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

- **1.1 Product identifier**
  - **Trade name:** K-712

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - **Product category PC1 Adhesives, sealants**
  - **Application of the substance / the mixture Adhesives**

- **1.3 Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    - L’Isolante K-Flex Spa
    - Via Leonardo da Vinci, 36 - 20877 RONCELLO (MB) ITALY
    - Tel. +39 039 6824200; Fax +39 039 6824350
    - e-mail: Kflex-Reach@isolante.com

- **Further information obtainable from:** R&D Department

- **1.4 Emergency telephone numbers:**
  - +39 039 6824.1 (9:00 - 17:00)
  - ITALIA Centro Antiveneni Ospedale Niguarda "Ca’ Granda" MILANO tel. 02/66101029; Fondazione Maugeri - Clinica del lavoro e della Riabilitazione PAVIA tel. 0382/24444; Centro Documentazione Toxicologica - Università degli Studi PADOVA tel. 049/8275078; Centro Antiveneni Istituto Scientifico "G. Gaslini" GENOVA tel. 010/5636245; Centro Antiveneni Azienda Ospedaliera "Careggi" FIRENZE tel. 055/4277328; Centro Antiveneni "Policlínico Gemelli" ROMA tel. 06/3054343; Centro Antiveneni Università degli Studi di Roma "La Sapienza" ROMA tel. 06/49970698; Centro Antiveneni Azienda Ospedaliera "A. Cardarelli" NAPOLI tel. 081/7472870; Centro antiveneni Azienda Ospedaliera Universitaria FOGGIA tel. 0882/731111
  - AUSTRIA Vergiftungsinformationszentrale +43 1 406 40 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
  - CECH REPUBLIC Toxicological Information Centre +420249419 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 471977
  - FRANCE Centre Antipoison et de Toxicovigilance de Angers +33 2 41 35 33 30
  - HUNGARY Health Toxicology Information Service +36 60 20 11 99
  - IRELAND Poison Information Centre of Ireland +353 1 809 2166
  - LATVIA Valsts Tokskologijas centres +371 67042473
  - LITHUANIA Lithuanian Poison Control and Information Bureau +370 5 236 20 52
  - PORTUGAL CIAV Centro de Informacao Antivenenos +351 808 250 143
  - SLOVAKIA National Toxicological Information Center +421 2 54 774 166
  - POLAND Informacja toksykologiczna w Polsce +48 42 631 47 24 (czynn 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**
- **Flam. Liq. 2 H225 Highly flammable liquid and vapour.**

- **GHS09 environment**
- **Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.**

(Contd. on page 2)
Trade name: K-712

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 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), hydro treated light naphthenic; Hydrocarbons C6-C7 isoalkanes cyclics < 5% n-hexane (REACH Registered Name)

Acetone

- 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

P280  Wear protective gloves/protective clothing/eye protection/face protection.

P261  Avoid breathing dust/fume/gas/mist/vapours/spray.

P233  Keep container tightly closed.

P242  Use only non-sparking tools.

P273  Avoid release to the environment.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312  Call a POISON CENTER/doctor if you feel unwell.

P405  Store locked up.

P403+P233  Store in a well-ventilated place. Keep container tightly closed.

P403+P253  Store in a well-ventilated place. Keep cool.

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: Mixture

- Description: Mixture of substances listed below with nonhazardous additions.
Trade name: K-712

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:** Generally the product does not irritate the skin.
  - **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).
  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.
- 7.2 Conditions for safe storage, including any incompatibilities
  - Storage:
    Requirements to be met by storerooms and receptacles:
    Store outdoors.
    Store the product in well aerated local at a temperature between 5 and 35 °C. Avoid temperature up 40 °C and below 5 °C because the product could freeze and coagulate becoming unusable.
- 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>Limit Values</th>
<th>Short-term</th>
<th>Long-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>(30-50%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term</td>
<td>3620 mg/m³, 1500 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term</td>
<td>1210 mg/m³, 500 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethyl acetate</td>
<td>(5-&lt;10%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term</td>
<td>400 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term</td>
<td>200 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rosin</td>
<td>(0.1-0.7%)</td>
<td>0.15 mg/m³</td>
<td>0.05 mg/m³</td>
</tr>
</tbody>
</table>
Trade name: K-712

(Cordt. of page 4)

**DNELs**

<table>
<thead>
<tr>
<th>67-64-1 Acetone</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>Long term-Systemic effect</td>
</tr>
<tr>
<td>Inhalative</td>
<td>Long term-Local effect</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>141-78-6 Ethyl acetate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>Long term-Systemic effect</td>
</tr>
<tr>
<td>Inhalative</td>
<td>Long term-Systemic effect</td>
</tr>
<tr>
<td></td>
<td>Long term-Local effect</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>64742-49-0 Naphtha (petroleum), hydrotreated light; hydrocarbons C6 isoalkanes &lt; 5% n-hexane (REACH Registered Name)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
</tbody>
</table>

**PNECs**

<table>
<thead>
<tr>
<th>67-64-1 Acetone</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water</td>
<td>10.6 mg/l (water)</td>
</tr>
<tr>
<td>marine water</td>
<td>1.06 mg/l (water)</td>
</tr>
<tr>
<td>Intermittent release</td>
<td>21 mg/l (water)</td>
</tr>
<tr>
<td>sediment-marine water</td>
<td>3.04 mg/l (water)</td>
</tr>
<tr>
<td>sediment-fresh water</td>
<td>30.4 mg/l (water)</td>
</tr>
<tr>
<td>sewage treatment plant</td>
<td>100 mg/l (water)</td>
</tr>
<tr>
<td>Soil</td>
<td>29.5 mg/kg (soil)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>141-78-6 Ethyl acetate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water</td>
<td>0.26 mg/l (frs)</td>
</tr>
<tr>
<td>marine water</td>
<td>0.26 mg/l (mar)</td>
</tr>
<tr>
<td>Intermittent release</td>
<td>0.026 mg/l (water)</td>
</tr>
</tbody>
</table>

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.
Do not inhale gases / fumes / aerosols.
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:
Solvent resistant gloves

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.

(Contd. on page 6)
Trade name: K-712

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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

- **Eye protection:**
  
  ![Tightly sealed goggles](image_url)

---

**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**
  **General Information**

  **Appearance:**
  - Form: Fluid
  - Colour: Orange
  - Odour: Characteristic
  - Odour threshold: Not determined.

  **pH-value:** Not determined.

  **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: 55 °C

  **Flash point:** -20 °C

  **Flammability (solid, gaseous):** Not applicable.

  **Ignition temperature:** > 200 °C

  **Decomposition temperature:** Not determined.

  **Self-igniting:** Product is not selfigniting.

  **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

  **Explosion limits:**
  - Lower: 1.2 Vol %
  - Upper: 13.0 Vol %

  **Vapour pressure at 20 °C:** 233 hPa

  **Density at 20 °C:** 0.85 g/cm³

  **Relative density:** Not determined.

  **Vapour density**
  - **Evaporation rate:** Not determined.

  **Solubility in / Miscibility with water:** Soluble.

  **Partition coefficient (n-octanol/water):** Not determined.

  **Viscosity:**
  - Dynamic at 20 °C: 690 mPas
**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.
- **10.3 Possibility of hazardous reactions:** No dangerous reactions 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**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

- **67-64-1 Acetone**
  - Oral LD50 5800 mg/kg (rat)
  - Dermal LD50 20000 mg/kg (rabbit)

- **141-78-6 Ethyl acetate**
  - Oral LD50 4935 mg/kg (rabbit)
  - Inhalative LC50/4 h 1600 mg/l (rat)

- **128-37-9 2,6-di-tert-buty1-p-cresol**
  - Oral LD50 890 mg/kg (rat)

- **1330-20-7 xylene (mix)**
  - Oral LD50 8700 mg/kg (rat)
  - Dermal LD50 2000 mg/kg (rabbit)
  - Inhalative LC50/4 h 6350 mg/l (rat)

- **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.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
  - **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: 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.
- Ecotoxicological effects:
  - Remark: Toxic for fish
- Additional ecological information:
  - General notes:
    Also poisonous for fish and plankton in water bodies.
    Toxic for aquatic organisms
    Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
    Do not allow product to reach ground water, water course or sewage system.
    Danger to drinking water if even 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.
- 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
  - IMDG: 1133 ADHESIVES, ENVIRONMENTALLY HAZARDOUS ADHESIVES (Solvent naphtha (petroleum), hydrotreated light naphthenic: Hydrocarbons C6-C7 isomeranes cyclics < 5% n-hexane (REACH Registered Name), HEXANES), MARINE POLLUTANT ADHESIVES
- 14.3 Transport hazard class(es)
  - ADR, IMDG
    - Class: 3 Flammable liquids.

(Contd. of page 7)
**Safety data sheet**

accoding to 1907/2006/EC, Article 31 and 453/2010

**Trade name:** K-712

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

<table>
<thead>
<tr>
<th>14.5 Environmental hazards:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product contains environmentally hazardous substances: 2,6-di-tert-butyl-p-cresol, Solvent naphtha (petroleum), hydratreated light naphthenic; Hydrocarbons C6-C7 isoalkanes cyclics &lt; 5% n-hexane (REACH Registered Name)</td>
</tr>
<tr>
<td>Marine pollutant:</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Symbol (fish and tree)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.6 Special precautions for user</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning: Flammable liquids.</td>
</tr>
<tr>
<td>Danger code (Kemler):</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>EMS Number:</td>
</tr>
<tr>
<td>- F,E,S,D</td>
</tr>
<tr>
<td>Stowage Category</td>
</tr>
<tr>
<td>A</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>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport/Additional information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
</tr>
<tr>
<td>Limited quantities (I.Q)</td>
</tr>
<tr>
<td>5L.</td>
</tr>
<tr>
<td>Code: E1</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
<tr>
<td>Excepted quantities (EQ)</td>
</tr>
<tr>
<td>Transport category</td>
</tr>
<tr>
<td>Tunnel restriction code</td>
</tr>
<tr>
<td>IMDG</td>
</tr>
<tr>
<td>Limited quantities (I.Q)</td>
</tr>
<tr>
<td>5L.</td>
</tr>
<tr>
<td>Code: E1</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
<tr>
<td>Excepted quantities (EQ)</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
</tr>
<tr>
<td>UN 1133 ADHESIVES, 3, III, ENVIRONMENTALLY HAZARDOUS</td>
</tr>
</tbody>
</table>

---

**SECTION 15: Regulatory information**

<table>
<thead>
<tr>
<th>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive 2012/18/EU</td>
</tr>
<tr>
<td>Named dangerous substances - ANNEX I None of the ingredients is listed.</td>
</tr>
<tr>
<td>Seveso category</td>
</tr>
<tr>
<td>E2 Hazardous to the Aquatic Environment</td>
</tr>
<tr>
<td>P5c FLAMMABLE LIQUIDS</td>
</tr>
<tr>
<td>Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t</td>
</tr>
<tr>
<td>Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t</td>
</tr>
</tbody>
</table>
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 vapor.
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.
H335: May cause drowsiness or dizziness.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H411: Toxic to aquatic life with long lasting effects.

Department issuing SDS: R&D 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)
ICAO: International Civil Aviation Organisation
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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Components (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
Acute Oral 1: Aspiration hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - acute 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.