## Section 1. Identification

<table>
<thead>
<tr>
<th>Product identifier</th>
<th>PL HFIPgel in Hexafluoroisopropanol - 1-10 mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
<td>PL1114-1900HFIP, PL1114-6900HFIP, PL1514-5900HFIP</td>
</tr>
</tbody>
</table>

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

- Reagents and Standards for Analytical Chemistry Laboratory Use
- Chromatography column
- Solvent volume: 1 - 10 ml
- PL1114-1900HFIP, PL HFIPgel Guard 50 x 7.5 mm
- PL1114-6900HFIP, PL HFIPgel 300 x 7.5 mm
- PL1514-5900HFIP, PL HFIPgel 250 x 4.6 mm

### Supplier/Manufacturer

- Agilent Technologies Australia Pty Ltd
  - 679 Springvale Road
  - Mulgrave
  - Victoria 3170, Australia
  - 1800 802 402

### Emergency telephone number (with hours of operation)

- CHEMTREC®: +(61)-290372994

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

- H302 - ACUTE TOXICITY (oral) - Category 4
- H314 - SKIN CORROSION/IRRITATION - Category 1C
- H318 - SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
- H361 - REPRODUCTIVE TOXICITY (Fertility) - Category 2
- H361 - REPRODUCTIVE TOXICITY (Unborn child) - Category 2

### GHS label elements

#### Hazard pictograms

- ![](image)

#### Signal word

- DANGER

#### Hazard statements

- P302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H361 - Suspected of damaging fertility or the unborn child.

### Precautionary statements

#### Prevention

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P281 - Use personal protective equipment as required.
- P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
- P270 - Do not eat, drink or smoke when using this product.
- P264 - Wash hands thoroughly after handling.
Section 2. Hazard(s) identification

Response

P308 + P313 - IF exposed or concerned: Get medical attention.
P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage

P405 - Store locked up.

Disposal

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

Additional warning phrases

Not applicable.

Other hazards which do not result in classification

Causes digestive tract burns.

Section 3. Composition and ingredient information

Substance/mixture

Mixture (encapsulated in article)

CAS number/other identifiers

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,3,3,3-hexafluoropropan-2-ol</td>
<td>≥75 - ≤90</td>
<td>920-66-1</td>
</tr>
<tr>
<td>Benzene, diethenyl-, polymer with ethenylbenzene</td>
<td>≥10 - ≤30</td>
<td>9003-70-7</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Inhalation

Get medical attention immediately. Call a poison center or physician. 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. 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

Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Section 4. First aid measures

Ingestion: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. 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.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye damage.

Inhalation: No known significant effects or critical hazards.

Skin contact: Causes severe burns.

Ingestion: Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
- pain
- watering
- redness

Inhalation: Adverse symptoms may include the following:
- reduced foetal weight
- increase in foetal deaths
- skeletal malformations

Skin contact: Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur
- reduced foetal weight
- increase in foetal deaths
- skeletal malformations

Ingestion: Adverse symptoms may include the following:
- stomach pains
- reduced foetal weight
- increase in foetal deaths
- skeletal malformations

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
- pain
- watering
- redness
- blistering may occur
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- increase in foetal deaths
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- pain or irritation
- redness
- blistering may occur
- reduced foetal weight
- increase in foetal deaths
- skeletal malformations

Ingestion: Adverse symptoms may include the following:
- stomach pains
- reduced foetal weight
- increase in foetal deaths
- skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)
### Section 5. Firefighting measures

#### Extinguishing media
- **Suitable extinguishing media**: Use an extinguishing agent suitable for the surrounding fire.
- **Unsuitable extinguishing media**: None known.

#### Specific hazards arising from the chemical
- **Hazardous thermal decomposition products**: In a fire or if heated, a pressure increase will occur and the container may burst.
- **Decomposition products may include the following materials:**
  - Carbon dioxide
  - Carbon monoxide
  - Halogenated compounds

#### Special protective actions for fire-fighters
- 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.

#### Special protective equipment for fire-fighters
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

#### Hazchem code
- 2X

#### Remark
- Emits acrid smoke and irritating fumes when heated to decomposition.

### Section 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures
- **For non-emergency personnel**: 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. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- **For emergency responders**: 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".
- **Environmental precautions**: 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).

#### Methods and material for containment and cleaning up
- **Methods for cleaning up**: 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.

### Section 7. Handling and storage

#### Precautions for safe handling
- **Protective measures**: Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Section 7. Handling and storage

Advice on general occupational hygiene: 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.

Conditions for safe storage, including any incompatibilities: 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. Store locked up. 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.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene, diethenyl-, polymer with ethenylbenzene</td>
<td>ACGIH TLV (United States).</td>
</tr>
<tr>
<td></td>
<td>Particulates Not Otherwise Specified (PNOS): 10 mg/m³ Form: Inhalable</td>
</tr>
<tr>
<td></td>
<td>Particulates Not Otherwise Specified (PNOS): 3 mg/m³ Form: Respirable</td>
</tr>
</tbody>
</table>

Appropriate engineering controls: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand 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.

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.
Section 8. Exposure controls and personal protection

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.

Section 9. Physical and chemical properties

Appearance

Physical state: Liquid. [paste]
Colour: White.
Odour: Strong.
Odour threshold: Not available.
pH: Not available.
Melting point: -3.3°C (26.1°F)
Boiling point: 57 to 60°C (134.6 to 140°F)
Flash point: Not available.
Evaporation rate: Not available.
Flammability (solid, gas): Not applicable.
Lower and upper explosive (flammable) limits: Not available.
Vapour pressure: Not available.
Vapour density: Not available.
Relative density: 1.6
Density: 1.6 g/cm³ [20°C (68°F)]
Solubility: Liquid. / Solid.
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: May react or be incompatible with oxidising materials.
Reactive or incompatible with the following materials: metals and alkalis.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<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>1,1,1,3,3,3-hexafluoropropan-2-ol</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>1974 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1500 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

Not available.

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

Causes serious eye damage.

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes severe burns.

Ingestion

Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
- pain
- watering
- redness

Inhalation

Adverse symptoms may include the following:
- reduced foetal weight
- increase in foetal deaths
- skeletal malformations
Section 11. Toxicological information

**Skin contact**
- Adverse symptoms may include the following:
  - pain or irritation
  - redness
  - blistering may occur
  - reduced foetal weight
  - increase in foetal deaths
  - skeletal malformations

**Ingestion**
- Adverse symptoms may include the following:
  - stomach pains
  - reduced foetal weight
  - increase in foetal deaths
  - skeletal malformations

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

#### Long term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

### Potential chronic health effects
- **General**: No known significant effects or critical hazards.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: Suspected of damaging the unborn child.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: Suspected of damaging fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>1973.7 mg/kg</td>
</tr>
</tbody>
</table>
### Section 12. Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,3,3,3-hexafluoropropan-2-ol</td>
<td>1.66</td>
<td>2.51</td>
<td>low</td>
</tr>
</tbody>
</table>

**Mobility in soil**

**Soil/water partition coefficient (K<sub>OC</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

### Section 13. Disposal considerations

**Disposal methods** : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

### Section 14. Transport information

<table>
<thead>
<tr>
<th>UN number</th>
<th>ADG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3244</td>
<td>SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S. (1,1,1,3,3,3-hexafluoropropan-2-ol)</td>
<td>SOLIDS CONTAINING CORROSIVE LIQUID, N.O.S. (1,1,1,3,3,3-hexafluoropropan-2-ol)</td>
<td>Solids containing corrosive liquid, n.o.s. (1,1,1,3,3,3-hexafluoropropan-2-ol)</td>
</tr>
</tbody>
</table>

**Transport hazard class(es)**

**Packing group**

**Environmental hazards**

**Hazchem code** 2X  
**Special provisions** 218, 274

**Emergency schedules** F-A, S-B  
**IMDG Code Segregation group** 1 - Acids


**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.

**Date of issue/Date of revision** : 19/01/2018  
**Date of previous issue** : 22/02/2016.  
**Version** : 2
Section 14. Transport information

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons
Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances
No listed substance

International regulations

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

Montreal Protocol (Annexes A, B, C, E)
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

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan : Japan inventory (ENCS): All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.
Malaysia : All components are listed or exempted.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
Thailand : Not determined.
Turkey : Not determined.
United States : All components are listed or exempted.
Viet Nam : Not determined.

Section 16. Any other relevant information

History
Date of issue/Date of revision : 19/01/2018
Date of previous issue : 22/02/2016.
Version : 2
Section 16. Any other relevant information

Key to abbreviations:
- ADG = Australian Dangerous Goods
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- NOHSC = National Occupational Health and Safety Commission
- SUSMP = Standard Uniform Schedule of Medicine and Poisons
- UN = United Nations

Procedure used to derive the classification:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4, H302</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Corr. 1C, H314</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Dam. 1, H318</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Repr. 2, H361 (Fertility)</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Repr. 2, H361 (Unborn child)</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

References: Not available.

Notice to reader:

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