c FLAMMABLE LIQUIDS
  - Qualifying quantity (tonnes) for the application of lower-tier requirements: 200 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements: 500 t
  - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40
  
  - National regulations:
  - Technical instructions (air):
    
    | Class | Share in % |
    |-------|------------|
    | NK    | 79.4       |
  
  - Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

- **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.

- **Relevant phrases**
  - H225 Highly flammable liquid and vapour.
  - H302 Harmful if swallowed.
  - H304 May be fatal if swallowed and enters airways.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H319 Causes serious eye irritation.
  - H336 May cause drowsiness or dizziness.
  - H400 Very toxic to aquatic life.
Trade name: K-FLEX K-420

H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Department issuing SDS: R&D Dept.

Abbreviations and acronyms:
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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
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
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

* Data compared to the previous version altered.