SAFETY DATA SHEET

5973 One Year Maintenance Kit - for diffusion pump systems, Part Number 5183-2096

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

1.1 Product identifier

Product name: 5973 One Year Maintenance Kit - for diffusion pump systems, Part Number 5183-2096

CAS number: Santovac 5P Ultra Polyphenyl Ether Lubricant
          OFN EI Checkout
          Standard 1 pg/μL
          AVF 45 Platinum, 1Q

Part no. (chemical kit): 5183-2096

Part no.: Santovac 5P Ultra Polyphenyl Ether Lubricant
          OFN EI Checkout
          Standard 1 pg/μL
          AVF 45 Platinum, 1Q

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Reagents and Standards for Analytical Chemistry Laboratory Use

Santovac 5P Ultra Polyphenyl Ether Lubricant Container: 18.5 ml
OFN EI Checkout Standard 1 pg/μL 3 x 1 ml
AVF 45 Platinum, 1Q 1Qt Bottle

Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Santovac 5P Ultra Mono-constituent substance
Polyphenyl Ether Lubricant
OFN EI Checkout Mixture
Standard 1 pg/μL
AVF 45 Platinum, 1Q Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
SECTION 2: Hazards identification

**OFN EI Checkout Standard 1 pg/μL**
- H225: FLAMMABLE LIQUIDS (Category 2)
- H315: SKIN CORROSION/IRRITATION (Category 2)
- H336: SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) (Category 3)
- H304: ASPIRATION HAZARD (Category 1)
- H400: SHORT-TERM (ACUTE) AQUATIC HAZARD (Category 1)
- H410: LONG-TERM (CHRONIC) AQUATIC HAZARD (Category 1)

**AVF 45 Platinum, 1Q**
- H413: LONG-TERM (CHRONIC) AQUATIC HAZARD (Category 4)

**Santovac 5P Ultra Polyphenyl Ether Lubricant**
- The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

**AVF 45 Platinum, 1Q**
- The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

**Ingredients of unknown toxicity**: AVF 45 Platinum, 1Q
- Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 30 - 60%
- Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
- Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 30 - 60%

**Ingredients of unknown ecotoxicity**: AVF 45 Platinum, 1Q
- Contains 6% of components with unknown hazards to the aquatic environment

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

**2.2 Label elements**

**Hazard pictograms**: OFN EI Checkout Standard 1 pg/μL

**Signal word**: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: Danger
- AVF 45 Platinum, 1Q: No signal word.

**Hazard statements**: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: No known significant effects or critical hazards.
- AVF 45 Platinum, 1Q: H225 - Highly flammable liquid and vapour.
- H304 - May be fatal if swallowed and enters airways.
- H315 - Causes skin irritation.
- H336 - May cause drowsiness or dizziness.
- H410 - Very toxic to aquatic life with long lasting effects.
- H413 - May cause long lasting harmful effects to aquatic life.

**Precautionary statements**

**Prevention**: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- AVF 45 Platinum, 1Q: P273 - Avoid release to the environment.

Date of issue/Date of revision: 2/24 26/10/2022
Date of previous issue: 26/10/2022
Version: 1
SECTION 2: Hazards identification

Response: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: P391 - Collect spillage.
- AVF 45 Platinum, 1Q: P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- Not applicable.

Storage: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- AVF 45 Platinum, 1Q: Not applicable.
- Not applicable.

Disposal: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- AVF 45 Platinum, 1Q: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Not applicable.

Hazardous ingredients: OFN EI Checkout Standard 1 pg/μL - 2,2,4-trimethylpentane
- AVF 45 Platinum, 1Q: Not applicable.

Supplemental label elements: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: Not applicable.
- AVF 45 Platinum, 1Q: Not applicable.
- Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: Not applicable.
- AVF 45 Platinum, 1Q: Not applicable.

Special packaging requirements: Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL: Not applicable.
- AVF 45 Platinum, 1Q: Not applicable.

2.3 Other hazards
Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

<table>
<thead>
<tr>
<th>PBT</th>
<th>P</th>
<th>B</th>
<th>T</th>
<th>vPvB</th>
<th>vP</th>
<th>vB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>This mixture does not contain any substances that are assessed to be a PBT or a vPvB.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>This mixture does not contain any substances that are assessed to be a PBT or a vPvB.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 2: Hazards identification

Other hazards which do not result in classification:
- Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL
- AVF 45 Platinum, 1Q

None known.

SECTION 3: Composition/information on ingredients

3.1 Substances:
- Santovac 5P Ultra Polyphenyl Ether Lubricant: Mono-constituent substance
- OFN EI Checkout Standard 1 pg/μL: Mixture
- AVF 45 Platinum, 1Q: Mixture

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
<th>Specific Conc. Limits, M-factors and ATEs</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>EC: 219-530-0 CAS: 2455-71-2</td>
<td>100</td>
<td>Not classified.</td>
<td>-</td>
<td>[1]</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,2,4-trimethyl/pentane</td>
<td>EC: 500-183-1 CAS: 68037-01-4</td>
<td>≥75 - ≤90</td>
<td>Asp. Tox. 1, H304</td>
<td>-</td>
<td>[1]</td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
<td>EC: 208-759-1 CAS: 540-84-1 Index: 601-009-00-8</td>
<td>≥25 - ≤50</td>
<td>Aquatic Chronic 4, H413</td>
<td>-</td>
<td>[1]</td>
</tr>
<tr>
<td>1-Dodecene, homopolymer, hydrogenated</td>
<td>CAS: 151006-63-2</td>
<td></td>
<td>See Section 16 for the full text of the H statements declared above.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type:
- Santovac 5P Ultra Polyphenyl Ether Lubricant: [1] Constituent
- OFN EI Checkout Standard 1 pg/μL: [1] Substance classified with a health or environmental hazard
- AVF 45 Platinum, 1Q: [1] Substance classified with a health or environmental hazard

Occupational exposure limits, if available, are listed in Section 8.
SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

AVF 45 Platinum, 1Q

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

AVF 45 Platinum, 1Q

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

AVF 45 Platinum, 1Q

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL

Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

AVF 45 Platinum, 1Q

Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities.
SECTION 4: First aid measures

Protection of first-aiders

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- Ofn El Checkout Standard 1 pg/mL
- Avf 45 Platinum, 1Q

No action shall be taken involving any personal risk or without suitable training.

OFN EI Checkout Standard 1 pg/μL

No action shall be taken involving any personal risk or without suitable training.

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- AVF 45 Platinum, 1Q

No action shall be taken involving any personal risk or without suitable training.

Potential acute health effects

4.2 Most important symptoms and effects, both acute and delayed

**Inhalation**

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- Ofn El Checkout Standard 1 pg/mL
- AVF 45 Platinum, 1Q

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- AVF 45 Platinum, 1Q

No known significant effects or critical hazards.

**Skin contact**

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- Ofn El Checkout Standard 1 pg/mL
- AVF 45 Platinum, 1Q

Causes skin irritation.

No known significant effects or critical hazards.

**Ingestion**

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- Ofn El Checkout Standard 1 pg/mL
- AVF 45 Platinum, 1Q

Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact**

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- Ofn El Checkout Standard 1 pg/mL
- AVF 45 Platinum, 1Q

No specific data.

Adverse symptoms may include the following:

- pain or irritation
- watering
- redness

**Inhalation**

- Santovac 5P Ultra Polyphenyl Ether Lubricant
- Ofn El Checkout Standard 1 pg/mL
- AVF 45 Platinum, 1Q

No specific data.

Adverse symptoms may include the following:

- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness
SECTION 4: First aid measures

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>AVF 45 Platinum, 1Q</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td></td>
<td>AVF 45 Platinum, 1Q</td>
<td>irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>redness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>AVF 45 Platinum, 1Q</th>
<th>No specific data.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Adverse symptoms may include the following:</td>
</tr>
<tr>
<td></td>
<td>AVF 45 Platinum, 1Q</td>
<td>nausea or vomiting</td>
</tr>
</tbody>
</table>

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

| Santovac 5P Ultra Polyphenyl Ether Lubricant | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| OFN EI Checkout Standard 1 pg/μL | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| AVF 45 Platinum, 1Q | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |

Specific treatments

| Santovac 5P Ultra Polyphenyl Ether Lubricant | No specific treatment. |
| OFN EI Checkout Standard 1 pg/μL | No specific treatment. |
| AVF 45 Platinum, 1Q | No specific treatment. |

SECTION 5: Firefighting measures

5.1 Extinguishing media

| Santovac 5P Ultra Polyphenyl Ether Lubricant | Use an extinguishing agent suitable for the surrounding fire. |
| OFN EI Checkout Standard 1 pg/μL | Use dry chemical, CO₂, water spray (fog) or foam. |
| AVF 45 Platinum, 1Q | Use an extinguishing agent suitable for the surrounding fire. |

Unsuitable extinguishing media

| Santovac 5P Ultra Polyphenyl Ether Lubricant | None known. |
| OFN EI Checkout Standard 1 pg/μL | Do not use water jet. |
| AVF 45 Platinum, 1Q | None known. |

5.2 Special hazards arising from the substance or mixture

| Santovac 5P Ultra Polyphenyl Ether Lubricant | In a fire or if heated, a pressure increase will occur and the container may burst. |
| OFN EI Checkout Standard 1 pg/μL | Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. |
SECTION 5: Firefighting measures

Hazardous combustion products

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide</td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, phosphorus oxides, metal oxide/oxides</td>
</tr>
</tbody>
</table>

5.3 Advice for firefighters

Special precautions for fire-fighters

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.</td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
</tbody>
</table>

Special protective equipment for fire-fighters

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</td>
</tr>
</tbody>
</table>
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
- Santovac 5P Ultra Polyphenyl Ether Lubricant: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
- OFN EI Checkout Standard 1 pg/μL: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- AVF 45 Platinum, 1Q: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders:
- Santovac 5P Ultra Polyphenyl Ether Lubricant: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- OFN EI Checkout Standard 1 pg/μL: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- AVF 45 Platinum, 1Q: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions:
- Santovac 5P Ultra Polyphenyl Ether Lubricant: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- OFN EI Checkout Standard 1 pg/μL: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- AVF 45 Platinum, 1Q: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up:
- Santovac 5P Ultra Polyphenyl Ether Lubricant: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- OFN EI Checkout Standard 1 pg/μL: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose...
SECTION 6: Accidental release measures

AVF 45 Platinum, 1Q
of via a licensed waste disposal contractor. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections
See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures
- Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL
- AVF 45 Platinum, 1Q

Advice on general occupational hygiene
- Santovac 5P Ultra Polyphenyl Ether Lubricant
- OFN EI Checkout Standard 1 pg/μL
- AVF 45 Platinum, 1Q

7.2 Conditions for safe storage, including any incompatibilities

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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Date of issue/Date of revision: 26/10/2022 Date of previous issue: 26/10/2022 Version: 1
5973 One Year Maintenance Kit - for diffusion pump systems, Part Number 5183-2096

SECTION 7: Handling and storage

Storage:

Santovac 5P Ultra Polyphenyl Ether Lubricant
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

OFN EI Checkout Standard 1 pg/μL
Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

AVF 45 Platinum, 1Q
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

<table>
<thead>
<tr>
<th>Category</th>
<th>Notification and MAPP threshold</th>
<th>Safety report threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>5000 tonne, 100 tonne</td>
<td>50000 tonne, 200 tonne</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

Recommendations:

Santovac 5P Ultra Polyphenyl Ether Lubricant
Industrial applications, Professional applications.

OFN EI Checkout Standard 1 pg/μL
Industrial applications, Professional applications.

AVF 45 Platinum, 1Q
Industrial applications, Professional applications.

Industrial sector specific solutions:

Santovac 5P Ultra Polyphenyl Ether Lubricant
Not available.

OFN EI Checkout Standard 1 pg/μL
Not available.

AVF 45 Platinum, 1Q
Not available.
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
No exposure limit value known.

Biological exposure indices
None known.

Recommended monitoring procedures
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL 2,2,4-trimethylpentane</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>608 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>699 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>699 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>773 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2035 mg/ m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>

PNECs
No PNECs available

8.2 Exposure controls

Appropriate engineering controls
Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
**SECTION 8: Exposure controls/personal protection**

**Body protection**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls**: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Santovac 5P Ultra Polyphenyl Ether Lubricant</th>
<th>Liquid. [Clear.]</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Liquid.</td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Liquid.</td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>Yellow. [Light]</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Clear. / Colourless.</td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Clear. / Yellowish. [Light]</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>Odourless./ Phenolic.[Slight]</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Gasoline-like</td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Petroleum oil. [Slight]</td>
<td></td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>Not available.</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>Not available.</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>-107°C</td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>476.1°C</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>99.2°C</td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>
**SECTION 9: Physical and chemical properties**

**Flammability**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: Not applicable.
- OFN EI Checkout Standard 1 pg/μL: Not applicable.
- AVF 45 Platinum, 1Q: Not applicable.

**Upper/lower flammability or explosive limits**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: Not available.
- OFN EI Checkout Standard 1 pg/μL: Lower: 1.1%
- AVF 45 Platinum, 1Q: Upper: 6%

**Flash point**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: Open cup: 287.8°C [Cleveland]
- OFN EI Checkout Standard 1 pg/μL: Open cup: 4.5°C
- AVF 45 Platinum, 1Q: Closed cup: 265°C [ASTM D-92]

**Auto-ignition temperature**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: 612.8°C
- OFN EI Checkout Standard 1 pg/μL: 415 to 418°C
- AVF 45 Platinum, 1Q: Not available.

**Decomposition temperature**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: >425°C
- OFN EI Checkout Standard 1 pg/μL: Not available.
- AVF 45 Platinum, 1Q: Not available.

**pH**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: 7
- OFN EI Checkout Standard 1 pg/μL: Not available.
- AVF 45 Platinum, 1Q: Not available.

**Viscosity**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: Not available.
- OFN EI Checkout Standard 1 pg/μL: Not available.
- AVF 45 Platinum, 1Q: Not available.

**Solubility(ies)**
- Santovac 5P Ultra Polyphenyl Ether Lubricant: acetone (Soluble)
- OFN EI Checkout Standard 1 pg/μL: water (Not soluble)
- AVF 45 Platinum, 1Q: water (Not soluble)

**Ingredient name**
- AVF 45 Platinum, 1Q: Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated
  - Temperature: 343 to 369°C
  - Method: ASTM D 2159

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**Date of previous issue**: 26/10/2022
**Version**: 1
### SECTION 9: Physical and chemical properties

**Partition coefficient: n-octanol/water**
- Santovac 5P Ultra Polyphenyl Ether Lubricant  
- OFN EI Checkout Standard 1 pg/μL  
- AVF 45 Platinum, 1Q
- Not available.

**Vapour pressure**
- Santovac 5P Ultra Polyphenyl Ether Lubricant  
- OFN EI Checkout Standard 1 pg/μL  
- AVF 45 Platinum, 1Q
- Not applicable.

**Evaporation rate**
- Santovac 5P Ultra Polyphenyl Ether Lubricant  
- OFN EI Checkout Standard 1 pg/μL  
- AVF 45 Platinum, 1Q
- Not available.

**Relative density**
- Santovac 5P Ultra Polyphenyl Ether Lubricant  
- OFN EI Checkout Standard 1 pg/μL  
- AVF 45 Platinum, 1Q
- Not applicable.

**Vapour density**
- Santovac 5P Ultra Polyphenyl Ether Lubricant  
- OFN EI Checkout Standard 1 pg/μL  
- AVF 45 Platinum, 1Q
- Not available.

**Explosive properties**
- Santovac 5P Ultra Polyphenyl Ether Lubricant  
- OFN EI Checkout Standard 1 pg/μL  
- AVF 45 Platinum, 1Q
- Not available.

**Oxidising properties**
- Santovac 5P Ultra Polyphenyl Ether Lubricant  
- OFN EI Checkout Standard 1 pg/μL  
- AVF 45 Platinum, 1Q
- Not available.

**Particle characteristics**
- Median particle size
  - Santovac 5P Ultra Polyphenyl Ether Lubricant  
  - OFN EI Checkout Standard 1 pg/μL  
  - AVF 45 Platinum, 1Q
  - Not applicable.

**9.2 Other information**

No additional information.
SECTION 10: Stability and reactivity

10.1 Reactivity : Santovac 5P Ultra Polyphenyl Ether Lubricant
OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : Santovac 5P Ultra Polyphenyl Ether Lubricant
OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q
The product is stable.

10.3 Possibility of hazardous reactions : Santovac 5P Ultra Polyphenyl Ether Lubricant
OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Santovac 5P Ultra Polyphenyl Ether Lubricant
OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q
No specific data.
Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.

10.5 Incompatible materials : Santovac 5P Ultra Polyphenyl Ether Lubricant
OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q
May react or be incompatible with oxidising materials.
Reactive or incompatible with the following materials:
oxidising materials
May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products : Santovac 5P Ultra Polyphenyl Ether Lubricant
OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity

Date of issue/Date of revision : 26/10/2022  Date of previous issue : 26/10/2022  Version : 1
### SECTION 11: Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OFN EI Checkout Standard 1 pg/μL</strong></td>
<td>LC50 Inhalation Vapour</td>
<td>Rat - Male, Female</td>
<td>&gt;33.52 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td><strong>AVF 45 Platinum, 1Q</strong></td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat - Male, Female</td>
<td>&gt;5.2 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Acute toxicity estimates

N/A

**Irritation/Corrosion**

- **Conclusion/Summary**: Not available.

**Sensitiser**

- **Conclusion/Summary**: Not available.

**Mutagenicity**

- **Conclusion/Summary**: Not available.

**Carcinogenicity**

- **Conclusion/Summary**: Not available.

**Reproductive toxicity**

- **Conclusion/Summary**: Not available.

**Teratogenicity**

- **Conclusion/Summary**: Not available.

### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OFN EI Checkout Standard 1 pg/μL</strong></td>
<td>Category 3</td>
<td>-</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

Not available.

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OFN EI Checkout Standard 1 pg/μL</strong></td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td><strong>AVF 45 Platinum, 1Q</strong></td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
<td></td>
</tr>
</tbody>
</table>

**Information on likely routes of exposure**: Santovac 5P Ultra Polyphenyl Ether Lubricant OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

**Potential acute health effects**: Not available.
SECTION 11: Toxicological information

### Inhalation
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No known significant effects or critical hazards.
- **OFN EI Checkout Standard 1 pg/μL**
  - Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- **AVF 45 Platinum, 1Q**
  - No known significant effects or critical hazards.

### Ingestion
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No known significant effects or critical hazards.
- **OFN EI Checkout Standard 1 pg/μL**
  - Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.
- **AVF 45 Platinum, 1Q**
  - No known significant effects or critical hazards.

### Skin contact
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No known significant effects or critical hazards.
- **OFN EI Checkout Standard 1 pg/μL**
  - Causes skin irritation.
- **AVF 45 Platinum, 1Q**
  - No known significant effects or critical hazards.

### Eye contact
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No known significant effects or critical hazards.
- **OFN EI Checkout Standard 1 pg/μL**
  - No known significant effects or critical hazards.
- **AVF 45 Platinum, 1Q**
  - No known significant effects or critical hazards.

#### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation**
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No specific data.
- **OFN EI Checkout Standard 1 pg/μL**
  - Adverse symptoms may include the following:
    - nausea or vomiting
    - headache
    - drowsiness/fatigue
    - dizziness/vertigo
    - unconsciousness
- **AVF 45 Platinum, 1Q**
  - No specific data.

**Ingestion**
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No specific data.
- **OFN EI Checkout Standard 1 pg/μL**
  - Adverse symptoms may include the following:
    - nausea or vomiting
- **AVF 45 Platinum, 1Q**
  - No specific data.

**Skin contact**
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No specific data.
- **OFN EI Checkout Standard 1 pg/μL**
  - Adverse symptoms may include the following:
    - irritation
    - redness
- **AVF 45 Platinum, 1Q**
  - No specific data.

**Eye contact**
- **Santovac 5P Ultra Polyphenyl Ether Lubricant**
  - No specific data.
- **OFN EI Checkout Standard 1 pg/μL**
  - Adverse symptoms may include the following:
    - pain or irritation
    - watering
    - redness
- **AVF 45 Platinum, 1Q**
  - No specific data.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**
SECTION 11: Toxicological information

<table>
<thead>
<tr>
<th>Potential chronic health effects</th>
<th>Santovac 5P Ultra Polyphenyl Ether Lubricant</th>
<th>OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q</th>
<th>AVF 45 Platinum, 1Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td>OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

11.2 Information on other hazards
11.2.1 Endocrine disrupting properties
Not available.

11.2.2 Other information

| Santovac 5P Ultra Polyphenyl Ether Lubricant | Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking. | Not available. |
| OFN EI Checkout Standard 1 pg/μL AVF 45 Platinum, 1Q | Adverse symptoms sometimes include the following: Repeated exposure may cause skin dryness or cracking. |

SECTION 12: Ecological information

12.1 Toxicity

| Conclusion/Summary | Not available. |

12.2 Persistence and degradability
Not available.
SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL 2,2,4-trimethylpentane</td>
<td>-</td>
<td>-</td>
<td>Inherent</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL 2,2,4-trimethylpentane</td>
<td>4.5</td>
<td>-</td>
<td>high</td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td>4.08</td>
<td>231</td>
<td>low</td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated 1-Dodecene, homopolymer, hydrogenated</td>
<td>&gt;6.5</td>
<td>-</td>
<td>high</td>
</tr>
<tr>
<td></td>
<td>&gt;6.5</td>
<td>-</td>
<td>high</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>PBT</th>
<th>P</th>
<th>B</th>
<th>T</th>
<th>vPvB</th>
<th>vP</th>
<th>vB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant 1,3-bis(3-phenoxypyhoxy) benzene</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
SECTION 13: Disposal considerations

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th></th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number or ID number</td>
<td>UN1262</td>
<td>UN1262</td>
<td>UN1262</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>OCTANES</td>
<td>OCTANES</td>
<td>Octanes</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>II</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
</tr>
</tbody>
</table>

Additional information

Remarks: De minimis quantities

ADR/RID: The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Hazard identification number 33
Limited quantity 1 L
Tunnel code (D/E)

IMDG: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-E, S-E

IATA: The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments: Not available.
## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**EU Regulation (EC) No. 1907/2006 (REACH)**

- **Annex XIV - List of substances subject to authorisation**
  - None of the components are listed.

- **Substances of very high concern**
  - None of the components are listed.

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

- Not listed.

### Label

<table>
<thead>
<tr>
<th>Label</th>
<th>Description</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santovac 5P Ultra Polyphenyl Ether Lubricant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFN EI Checkout Standard 1 pg/μL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other EU regulations

- **Ozone depleting substances (1005/2009/EU)**
  - Not listed.

- **Prior Informed Consent (PIC) (649/2012/EU)**
  - Not listed.

- **Persistent Organic Pollutants**
  - Not listed.

- **Seveso Directive**
  - This product is controlled under the Seveso Directive.
    - **Danger criteria**
      - **Category**
        - OFN EI Checkout Standard 1 pg/μL
        - P5c
        - E1

### International regulations

- **Chemical Weapon Convention List Schedules I, II & III Chemicals**
  - Not listed.

- **Montreal Protocol**
  - Not listed.

- **Stockholm Convention on Persistent Organic Pollutants**
  - Not listed.

- **Rotterdam Convention on Prior Informed Consent (PIC)**
  - Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

- Not listed.

### Inventory list

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Canada</td>
<td>Not determined.</td>
</tr>
<tr>
<td>China</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Eurasian Economic Union</td>
<td><strong>Russian Federation inventory</strong>: Not determined.</td>
</tr>
</tbody>
</table>

5973 One Year Maintenance Kit - for diffusion pump systems, Part Number 5183-2096

SECTION 15: Regulatory information

15.2 Chemical safety assessment

This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxict
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 2, H225</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Skin Irrit. 2, H315</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT SE 3, H336</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Asp. Tox. 1, H304</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>Aquatic Acute 1, H400</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1, H410</td>
<td>Calculation method</td>
</tr>
<tr>
<td>AVF 45 Platinum, 1Q</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 4, H413</td>
<td></td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

OFN EI Checkout Standard 1 pg/μL

| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

AVF 45 Platinum, 1Q

| H304 | May be fatal if swallowed and enters airways. |
| H413 | May cause long lasting harmful effects to aquatic life. |
SECTION 16: Other information

| OFN EI Checkout Standard 1 pg/μL | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1  
| Aquatic Acute 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1  
| Aquatic Chronic 1 | ASPIRATION HAZARD - Category 1  
| Asp. Tox. 1 | FLAMMABLE LIQUIDS - Category 2  
| Flam. Liq. 2 | SKIN CORROSION/IRRITATION - Category 2  
| Skin Irrit. 2 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3  
| STOT SE 3 |  
| AVF 45 Platinum, 1Q | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4  
| Aquatic Chronic 4 | ASPIRATION HAZARD - Category 1  
| Asp. Tox. 1 |  

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