1 Identification

- Product identifier
- Trade name: Decafluorotriphenylphosphine Standard (DFTPP) (1X1 mL)
- Part number: IST-341-1
- 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 Australia Pty Ltd
    679 Springvale Road
    Mulgrave
    Victoria 3170, Australia
  - Further information obtainable from:
    Telephone: 1800 802 402
    e-mail: pdl-mds_author@agilent.com
  - Emergency telephone number: CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- Classification of the substance or mixture
  - Health hazard
  - STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
  - Acute Tox. 4 H302 Harmful if swallowed.
  - Skin Irrit. 2 H315 Causes skin irritation.
  - Eye Irrit. 2A H319 Causes serious eye irritation.
  - STOT SE 3 H335 May cause respiratory irritation.

- Label elements
  - GHS label elements The product is classified and labelled according to the Globally Harmonised System (GHS).

- Hazard pictograms
  - GHS07
  - GHS08

- Signal word Warning
- Hazard-determining components of labelling:
  - dichloromethane
- Hazard statements
  - Harmful if swallowed.
  - Causes skin irritation.
  - Causes serious eye irritation.
  - May cause respiratory irritation.
Trade name: Decafluorotriphenylphosphine Standard (DFTPP) (1X1 mL)

May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

  If medical advice is needed, have product container or label at hand.
  Keep out of reach of children.
  Read label before use.
  Do not breathe dust/fume/gas/mist/vapours/spray.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves / eye protection / face protection.
  Use only outdoors or in a well-ventilated area.
  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  Rinse mouth.
  IF ON SKIN: Wash with plenty of water.
  Specific treatment (see on this label).
  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  Get medical advice/attention if you feel unwell.
  If skin irritation occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Take off contaminated clothing and wash before reuse.
  Store in a well-ventilated place. Keep container tightly closed.
  Store locked up.
  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 and Information on Ingredients

· **Chemical characterisation:** Mixtures

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

  75-09-2 dichloromethane

  99.993% [STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335]

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

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:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Call for a doctor immediately.
Trade name: Decafluorotriphenylphosphine Standard (DFTPP) (1X1 mL)

- **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 Fire Fighting 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 to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.

- **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.
  Prevent formation of aerosols.

- **Information about fire - and explosion protection:**
  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 container tightly sealed.

- **Specific end use(s)**
  No further relevant information available.

*8 Exposure controls and personal protection*

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

(Contd. of page 2)
Control parameters

Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Long-term value</th>
<th>Sk</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2</td>
<td>174 mg/m³, 50 ppm</td>
<td></td>
</tr>
</tbody>
</table>

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:
- 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 1 hr. 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

Penetration time of glove material
- For normal use: nitrile rubber: 1 hour
- For direct contact with the chemical: butyl rubber: > 4 hours

Eye protection:
- Safety glasses
- Tightly sealed goggles

9 Physical and Chemical Properties

Information on basic physical and chemical properties

General Information

Appearance:
- Form: Fluid
- Colour: Colourless
### 48.1.26

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour</td>
<td>Like chlorine</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-95.1 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>40 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>605 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>13 Vol %</td>
</tr>
<tr>
<td>Upper</td>
<td>22 Vol %</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C</td>
<td>360 hPa</td>
</tr>
<tr>
<td>Density at 20 °C</td>
<td>1.3 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water at 20 °C</td>
<td>20 g/l</td>
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<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic at 20 °C</td>
<td>0.43 mPas</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content</td>
<td></td>
</tr>
<tr>
<td>Organic solvents</td>
<td>100.0 %</td>
</tr>
<tr>
<td>VOC (EC)</td>
<td>99.99 %</td>
</tr>
<tr>
<td>Solids content</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 10 Stability and Reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**: Not determined.
- **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**
    - **LD/LC50 values relevant for classification:**
      - **ATE (Acute Toxicity Estimates)**
        | Route          | LD50  | LC50/4 h |
        |----------------|-------|----------|
        | Oral           | 1,600 mg/kg (rat) |         |
        | Dermal         | >2,000 mg/kg (rat) |         |
        | Inhalative     | 88 mg/L (rat)      |         |
    - **75-09-2 dichloromethane**
      | Route          | LD50  | LC50/4 h |
      |----------------|-------|----------|
      | Oral           | 1,600 mg/kg (rat) |         |
      | Dermal         | >2,000 mg/kg (rat) |         |
      | Inhalative     | 88 mg/L (rat)      |         |
- **Primary irritant effect:**
  - Skin corrosion/irritation: Irritant to skin and mucous membranes.
  - Serious eye damage/irritation: Irritating effect.
  - Respiratory or skin sensitisation: No sensitising effects known.
- **Additional toxicological information:**
  The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  - Harmful
  - Irritant

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.
- **Additional ecological information:**
- **General notes:**
  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.
- **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 together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- Not Regulated, De minimus Quantities

- UN-Number
  - ADG, IMDG, IATA
  - UN1593

- UN proper shipping name
  - ADG
  - IMDG
  - IATA
  - 1593 DICHLOROMETHANE
  - DICHLOROMETHANE, MARINE POLLUTANT
  - DICHLOROMETHANE

- Transport hazard class(es)
  - ADG, IATA
    - Class
      - 6.1 Toxic substances.
    - Label
      - 6.1

- IMDG
  - Class
    - 6.1 Toxic substances.
  - Label
    - 6.1
  - Packing group
    - ADG, IMDG, IATA
    - III
  - Environmental hazards:
    - Marine pollutant:
      - Symbol (fish and tree)
  - Special precautions for user
    - Warning: Toxic substances.
  - Danger code (Kepler):
    - 60
  - EMS Number:
    - F-A.S-A
  - Segregation groups
    - Liquid halogenated hydrocarbons
  - Stowage Category
    - A
  - Stowage Code
    - SW2 Clear of living quarters.
## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Code</th>
<th>Maximum net quantity per inner packaging</th>
<th>Maximum net quantity per outer packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Inventory of Chemical Substances</td>
<td></td>
<td>30 ml</td>
<td>1000 ml</td>
</tr>
<tr>
<td>Standard for the Uniform Scheduling of Medicines and Poisons</td>
<td></td>
<td>30 ml</td>
<td>1000 ml</td>
</tr>
</tbody>
</table>

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is 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.

- **Relevant phrases**
  - H315 Causes skin irritation.
  - H319 Causes serious eye irritation.
  - H335 May cause respiratory irritation.
  - H373 May cause damage to organs through prolonged or repeated exposure.

- **Department issuing SDS**: Document Control / Regulatory
- **Contact**: regulatory@ultrasci.com
- **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
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances

(Contd. on page 9)
Trade name: Decafluorotriphenylphosphine Standard (DFTPP) (1X1 mL)

CAS: Chemical Abstracts Service (division of the American Chemical Society)
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
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

* Data compared to the previous version altered.