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

Identification of the substance or mixture

Product code 31985062
Product name Opti-MEM® I Reduced-Serum Medium

Company/undertaking identification

Life Technologies Corporation
5781 Van Allen Way
PO Box 6482
Carlsbad, CA 92008
+1 760 603 7200

Life Technologies Korea
11&12 FL, Suseo Office Building
281 Gwangpyeong-ro, Gangnam-gu
Seoul, 135-884, Korea
T 82.2.2023.0600

Guangzhou Office
Room1010-1015 South Tower
Guangzhou World Trade Center Complex
371-375 HuanShi Dong Rd
Yuexiu District
Guangzhou 510095, China
Tel: +86-020-8760 9229
Hotline: 800 830 2001
Fax: +86-020-8775 0687

Life Technologies Co. Ltd
8F., No. 123, Sec. 2, Zhongxiao E. Rd.
Zhongzheng District, Taipei City 10058 Taiwan
Tel: +886-2-2358 2838
Fax: +886-2-2358 2839

Life Technologies New Zealand Limited
18 - 24 Botha Road
Penrose
Auckland 1061
NEW ZEALAND
+64 9 579 3024
0800 636 327

Life Technologies Australia Pty Limited
5 Caribbean Drive
Scoresby VIC 3179
AUSTRALIA
+61 3 9262 3700
1800 636 327

Room 1711 Beijing Silver Tower
#2 DongSanHuan North Rd,
ChaoYang District,
Beijing, China 100027
Tel: +86-010-8446 1800
Fax: +86-010-6410 6617

24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC
Within the USA + Canada: 1-800-424-9300 and +1 703-527-3887
Outside the USA + Canada: +1 703-741-5970

Country specific Emergency Number (if available):
For in vitro diagnostic use.

### SECTION 2: Hazards identification

**Australian SDS Statement**

Classified as non-hazardous according to the criteria of Worksafe Australia.

#### GHS - Classification

**Health hazards**
Not Hazardous

**Physical hazards**
Not Hazardous

**Environmental Hazards**
Not Hazardous

#### Label elements

**Signal word**
None

**Hazard pictograms**
None

#### Hazard Statements

Not Applicable

#### Precautionary Statements

**Prevention**
Not Applicable

**Response**
Not Applicable

**Storage**
Not Applicable
**Disposal**
Not Applicable

**Other hazards**
Not applicable

### SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>EINECS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>7803-55-6</td>
<td>-</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>10102-18-8</td>
<td>-</td>
<td>&lt;0.00011</td>
</tr>
</tbody>
</table>

The product contains no substances which at their given concentration, are considered to be hazardous to health.

### SECTION 4: First aid measures

**Description of first aid measures**

**Skin contact**
Rinse with plenty of water. Immediate medical attention is not required.

**Eye contact**
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

**INGESTION**
Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

**Inhalation**
Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.

**Notes to Physician**
Treat symptomatically.

**Most important symptoms and effects, both acute and delayed**
Not Applicable

**Indication of any immediate medical attention and special treatment needed**
None.

### SECTION 5: Firefighting measures

**Extinguishing media**

**Suitable Extinguishing Media**

**Unsuitable Extinguishing Media**
No information available.

**Special hazards arising from the substance or mixture**
Not known.

**Advice for fire-fighters**
Standard procedure for chemical fires.
SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.

Environmental precautions
No special environmental precautions required.

Methods and material for containment and cleaning up
Soak up with inert absorbent material.

Reference to other sections
See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling
Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities
Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.

Specific end use(s)
For in vitro diagnostic use.

SECTION 8: Exposure controls/personal protection

Control parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Australia STEL</th>
<th>Australia</th>
<th>Australia - Skin Absorbers</th>
<th>Australia - OES - Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate 7803-55-6</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Sodium selenite 10102-18-8</td>
<td>None</td>
<td>0.1 mg/m³</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Zealand - Workplace Exposure Limits</th>
<th>New Zealand TWA</th>
<th>New Zealand STEL</th>
<th>New Zealand Ceiling Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium selenite 10102-18-8</td>
<td></td>
<td>0.1 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>China OEL (MAC)</th>
<th>China - Skin Absorbers</th>
<th>Hong Kong OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate 7803-55-6</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Sodium selenite 10102-18-8</td>
<td>STEL: 0.3 mg/m³</td>
<td>None</td>
<td>TWA: 0.2 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Korea OEL (CEILING)</th>
<th>Korea OEL (TWA)</th>
<th>Korea OEL (STEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate 7803-55-6</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Sodium selenite 10102-18-8</td>
<td>None</td>
<td>0.2 mg/m³</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Taiwan OEL - TWA</th>
<th>Taiwan OEL (Skin notations, Carcinogens)</th>
<th>Taiwan OEL (STELs)</th>
<th>Taiwan OEL (Ceilings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate 7803-55-6</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Sodium selenite 10102-18-8</td>
<td>0.2 mg/m³</td>
<td>0.8 mg/m³ STEL (as Se)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Singapore OEL (PEL)</td>
<td>Singapore OEL (STEL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium metavanadate</td>
<td>None</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7803-55-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>0.2 mg/m³</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10102-18-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Engineering measures**

Ensure adequate ventilation, especially in confined areas

**Exposure controls**

**Personal protective equipment**

**Respiratory protection**

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

**Hand Protection**

Wear suitable gloves Glove material: Compatible chemical-resistant gloves.

**Eye protection**

Tight sealing safety goggles

**Skin and body protection**

Wear suitable protective clothing

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice

**Environmental exposure controls**

No special environmental precautions required.

**SECTION 9: Physical and chemical properties**

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Melting point / melting range</strong></td>
<td>°C Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Boiling point / boiling range</strong></td>
<td>°C Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>°C Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>°C Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>°C Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Upper explosion limit</strong></td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Lower explosion limit</strong></td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Vapour Pressure</strong></td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td><strong>Specific gravity</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Partition coefficient:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>n-octanol/water</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>Mixture has not been tested</td>
</tr>
</tbody>
</table>

**OTHER INFORMATION**

No data available
SECTION 10: Stability and reactivity

Reactivity
None known.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
Hazardous reaction has not been reported.

Conditions to Avoid
No information available.

Incompatible Materials
No dangerous reaction known under conditions of normal use.

Hazardous decomposition products
No data available.

SECTION 11: Toxicological information

Information on toxicological effects

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 (oral, rat/mouse)</th>
<th>LD50 (dermal, rat/rabbit)</th>
<th>LC50 (inhalation, rat/mouse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>= 58100 µg/kg (Rat) = 58.1 mg/kg (Rat)</td>
<td>2102 mg/kg (Rat)</td>
<td>= 7800 µg/m³ (Rat)</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>= 7 mg/kg (Rat)</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Principal Routes of Exposure Potential health effects

- **Irritation**: Conclusive but not sufficient for classification
- **Corrosivity**: Conclusive but not sufficient for classification
- **Sensitisation**: Conclusive but not sufficient for classification
- **STOT - Single Exposure**: Conclusive but not sufficient for classification
- **STOT - Repeated Exposure**: Conclusive but not sufficient for classification
- **Carcinogenicity**: Conclusive but not sufficient for classification
- **Mutagenicity**: Conclusive but not sufficient for classification
- **Reproductive toxicity**: Conclusive but not sufficient for classification
- **Aspiration hazard**: Conclusive but not sufficient for classification
SECTION 12: Ecological information

Toxicity
The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Freshwater Algae Data</th>
<th>Water Flea Data</th>
<th>Freshwater Fish Species Data</th>
<th>Microtox Data</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Persistence and degradability  No information available.
Bioaccumulative potential  No information available.
Results of PBT and vPvB assessment  No information available.
Other adverse effects  No information available.

SECTION 13: Disposal considerations

Waste treatment methods
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG
Not classified as dangerous in the meaning of transport regulations.

UN Number  Not Applicable
UN proper shipping name  Not applicable
Transport hazard class(es)  Not Applicable
Packing group  Not applicable
Environmental Hazards  Not applicable
Special precautions for user  Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  Not applicable.
### SECTION 15: Regulatory information

#### International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>US TSCA</th>
<th>Canada (DSL)</th>
<th>NDSL</th>
<th>PICCS (Philippines)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>Listed</td>
<td>Listed</td>
<td>-</td>
<td>Listed</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>Listed</td>
<td>Listed</td>
<td>-</td>
<td>Listed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ENCS (Japan)</th>
<th>IECSC - China Inventory of Existing Chemical Substances</th>
<th>South Korea (KECL)</th>
<th>AICS (Australia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>Listed</td>
<td>Listed</td>
<td>Listed</td>
<td>Listed</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>Listed</td>
<td>Listed</td>
<td>Listed</td>
<td>Listed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>NZIoC - New Zealand Inventory of Chemicals</th>
<th>EINECS (European Union)</th>
<th>ELINCS (European List of Notified Chemical Substances)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>Listed</td>
<td>Listed</td>
<td>-</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>Listed</td>
<td>Listed</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Korea

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Industrial Safety and Health Act (ISHA)</th>
<th>Chemicals Control Act (CCA)</th>
<th>Wastes Control Act</th>
<th>National Emergency Management Agency (NEMA) - Dangerous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>1 % (as Se)</td>
<td>1</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

#### Singapore

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Singapore - Poisons List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

#### Taiwan

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxic Chemical Substances Control Act - Classification and Control Levels</th>
<th>Toxic Chemical Substances Control Act - Threshold Regulated Quantities</th>
<th>Hazard Prevention Standard for Specified Chemical Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

#### China

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium metavanadate</td>
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<td>Present</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Sodium selenite</td>
<td>Present</td>
<td>Present</td>
<td>Not Listed</td>
<td>Not Listed</td>
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</tbody>
</table>

### SECTION 16: Other information
Reason for revision  SDS sections updated.
Revision number  11
Revision date  02-Jun-2017

For in vitro diagnostic use.

References
• ECHA: http://echa.europa.eu/
• TOXNET: http://toxnet.nlm.nih.gov/
• eChemPortal: http://www.echemportal.org/
• LOLI database: https://www.chemadvisor.com/loli-database

“The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.”

End of Safety Data Sheet