SAFETY DATA SHEET
Atomic Emission Detector Sample Kit, Part Number 8500-5067

Section 1. Identification

Product identifier: Atomic Emission Detector Sample Kit, Part Number 8500-5067
Part no. (chemical kit): 8500-5067
Part no.: AED Test Mixture #1 8500-5068-1
AED Test Mixture #2 8500-5069-1

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

Material uses: Reagents and Standards for Analytical Chemistry Laboratory Use
AED Test Mixture #1 3 x 0.5 ml
AED Test Mixture #2 3 x 0.5 ml

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
AED Test Mixture #1
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

AED Test Mixture #2
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

AED Test Mixture #1 Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.3%
AED Test Mixture #2 Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.3%

GHS label elements

Date of issue/Date of revision: 30/04/2018
Date of previous issue: 14/09/2016
Version: 6
**Section 2. Hazard(s) identification**

**Hazard pictograms**
- AED Test Mixture #1
- AED Test Mixture #2

**Signal word**
- AED Test Mixture #1: DANGER
- AED Test Mixture #2: DANGER

**Hazard statements**
- **AED Test Mixture #1**
  - H225 - Highly flammable liquid and vapour.
  - H315 - Causes skin irritation.
  - H304 - May be fatal if swallowed and enters airways.
  - H336 - May cause drowsiness or dizziness.
  - H410 - Very toxic to aquatic life with long lasting effects.
- **AED Test Mixture #2**
  - H225 - Highly flammable liquid and vapour.
  - H315 - Causes skin irritation.
  - H304 - May be fatal if swallowed and enters airways.
  - H336 - May cause drowsiness or dizziness.
  - H410 - Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention**
- **AED Test Mixture #1**
  - P280 - Wear protective gloves. Wear eye or face protection.
  - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
  - P242 - Use only non-sparking tools.
  - P243 - Take precautionary measures against static discharge.
  - P233 - Keep container tightly closed.
  - P271 - Use only outdoors or in a well-ventilated area.
  - P273 - Avoid release to the environment.
  - P261 - Avoid breathing vapour.
  - P264 - Wash hands thoroughly after handling.
- **AED Test Mixture #2**
  - P280 - Wear protective gloves. Wear eye or face protection.
  - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
  - P242 - Use only non-sparking tools.
  - P243 - Take precautionary measures against static discharge.
  - P233 - Keep container tightly closed.
  - P271 - Use only outdoors or in a well-ventilated area.
  - P273 - Avoid release to the environment.
  - P261 - Avoid breathing vapour.
  - P264 - Wash hands thoroughly after handling.

**Response**
- **AED Test Mixture #1**
  - P391 - Collect spillage.
  - P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
  - P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
  - P303 + P361 + P353 - IF ON SKIN (or hair): Take off...

**Date of issue/Date of revision**: 30/04/2018
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2/17
Section 2. Hazard(s) identification

immediately all contaminated clothing. Rinse skin with water or shower.  
P302 + P352 + P362 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.  
P332 + P313 - If skin irritation occurs: Get medical attention.  

AED Test Mixture #2  
P391 - Collect spillage.  
P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.  
P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P302 + P352 + P362 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.  
P332 + P313 - If skin irritation occurs: Get medical attention.  

Storage  
AED Test Mixture #1  
P405 - Store locked up.  
P403 - Store in a well-ventilated place.  
P235 - Keep cool.  
AED Test Mixture #2  
P405 - Store locked up.  
P403 - Store in a well-ventilated place.  
P235 - Keep cool.  

Disposal  
AED Test Mixture #1  
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.  
AED Test Mixture #2  
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.  

Supplemental label elements  
Additional warning phrases  
AED Test Mixture #1  
Not applicable.  
AED Test Mixture #2  
Not applicable.  

Other hazards which do not result in classification  
AED Test Mixture #1  
None known.  
AED Test Mixture #2  
None known.  

Section 3. Composition and ingredient information  

Substance/mixture  
AED Test Mixture #1  
Mixture  
AED Test Mixture #2  
Mixture  

CAS number/other identifiers  

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AED Test Mixture #1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>≥90</td>
<td>540-84-1</td>
</tr>
<tr>
<td>Octane</td>
<td>≤5</td>
<td>111-65-9</td>
</tr>
<tr>
<td><strong>AED Test Mixture #2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>≥90</td>
<td>540-84-1</td>
</tr>
<tr>
<td>Octane</td>
<td>≤5</td>
<td>111-65-9</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

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>AED Test Mixture #1</th>
<th>AED Test Mixture #2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>AED Test Mixture #1</td>
<td>AED Test Mixture #2</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>AED Test Mixture #1</td>
<td>AED Test Mixture #2</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>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.</td>
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<tr>
<td>Ingestion</td>
<td>AED Test Mixture #1</td>
<td>AED Test Mixture #2</td>
</tr>
<tr>
<td></td>
<td>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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. 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</td>
<td>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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. 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</td>
</tr>
</tbody>
</table>
Section 4. First aid measures

AED Test Mixture #2

Clothing such as a collar, tie, belt or waistband. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

| Eye contact | AED Test Mixture #1 | No known significant effects or critical hazards. |
|            | AED Test Mixture #2 | No known significant effects or critical hazards. |
| Inhalation | AED Test Mixture #1 | Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
|            | AED Test Mixture #2 | Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
| Skin contact | AED Test Mixture #1 | Causes skin irritation. |
|             | AED Test Mixture #2 | Causes skin irritation. |
| Ingestion | AED Test Mixture #1 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. |
|            | AED Test Mixture #2 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. |

Over-exposure signs/symptoms

| Eye contact | AED Test Mixture #1 | Adverse symptoms may include the following: pain or irritation watering redness |
|            | AED Test Mixture #2 | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | AED Test Mixture #1 | Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness |
|            | AED Test Mixture #2 | Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness |
| Skin contact | AED Test Mixture #1 | Adverse symptoms may include the following: irritation redness |
|             | AED Test Mixture #2 | Adverse symptoms may include the following: irritation redness |
Section 4. First aid measures

Ingestion

| AED Test Mixture #1 | Adverse symptoms may include the following: nausea or vomiting |
| AED Test Mixture #2 | Adverse symptoms may include the following: nausea or vomiting |

Protection of first-aiders

| AED Test Mixture #1 | 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. |
| AED Test Mixture #2 | 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. |

Notes to physician

| AED Test Mixture #1 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| AED Test Mixture #2 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |

Specific treatments

| AED Test Mixture #1 | No specific treatment. |
| AED Test Mixture #2 | No specific treatment. |

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

Specific hazards arising from the chemical

| AED Test Mixture #1 | 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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| AED Test Mixture #2 | 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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |

Suitable extinguishing media

| AED Test Mixture #1 | Use dry chemical, CO₂, water spray (fog) or foam. |
| AED Test Mixture #2 | Use dry chemical, CO₂, water spray (fog) or foam. |

Unsuitable extinguishing media

| AED Test Mixture #1 | Do not use water jet. |
| AED Test Mixture #2 | Do not use water jet. |

Section 5. Firefighting measures

Extinguishing media

Specific hazards arising from the chemical

| AED Test Mixture #1 | 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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| AED Test Mixture #2 | 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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
Section 5. Firefighting measures

Hazardous thermal decomposition products

- **AED Test Mixture #1**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide

- **AED Test Mixture #2**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide

Special protective actions for fire-fighters

- **AED Test Mixture #1**: 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.

- **AED Test Mixture #2**: 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.

Special protective equipment for fire-fighters

- **AED Test Mixture #1**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- **AED Test Mixture #2**: 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

- **AED Test Mixture #1**: 3YE
- **AED Test Mixture #2**: 3YE

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- **AED Test Mixture #1**: 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.

- **AED Test Mixture #2**: 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.
Section 6. Accidental release measures

For emergency responders : AED Test Mixture #1
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".

AED Test Mixture #2
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 : AED Test Mixture #1
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.

AED Test Mixture #2
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.

Methods and material for containment and cleaning up

Methods for cleaning up : AED Test Mixture #1
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.

AED Test Mixture #2
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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : AED Test Mixture #1
Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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 only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

AED Test Mixture #2
Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with
eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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 only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**

**AED Test Mixture #1**

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.

**AED Test Mixture #2**

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**

**AED Test Mixture #1**

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 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. See Section 10 for incompatible materials before handling or use.

**AED Test Mixture #2**

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 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. 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>AED Test Mixture #1</td>
<td>ACGIH TLV (United States, 3/2017). TWA: 300 ppm 8 hours.</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>Safe Work Australia (Australia, 1/2014). STEL: 1750 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td>Octane</td>
<td>STEL: 375 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1400 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 300 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 3/2017). TWA: 300 ppm 8 hours.</td>
</tr>
<tr>
<td>AED Test Mixture #2</td>
<td>Safe Work Australia (Australia, 1/2014). STEL: 1750 mg/m³ 15 minutes.</td>
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<td></td>
<td>TWA: 300 ppm 8 hours.</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

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.

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.

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.
Section 8. Exposure controls and personal protection

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: AED Test Mixture #1 Liquid.
AED Test Mixture #2 Liquid.

Colour: AED Test Mixture #1 Clear. Colourless.
AED Test Mixture #2 Clear. Colourless.

Odour: AED Test Mixture #1 Gasoline-like
AED Test Mixture #2 Gasoline-like

Odour threshold: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.

pH: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.

Melting point: AED Test Mixture #1 -107°C (-160.6°F)
AED Test Mixture #2 -107°C (-160.6°F)

Boiling point: AED Test Mixture #1 99.2°C (210.6°F)
AED Test Mixture #2 99.2°C (210.6°F)

Flash point: AED Test Mixture #1 Open cup: 4.5°C (40.1°F)
AED Test Mixture #2 Open cup: 4.5°C (40.1°F)

Evaporation rate: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.

Flammability (solid, gas): AED Test Mixture #1 Not applicable.
AED Test Mixture #2 Not applicable.

Lower and upper explosive (flammable) limits: AED Test Mixture #1 Lower: 1.1%
Upper: 6%
AED Test Mixture #2 Lower: 1.1%
Upper: 6%

Vapour pressure: AED Test Mixture #1 5.5 kPa (41 mm Hg) [room temperature]
AED Test Mixture #2 5.5 kPa (41 mm Hg) [room temperature]

Vapour density: AED Test Mixture #1 3.93 [Air = 1]
AED Test Mixture #2 3.93 [Air = 1]

Relative density: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.

Solubility: AED Test Mixture #1 Insoluble in the following materials: cold water and hot water.
AED Test Mixture #2 Insoluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.

Auto-ignition temperature: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.

Decomposition temperature: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.

Viscosity: AED Test Mixture #1 Not available.
AED Test Mixture #2 Not available.
Section 10. Stability and reactivity

Reactivity

AED Test Mixture #1
No specific test data related to reactivity available for this product or its ingredients.

AED Test Mixture #2
No specific test data related to reactivity available for this product or its ingredients.

Chemical stability

AED Test Mixture #1
The product is stable.

AED Test Mixture #2
The product is stable.

Possibility of hazardous reactions

AED Test Mixture #1
Under normal conditions of storage and use, hazardous reactions will not occur.

AED Test Mixture #2
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

AED Test Mixture #1
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.

AED Test Mixture #2
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.

Incompatible materials

AED Test Mixture #1
Reactive or incompatible with the following materials: oxidizing materials

AED Test Mixture #2
Reactive or incompatible with the following materials: oxidizing materials

Hazardous decomposition products

AED Test Mixture #1
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

AED Test Mixture #2
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>2,2,4-trimethylpentane</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></td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Octane</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>118 g/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>25260 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</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></td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Octane</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>118 g/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>25260 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

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Section 11. Toxicological information

Not available.

Sensitisation
Not available.

Carcinogenicity
Conclusion/Summary: Not available.

Mutagenicity
Conclusion/Summary: Not available.

Reproductive toxicity
Conclusion/Summary: Not available.

Mutagenicity
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>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AED Test Mixture #1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>Octane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>AED Test Mixture #2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>Octane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>AED Test Mixture #1</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Octane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>AED Test Mixture #2</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>Octane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Routes of entry anticipated: Oral, Dermal, Inhalation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AED Test Mixture #1</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
<tr>
<td>AED Test Mixture #2</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
</tbody>
</table>

Potential acute health effects

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>AED Test Mixture #1</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>AED Test Mixture #1</td>
<td>Can cause central nervous system (CNS) depression.</td>
</tr>
<tr>
<td></td>
<td>AED Test Mixture #2</td>
<td>Can cause central nervous system (CNS) depression.</td>
</tr>
<tr>
<td></td>
<td>AED Test Mixture #2</td>
<td>Can cause central nervous system (CNS) depression.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>AED Test Mixture #1</th>
<th>Causes skin irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AED Test Mixture #2</td>
<td>Causes skin irritation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>AED Test Mixture #1</th>
<th>Can cause central nervous system (CNS) depression.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AED Test Mixture #2</td>
<td>Can cause central nervous system (CNS) depression.</td>
</tr>
<tr>
<td></td>
<td>AED Test Mixture #2</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

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Section 11. Toxicological information

**Eye contact**
- AED Test Mixture #1: Adverse symptoms may include the following:
  - pain or irritation
  - watering
  - redness
- AED Test Mixture #2: Adverse symptoms may include the following:
  - pain or irritation
  - watering
  - redness

**Inhalation**
- AED Test Mixture #1: Adverse symptoms may include the following:
  - nausea or vomiting
  - headache
  - drowsiness/fatigue
  - dizziness/vertigo
  - unconsciousness
- AED Test Mixture #2: Adverse symptoms may include the following:
  - nausea or vomiting
  - headache
  - drowsiness/fatigue
  - dizziness/vertigo
  - unconsciousness

**Skin contact**
- AED Test Mixture #1: Adverse symptoms may include the following:
  - irritation
  - redness
- AED Test Mixture #2: Adverse symptoms may include the following:
  - irritation
  - redness

**Ingestion**
- AED Test Mixture #1: Adverse symptoms may include the following:
  - nausea or vomiting
- AED Test Mixture #2: Adverse symptoms may include the following:
  - nausea or vomiting

**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: AED Test Mixture #1: No known significant effects or critical hazards.
  AED Test Mixture #2: No known significant effects or critical hazards.
- Carcinogenicity: AED Test Mixture #1: No known significant effects or critical hazards.
  AED Test Mixture #2: No known significant effects or critical hazards.
- Mutagenicity: AED Test Mixture #1: No known significant effects or critical hazards.
  AED Test Mixture #2: No known significant effects or critical hazards.
- Teratogenicity: AED Test Mixture #1: No known significant effects or critical hazards.
  AED Test Mixture #2: No known significant effects or critical hazards.
- Developmental effects: AED Test Mixture #1: No known significant effects or critical hazards.
  AED Test Mixture #2: No known significant effects or critical hazards.
- Fertility effects: AED Test Mixture #1: No known significant effects or critical hazards.
  AED Test Mixture #2: No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**
Section 11. Toxicological information

Not available.

Other information:
- AED Test Mixture #1
  - Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.
- AED Test Mixture #2
  - Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.

Section 12. Ecological information

### Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>AED Test Mixture #1</td>
<td>Acute LC50 0.11 mg/l Fresh water</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AED Test Mixture #2</td>
<td>Acute LC50 0.11 mg/l Fresh water</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>AED Test Mixture #1</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Octane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AED Test Mixture #2</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Octane</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Bioaccumulative potential

<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>AED Test Mixture #1</td>
<td>4.08, 5.18</td>
<td>231</td>
<td>231</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td></td>
<td>198.7</td>
<td></td>
</tr>
<tr>
<td>Octane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AED Test Mixture #2</td>
<td>4.08, 5.18</td>
<td>231</td>
<td>231</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td></td>
<td>198.7</td>
<td></td>
</tr>
<tr>
<td>Octane</td>
<td></td>
<td></td>
<td></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
Section 13. Disposal considerations

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

ADG / IMDG / IATA
Additional information
Remarks: De minimis quantities

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.

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
6

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: Not determined.
Canada: Not determined.
China: Not determined.
Europe: Not determined.
Japan:
  Japan inventory (ENCS): Not determined.
  Japan inventory (ISHL): Not determined.
Malaysia: Not determined.
New Zealand: Not determined.
Philippines: Not determined.
Republic of Korea: Not determined.
Taiwan: Not determined.
Thailand: Not determined.
Turkey: Not determined.
United States: Not determined.
Viet Nam: Not determined.

Date of issue/Date of revision: 30/04/2018
Date of previous issue: 14/09/2016
Version: 6
## Section 16. Any other relevant information

### History

| Date of issue/Date of revision | 30/04/2018 |
| Date of previous issue         | 14/09/2016 |
| Version                        | 6          |

### 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><strong>AED Test Mixture #1</strong></td>
<td></td>
</tr>
<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><strong>AED Test Mixture #2</strong></td>
<td></td>
</tr>
<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>
</tbody>
</table>

### References

- Not available.

- Indicates information that has changed from previously issued version.

### Notice to reader

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