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

- Product identifier
- Trade name: mirex
- Part number: FRSP-180Q
- CAS Number: 2385-85-5
- EC number: 219-196-6
- Index number: 602-077-00-1
- Relevant identified uses of the substance or mixture and uses advised against
  Reagents and Standards for Analytical Chemical Laboratory Use
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
  Agilent Technologies Manufacturing GmbH & Co. KG
  Hewlett-Packard-Str.8
  76337 Waldbronn
  Germany
- Further information obtainable from:
  Telephone: 0800 603 1000
  pdl-mds_author@agilent.com
- Emergency telephone number: CHEMTREC®: +(44)-870-8200418

2 Hazards identification

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

  GHS08 health hazard
  Carc. 2 H351 Suspected of causing cancer.
  Repr. 2 H361fd-H362 Suspected of damaging fertility. Suspected of damaging the unborn child. May cause harm to breast-fed children.

  GHS09 environment
  Aquatic Acute 1 H400 Very toxic to aquatic life.
  Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

  GHS07
  Acute Tox. 4 H302 Harmful if swallowed.
  Acute Tox. 4 H312 Harmful in contact with skin.

- Label elements
- Labelling according to Regulation (EC) No 1272/2008
  The substance is classified and labelled according to the CLP regulation.
Trade name: mirex

- **Hazard pictograms**
  
  ![Pictograms](image)
  
  GHS07  GHS08  GHS09

- **Signal word** Warning

- **Hazard-determining components of labelling:**
  mirex

- **Hazard statements**
  
  - H302+H312 Harmful if swallowed or in contact with skin.
  - H351 Suspected of causing cancer.
  - H410 Very toxic to aquatic life with long lasting effects.

- **Precautionary statements**

  P101 If medical advice is needed, have product container or label at hand.
  P102 Keep out of reach of children.
  P103 Read label before use.
  P201 Obtain special instructions before use.
  P202 Do not handle until all safety precautions have been read and understood.
  P260 Do not breathe dusts or mists.
  P263 Avoid contact during pregnancy/while nursing.
  P264 Wash thoroughly after handling.
  P270 Do not eat, drink or smoke when using this product.
  P273 Avoid release to the environment.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  P330 Rinse mouth.
  P302+P352 IF ON SKIN: Wash with plenty of water.
  P308+P313 IF exposed or concerned: Get medical advice/attention.
  P321 Specific treatment (see on this label).
  P362+P364 Take off contaminated clothing and wash it before reuse.
  P391 Collect spillage.
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**

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

---

### 3 Composition/information on ingredients

- **Chemical characterisation: Substances**

  - CAS No. Description
    
    2385-85-5 mirex
  
  - **Identification number(s)**

  - EC number: 219-196-6
4 First aid measures

· **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:** 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.
  · **After swallowing:** Call for a doctor immediately.
  · **Information for doctor:**
    · Most important symptoms and effects, both acute and delayed: No further relevant information available.
    · Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures

· **Extinguishing media**
  · Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
  · **Special hazards arising from the substance or mixture**
    During heating or in case of fire poisonous gases are produced.
  · **Advice for firefighters**
  · **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
  · **Environmental precautions:**
    Do not allow product to reach sewage system or any water course.
    Inform respective authorities in case of seepage into water course or sewage system.
    Do not allow to enter sewers/surface or ground water.
  · **Methods and material for containment and cleaning up:**
    Dispose contaminated material as waste according to item 13.
    Ensure adequate ventilation.
  · **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.

7 Handling and storage

· **Handling:**
  · **Precautions for safe handling**
    Ensure good ventilation/exhaustion at the workplace.
    Open and handle receptacle with care.
Trade name: mirex

8 Exposure controls/personal protection

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

- 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.

- 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:
      When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
      Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
    - Protection of hands:
      Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
    - Material of gloves
      For normal use: nitrile rubber, 11-13 mil thickness
      For direct contact with the chemical: butyl rubber, 12-15 mil thickness
      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
    For normal use: nitrile rubber: 1 hour
    For direct contact with the chemical: butyl rubber: > 4 hours
  - Eye protection: Not required.
9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
  - Appearance:
    - Form: Solid
    - Colour: Not determined.
  - Odour: Characteristic
  - Odour threshold: Not determined.
  - pH-value: Not applicable.
- Change in condition
  - Melting point/freezing point: 485 °C
  - Initial boiling point and boiling range: Undetermined.
  - Flash point: Not applicable.
  - Flammability (solid, gas): Product is not flammable.
  - Decomposition temperature: Not determined.
  - Auto-ignition temperature: Not determined.
  - Explosive properties: Product does not present an explosion hazard.
- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.
- Vapour pressure: Not applicable.
- Density:
  - Relative density: Not determined.
  - Vapour density: Not applicable.
  - Evaporation rate: Not applicable.
- Solubility in / Miscibility with water: Insoluble.
- Partition coefficient: n-octanol/water: Not determined.
- Viscosity:
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.
- Solvent content:
  - VOC (EC): 0.00 %
- Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
  - Possibility of hazardous reactions: No dangerous reactions known.
  - Conditions to avoid: No further relevant information available.
  - Incompatible materials: No further relevant information available.
11 Toxicological information

· Information on toxicological effects

· Acute toxicity
  Harmful if swallowed or in contact with skin.

· LD/LC50 values relevant for classification:

  ATE (Acute Toxicity Estimates)
  Oral  LD50  235 mg/kg (rat)
  Dermal LD50  800 mg/kg (rabbit)

2385-85-5 mirex
  Oral  LD50  235 mg/kg (rat)
  Dermal LD50  800 mg/kg (rabbit)

· Primary irritant effect:
  · Skin corrosion/irritation Based on available data, the classification criteria are not met.
  · 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 (carcinogenity, mutagenicity and toxicity for reproduction)
    · Germ cell mutagenicity Based on available data, the classification criteria are not met.
    · Carcinogenicity Suspected of causing cancer.
    · Reproductive toxicity Suspected of damaging fertility. Suspected of damaging the unborn child. May cause harm to breast-fed children.
    · STOT-single exposure Based on available data, the classification criteria are not met.
    · 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.

12 Ecological information

· Toxicity
  · Aquatic toxicity: No further relevant information available.
  · Persistence and degradability No further relevant information available.

· Behaviour in environmental systems:
  · Bioaccumulative potential No further relevant information available.
  · Mobility in soil No further relevant information available.

· Ecotoxic effects:
  · Remark: Very toxic for fish

· Additional ecological information:

· General notes:
  Water hazard class 3 (German Regulation) (Self-assessment): 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.
  Also poisonous for fish and plankton in water bodies.
  Very toxic for aquatic organisms
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.
Trade name: mirex

Other adverse effects: No further relevant information available.

13 Disposal considerations

- 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 6</th>
<th>Acute Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP 7</td>
<td>Carcinogenic</td>
</tr>
<tr>
<td>HP 10</td>
<td>Toxic for reproduction</td>
</tr>
<tr>
<td>HP 14</td>
<td>Ecotoxic</td>
</tr>
</tbody>
</table>

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

14 Transport information

- UN-Number
  - ADR, IMDG, IATA: UN2811

- UN proper shipping name
  - ADR
  - IMDG
  - IATA

  - 2811 TOXIC SOLID, ORGANIC, N.O.S. (mirex)
  - TOXIC SOLID, ORGANIC, N.O.S. (mirex), MARINE POLLUTANT
  - TOXIC SOLID, ORGANIC, N.O.S. (mirex)

- Transport hazard class(es)
  - ADR, IMDG
    - Class: 6.1 Toxic substances.
    - Label: 6.1

- IATA
  - Class: 6.1 Toxic substances.
  - Label: 6.1

- Packing group
  - ADR, IMDG, IATA: III

- Environmental hazards:
  - Marine pollutant: Symbol (fish and tree)

(Contd. on page 8)
### Special Marking (ADR)
- Symbol (fish and tree)

### Special Precautions for User
- Warning: Toxic substances.

### Danger Code (Kemler)
- 60

### EMS Number
- F-A,S-A

### Stowage Category
- A

### Transport in Bulk according to Annex II of Marpol and the IBC Code
- Not applicable.

### Transport/Additional Information:
- **ADR**
- **Limitied quantities (LQ)**: 5 kg (Code: E1)
- **Excepted quantities (EQ)**
  - Maximum net quantity per inner packaging: 30 g
  - Maximum net quantity per outer packaging: 1000 g
- **Transport category**: 2
- **Tunnel restriction code**: E

### IMDG
- **Limitied quantities (LQ)**: 5 kg (Code: E1)
- **Excepted quantities (EQ)**
  - Maximum net quantity per inner packaging: 30 g
  - Maximum net quantity per outer packaging: 1000 g

### UN "Model Regulation"*
- UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (MIREX), 6.1, III

### Regulatory Information
- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - Directive 2012/18/EU
  - Named dangerous substances - ANNEX I Substance is not listed.
  - Seveso category E1 Hazardous to the Aquatic Environment
  - Qualifying quantity (tonnes) for the application of lower-tier requirements: 100 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements: 200 t

### Chemical safety assessment
- A Chemical Safety Assessment has not been carried out.

### Other Information
The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

### 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
- CAS: Chemical Abstracts Service (division of the American Chemical Society)

*Contd. on page 9*
<table>
<thead>
<tr>
<th>Trade name: mirex</th>
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| VOC: Volatile Organic Compounds (USA, EU) |
| LC50: Lethal concentration, 50 percent |
| LD50: Lethal dose, 50 percent |
| PBT: Persistent, Bioaccumulative and Toxic |
| vPvB: very Persistent and very Bioaccumulative |
| Acute Tox. 4: Acute toxicity – Category 4 |
| Carc. 2: Carcinogenicity – Category 2 |
| Repr. 2: Reproductive toxicity – Category 2 |
| 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 |