1. Identification of the material and supplier

Names
Product name: EPA Method 525 Test Mix 4 - Low Concentration, Part Number 8500-5937
Part No.: 8500-5937
ADG: Not regulated as Dangerous Goods according to the ADG Code

Supplier
Supplier/Manufacturer: Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number: CHEMTREC®: +(44)-870-8200418

Uses
Area of application: Industrial applications, Professional applications.
Material uses: Analytical reagent.
1 x 1 ml.

2. Hazards identification

Classification: F; R11
Xi; R36
R66, R67
N; R51/53

Risk phrases: R11- Highly flammable.
R36- Irritating to eyes.
R66- Repeated exposure may cause skin dryness or cracking.
R67- Vapours may cause drowsiness and dizziness.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases: S9- Keep container in a well-ventilated place.
S16- Keep away from sources of ignition - No smoking.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37- Wear suitable protective clothing and gloves.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

Statement of hazardous/dangerous nature: HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

Mixture: Yes.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>87-86-5</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Hexachlorocyclopentadiene</td>
<td>77-47-4</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

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.
4. First-aid measures

**Inhalation**: Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

**Ingestion**: Get medical attention immediately. 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. 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.

**Skin contact**: 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.

**Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.**

**Eye contact**: 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.

**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.

**Advice to doctor**: No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

**Extinguishing media**: Use dry chemical, CO₂, water spray (fog) or foam. Do not use water jet.

**Suitable**:

**Not suitable**:

**Special exposure hazards**: 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. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Highly flammable liquid. 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. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products**: Decomposition products may include the following materials: carbon dioxide, carbon monoxide.

**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.

6. Accidental release measures

**Personal precautions**: 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 spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
6. Accidental release measures

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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods for cleaning up: 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 of via a licensed waste disposal contractor.

7. Handling and storage

Handling: Put on appropriate personal protective equipment (see Section 8). 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. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: 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. Eliminate all ignition sources. Separate from oxidizing 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.

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>Safe Work Australia (Australia, 7/2012).</td>
</tr>
<tr>
<td></td>
<td>STEL: 2375 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 1000 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1185 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 500 ppm 8 hours.</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>NOHSC (Australia, 8/2005). Absorbed through skin.</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.5 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>Safe Work Australia (Australia, 7/2012). Absorbed</td>
</tr>
<tr>
<td></td>
<td>through skin.</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.5 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Hexachlorocyclopentadiene</td>
<td>Safe Work Australia (Australia, 7/2012).</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.11 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.01 ppm 8 hours.</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Exposure controls
8. Exposure controls/personal protection

**Engineering measures**: 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.

**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.

**Eyes**: 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 or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Hands**: 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.

**Respiratory**: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Skin**: 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.

**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.

9. Physical and chemical properties

**Physical state**: Liquid.

**Colour**: Not available.

**Odour**: Not available.

**Boiling point**: 56°C (132.8°F)

**Melting point**: -95°C (-139°F)

**Vapour pressure**: Not available.

**Flash point**: Closed cup: -18°C (-0.4°F)

**Flammable limits**: Lower: 2.2%
Upper: 13%

**Auto-ignition temperature**: Not available.

**Evaporation rate**: 6.06 (butyl acetate = 1)

**Solubility**: Easily soluble in the following materials: cold water, hot water and acetone.
10. Stability and reactivity

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: 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 vapor to accumulate in low or confined areas.
Materials to avoid: oxidizing materials
Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Potential acute health effects

Inhalation: Can cause central nervous system (CNS) depression. Vapours may cause drowsiness and dizziness.
Ingestion: Can cause central nervous system (CNS) depression.
Skin contact: Defatting to the skin. May cause skin dryness and irritation.
Eye contact: Irritating to eyes.

Product 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>Acetone</td>
<td>LD50</td>
<td>Oral</td>
<td>Rat</td>
<td>5800 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>105 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Oral</td>
<td>Rat</td>
<td>77.9 mg/kg</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>LD50</td>
<td>Oral</td>
<td>Inh Gas</td>
<td>1600 ppb 4 hours</td>
</tr>
<tr>
<td>Hexachlorocyclopentadiene</td>
<td>LC50</td>
<td>Inhalation Gas</td>
<td>Rat</td>
<td>430 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>200 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Oral</td>
<td>Rat</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary: Not available.

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 microliters</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>395 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 microliters</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 10 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Hexachlorocyclopentadiene</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>5 minutes 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 microliters</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>4 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Sensitiser

Conclusion/Summary: Not available.

Mutagenicity

Conclusion/Summary: Not available.
11. Toxicological information

**Teratogenicity**

**Conclusion/Summary:** Not available.

**Reproductive toxicity**

**Conclusion/Summary:** Not available.

**Skin**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Carcinogenic effects</th>
<th>Mutagenic effects</th>
<th>Developmental effects</th>
<th>Fertility effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentachlorophenol</td>
<td>Carc. Cat. 3; R40</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Chronic effects**

Adverse symptoms may include the following:
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness

**Over-exposure signs/symptoms**

- Inhalation: No specific data.
- Ingestion:
- Skin: Adverse symptoms may include the following:
  - irritation
  - dryness
  - cracking

**Eyes**

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

**Target organs**

Contains material which may cause damage to the following organs: blood, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

12. Ecological information

**Ecotoxicity**

This material is very toxic to aquatic life with long lasting effects.

**Aquatic ecotoxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>Acute EC50 20.565 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 6000000 μg/l Fresh water</td>
<td>Crustaceans - Gammarus pulex</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 10000 μg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 100 mg/l Fresh water</td>
<td>Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 4.95 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.016 ml/L Fresh water</td>
<td>Crustaceans - Daphniidae</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.1 ml/L Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>Acute EC50 20.3 ppb Marine water</td>
<td>Algae - Skeletonema costatum</td>
<td>4 days</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 610 μg/l Fresh water</td>
<td>Aquatic plants - Lemna minor - Exponential growth phase</td>
<td>4 days</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 0.016 mg/l Fresh water</td>
<td>Crustaceans - Cypris subglobosa</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 190 μg/l Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 38 μg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.01 mg/l Fresh water</td>
<td>Fish - Oncorhynchus clarkii ssp.</td>
<td>96 hours</td>
</tr>
</tbody>
</table>
12. Ecological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Log\text{P}\text{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>-0.23</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>5.12</td>
<td>457.09</td>
<td>low</td>
</tr>
<tr>
<td>Hexachlorocyclopentadiene</td>
<td>5.04</td>
<td>-</td>
<td>high</td>
</tr>
</tbody>
</table>

Other ecological information

Bioaccumulative potential

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

13. Disposal considerations

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. 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. Vapor 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.

14. Transport information

Regulatory information

ADG / IMDG / IATA: Not regulated as Dangerous Goods according to the ADG Code.

Additional information: Remarks
De minimis quantities

15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Control of Scheduled Carcinogenic Substances

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>No listed substance</td>
<td></td>
</tr>
</tbody>
</table>

Australia inventory (AICS): All components are listed or exempted.
16. Other information

Date of issue : 20/12/2013
Date of previous issue : 18/10/2011.

Indicates information that has changed from previously issued version.

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