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

- **1.1 Product identifier**
  - **Product name:** Aluminum Standard: 1000 µg/g Al in 75 cSt Hydrocarbon Oil [50g bottle]
  - **Part number:** 5190-8731

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture**
  - Reference material for laboratory use only

- **Manufacturer/Supplier:**
  - Agilent Technologies Manufacturing GmbH & Co. KG
  - Hewlett-Packard-Str. 8
  - 76337 Waldbronn
  - Germany

- **Further information obtainable from:** e-mail: pdl-msds_author@agilent.com

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

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**
    - GHS08 health hazard
    - Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  - Xn; Harmful
  - R65: Harmful: may cause lung damage if swallowed.

- **Information concerning particular hazards for human and environment:**
  - The product has to be labelled due to the calculation procedure of the “General Classification guideline for preparations of the EU” in the latest valid version.

- **Classification system:**
  - The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **2.2 Label elements**
  - **Labelling according to Regulation (EC) No 1272/2008**
    - The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**
  - GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**
  - White mineral oil

- **Hazard statements**
  - H304 May be fatal if swallowed and enters airways.

- **Precautionary statements**
  - P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
  - P331 Do NOT induce vomiting.
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
Product name: Aluminum Standard: 1000 µg/g Al in 75 cSt Hydrocarbon Oil [50g bottle]

(SECTION 3: Composition/information on ingredients)

- 3.2 Chemical characterisation: Mixtures
  - Description: Also contains substances at levels not considered to be hazardous.

- Dangerous components:
  - CAS: 8042-47-5
  - EINECS: 232-455-8
  - RTECS: PY8047000
  - White mineral oil
  - Xn R65
  - Asp. Tox. 1, H304
  - > 95%

- Additional information: For the wording of the listed risk phrases refer to section 16.

(SECTION 4: First aid measures)

- 4.1 Description of first aid measures
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: Rinse mouth. Do not induce vomiting. Seek immediate medical advice.

- 4.2 Most important symptoms and effects, both acute and delayed
  - No further relevant information available.

- 4.3 Indication of any immediate medical attention and special treatment needed
  - No further relevant information available.

(SECTION 5: Firefighting measures)

- 5.1 Extinguishing media
  - Suitable extinguishing agents: Use fire extinguishing methods suitable for surrounding conditions.

- 5.2 Special hazards arising from the substance or mixture
  - Formation of toxic gases is possible during heating or in case of fire.

- 5.3 Advice for firefighters
  - Protective equipment: Wear self-contained respiratory protective device.

(SECTION 6: Accidental release measures)

- 6.1 Personal precautions, protective equipment and emergency procedures
  - Wear protective clothing.

- 6.2 Environmental precautions:
  - Dilute with plenty of water.
  - Do not allow to enter sewers/surface or ground water.

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

- 6.4 Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.


SECTION 7: Handling and storage

- 7.1 Precautions for safe handling
  Ensure good ventilation/extraction at the workplace.
  Store in cool, dry place in tightly closed receptacles.
  Prevent formation of aerosols.
- Information about fire - and explosion protection: No special measures required.
- 7.2 Conditions for safe storage, including any incompatibilities
  - Storage:
  - Requirements to be met by storerooms and receptacles:
    Store in a cool location.
    Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
    Store only in the original receptacle.
    Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
  - Information about storage in one common storage facility: Store away from foodstuffs.
  - Further information about storage conditions: None.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 8.1 Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - Additional information: Lists used were valid at the time of SDS preparation.
- 8.2 Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      Keep away from foodstuffs, beverages and feed.
      Wash hands before breaks and at the end of work.
    - Respiratory protection:
      In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
      Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
    - Protection of hands:
      Chemical-resistant, impervious gloves with an approved standards should be worn at all times.
      The selection of the glove material is based on the penetration times, rates of diffusion and its degradation

Protective gloves

- Material of gloves
  Nitrile rubber, NBR
  Natural rubber, NR
- Penetration time of glove material
  The protection time of the gloves can not be accurately estimated for mixtures consisting of several substances
Safety data sheet
according to 1907/2006/EC, Article 31

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(Contd. from page 3)
· Eye protection: Safety glasses

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
  · General Information
    - Appearance:
      Form: Oily
      Colour: Light brown
    - Odour:
      Mineral-oil-like
    - Odour threshold:
      Not determined.
  · pH-value:
    Not determined.
  · Change in condition
    Melting point/Melting range:
    Not determined.
    Boiling point/Boiling range:
    218 °C
  · Flash point:
    115 °C
  · Flammability (solid, gaseous):
    Not determined.
  · Ignition temperature:
    Decomposition temperature:
    Not determined.
  · Self-igniting:
    Product is not selfigniting.
  · Danger of explosion:
    Not determined.
  · Explosion limits:
    Lower:
    Upper:
    Not determined.
  · Vapour pressure:
    Not determined.
  · Density at 20 °C:
    0.862 g/cm³
  · Relative density
    Not determined.
  · Vapour density
    Not determined.
  · Evaporation rate
    Not determined.
  · Solubility in / Miscibility with
    water:
    Not miscible or difficult to mix.
  · Partition coefficient (n-octanol/water):
    Not determined.
  · Viscosity:
    Dynamic:
    Not determined.
    Kinematic:
    Not determined.
- 9.2 Other information
  No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity
  Stable under normal conditions.
- 10.2 Chemical stability
  Stable under normal conditions.
- Thermal decomposition / conditions to be avoided:
  Formation of toxic gases is possible during heating or in case of fire.
- 10.3 Possibility of hazardous reactions
  No dangerous reactions known.
- 10.4 Conditions to avoid
  Heat.
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

- LD/LC50 values relevant for classification:

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>8042-47-5</td>
<td>White mineral oil</td>
</tr>
<tr>
<td>Oral</td>
<td>LD50 &gt; 5000 mg/kg (rat)</td>
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</tbody>
</table>

Primary irritant effect:
- on the skin: No irritating effect.
- on the eye: No irritating effect.
- Sensitisation: No sensitising effects known.

Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

SECTION 12: Ecological information

12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
- Recommendation
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- European waste catalogue
  Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

14.6 Uncleaned packaging:
- Recommendation: Dispose of in accordance with national regulations.
- Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

14.1 UN-Number
- ADR, ADN, IMDG, IATA Not applicable

(Contd. on page 6)
Product name: Aluminum Standard: 1000 µg/g Al in 75 cSt Hydrocarbon Oil [50g bottle]

<table>
<thead>
<tr>
<th>· ADR, ADN, IMDG, IATA</th>
<th>Not applicable</th>
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<tbody>
<tr>
<td>· 14.3 Transport hazard class(es)</td>
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<td>· ADR, ADN, IMDG, IATA</td>
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<tr>
<td>· Class</td>
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<tr>
<td>· 14.4 Packing group</td>
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<td>· IMDG, IATA</td>
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<tr>
<td>· 14.5 Environmental hazards:</td>
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<tr>
<td>· Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>· 14.6 Special precautions for user</td>
<td>Not applicable</td>
</tr>
<tr>
<td>· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable</td>
</tr>
<tr>
<td>· UN &quot;Model Regulation&quot;:</td>
<td>-</td>
</tr>
</tbody>
</table>

**SECTION 15: Regulatory information**

| · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture |
| · Philippines Inventory of Chemicals and Chemical Substances |
| All ingredients are listed. |
| · Australian Inventory of Chemical Substances |
| All ingredients are listed. |
| · Standard for the Uniform Scheduling of Medicines and Poisons |
| None of the ingredients is listed. |
| · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out. |

**SECTION 16: Other information**

The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- **Relevant phrases**
  - H304 May be fatal if swallowed and enters airways.
  - R65 Harmful: may cause lung damage if swallowed.

- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - Asp. Tox. 1: Aspiration hazard, Hazard Category 1

- **Sources**