1 Identification

- **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
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Agilent Technologies, Inc.
    5301 Stevens Creek Blvd.
    Santa Clara, CA 95051 USA
  - **Information department:**
    Telephone: 800-227-9770
    e-mail: pdl-msds_author@agilent.com
  - **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard identification

- **Classification of the substance or mixture**
  
  ![GHS06 Skull and crossbones]
  Acute Toxicity (Oral) - Category 3  H301 Toxic if swallowed.
  Acute Toxicity (Dermal) – Category 3  H311 Toxic in contact with skin.

  ![GHS08 Health hazard]
  Carcinogenicity – Category 2  H351 Suspected of causing cancer.
  Reproductive Toxicity - Category 2  H361 Suspected of damaging fertility or the unborn child.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

  ![GHS06](GHS06 Skull and crossbones)
  ![GHS08](GHS08 Health hazard)

- **Signal word** Danger

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

- **Hazard statements**
  - Toxic if swallowed or in contact with skin.

(Contd. on page 2)
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

**Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Immediately call a poison center/doctor.
Rinse mouth.
If on skin: Wash with plenty of water.
If exposed or concerned: Get medical advice/attention.
Call a poison center/doctor if you feel unwell.
Specific measures (see on this label).
Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

- **NFPA ratings (scale 0 - 4)**
  - Health = 2
  - Fire = 0
  - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - HEALTH 2
  - FIRE 0
  - REACTIVITY 0

**3 Composition/Information on ingredients**

- **Chemical characterization: Substances**
- **CAS No. Description**
  2385-85-5 mirex
- **Identification number(s)**
- **EC number:** 219-196-6
- **Index number:** 602-077-00-1

**4 First aid measures**

- **Description of first aid measures**
- **General information:**
  Immediately remove any clothing soiled by the product.
  In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: 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.
- 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
    Thorough dedusting.
    Open and handle receptacle with care.
  - Information about protection against explosions and fires: Keep respiratory protective device available.
- 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.
- Specific end use(s): No further relevant information available.

8 Exposure controls/ Personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists that were valid during the creation were used as basis.
48.1.26

· 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.
  · Breathing equipment:
    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 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil 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
    Color: Not determined.
    Odor: Characteristic
    Odor threshold: Not determined.
  · pH-value: Not applicable.
  · Change in condition
    Melting point/Melting range: 485 °C
    Boiling point/Boiling range: Undetermined.
  · Flash point: Not applicable.
  · Flammability (solid, gaseous): Product is not flammable.
  · Decomposition temperature: Not determined.
  · Auto igniting: Not determined.
### 10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**: 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.
- **Hazardous decomposition products**: No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**: 2385-85-5 mirex

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<thead>
<tr>
<th></th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
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</thead>
<tbody>
<tr>
<td>ATE (Acute Toxicity Estimate)</td>
<td>235 mg/kg (rat)</td>
<td>800 mg/kg (rabbit)</td>
</tr>
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</table>

- **Primary irritant effect**:
  - **on the skin**: No irritant effect.
  - **on the eye**: No irritating effect.
  - **Sensitization**: No sensitizing effects known.

(Contd. on page 6)
Trade name: mirex

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behavior in environmental systems:
    - Bioaccumulative potential: No further relevant information available.
    - Mobility in soil: No further relevant information available.
  - Additional ecological information:
  - General notes:
    Water hazard class 3 (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.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, TDG, IMDG, IATA: UN2811
- UN proper shipping name
  - DOT: Toxic solids, organic, n.o.s. (mirex)
  - TDG: 2811 TOXIC SOLID, ORGANIC, N.O.S. (mirex)
  - IMDG: TOXIC SOLID, ORGANIC, N.O.S. (mirex), MARINE POLLUTANT
  - IATA: TOXIC SOLID, ORGANIC, N.O.S. (mirex)
Trade name: mirex

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<tr>
<th>Transport hazard class(es)</th>
<th>DOT, TDG, IMDG</th>
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<td>Class</td>
<td>6.1 Toxic substances</td>
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<td>Label</td>
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<tr>
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<td>Label</td>
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<tr>
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<tr>
<td>Packing group</td>
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<tr>
<th>Environmental hazards:</th>
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<tr>
<td>Marine pollutant:</td>
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<td>Special marking (TDG):</td>
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</table>

<table>
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<tr>
<th>Special precautions for user</th>
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<tbody>
<tr>
<td>Danger code (Kemler):</td>
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<tr>
<td>EMS Number:</td>
</tr>
<tr>
<td>Stowage Category:</td>
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<tr>
<th>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</th>
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<tbody>
<tr>
<td>Not applicable.</td>
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<tr>
<th>Transport/Additional information:</th>
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<tbody>
<tr>
<td>DOT</td>
</tr>
<tr>
<td>Quantity limitations</td>
</tr>
<tr>
<td>On passenger aircraft/rail: 100 kg</td>
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<tr>
<td>On cargo aircraft only: 200 kg</td>
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<tr>
<td>Remarks:</td>
</tr>
<tr>
<td>Special marking with the symbol (fish and tree).</td>
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</tbody>
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| TDG                                                                       |
| Excepted quantities (EQ)                                                 |
| Code: E1                                                                 |
| Maximum net quantity per inner packaging: 30 g                           |
| Maximum net quantity per outer packaging: 1000 g                         |

| IMDG                                                                      |
| Limited quantities (LQ)                                                 |
| 5 kg                                                                     |
| Excerpted quantities (EQ)                                               |
| Code: E1                                                                 |
| 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                 |
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
  - Section 355 (extremely hazardous substances):
    Substance is not listed.
  - Section 313 (Specific toxic chemical listings):
    Substance is not listed.
  - TSCA (Toxic Substances Control Act):
    Substance is not listed.
- Canadian substance listings:
  - Canadian Domestic Substances List (DSL)
    Substance is not listed.
  - Canadian Ingredient Disclosure list (limit 0.1%)
    Substance is not listed.
  - Canadian Ingredient Disclosure list (limit 1%)
    Substance is not listed.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 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.

- Date of the latest revision of the safety data sheet 03/27/2019 / -
- Abbreviations and acronyms:
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  EINECS: European Inventory of Existing Commercial Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative