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

1.1 Product identifier
   Product Name: KSHV/HHV-8 IgG Antibody ELISA Kit
   Catalog Number: 15-501-000

1.2 Relevant identified uses of the substance or mixture and uses advised against
   SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
   Manufacturing Supplier: Advanced Biotechnologies, Inc
   1545 Progress Way
   Eldersburg, MD  21784
   Telephone: (410) 792-9779

1.4 Emergency telephone number
   24 Hour Emergency Number: ChemTel, Inc  1-800-255-3924

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification according to Regulation (EC) No 1272/2008
   This product is classified as hazardous according to the Regulation (EC) No 1272/2008 and subsequent amendments.
   This product is classified as hazardous according to the Globally Harmonized System (GHS).
   This product is classified as hazardous according to OSHA GHS regulations within the U.S.
   Skin Irritant (Category 2)
   Eye Irritant (Category 2A)

2.2 Label elements
   Labelling according to Regulation (EC) No 1272/2008
   Hazard-determining component of labelling: Stop Solution - 1N Sulfuric Acid (0.5M)

   Hazard Pictograms
   Signal Word: Warning
   Hazard statements
   P264: Wash hands, forearms, and other exposed areas thoroughly after handling.
   P280: Wear protective gloves.
   P302+P352: IF ON SKIN: Wash with plenty of soap and water.
   P321: Specific treatment (See Section 4)
   P332+P313: If skin irritation occurs: Get medical advice/attention.
   P362: Take off contaminated clothing and wash before reuse.
   P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
   P337+P313: If eye irritation persists: Get medical advice/attention.

2.3 Other hazards
   Hazards Not Otherwise Classified (HNOC) or covered by GHS
   There are no other hazards not otherwise classified that have been identified. The human plasma controls in this kit have been tested as negative for HBsAg, HIV-1 antigen, and for antibodies to HIV-1, HIV-2 and HCV. However, no test system can ensure the absence of viral antigens. Therefore, handle all human plasma components as potentially biohazardous. Use proper personal protective equipment, appropriate biosafety level laboratory according to the Biosafety in Microbiological and Biomedical Laboratories manual. The local, regional, national and international regulations should be observed when disposing these components.
Results of PBT and vPvB assessment

**PBT** Not applicable

**vPvB** Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Only ingredient present at a concentration considered hazardous is sulfuric acid (1-3%). For thimerosal (0.01%-0.2%), the hazard classification criteria are not met based on the ATE data. ATE > 2000 mg/kg. For all other chemicals, there are no known health hazards present in concentrations ≥ 1% and there are no known carcinogens present in concentrations ≥ 0.1%.

<table>
<thead>
<tr>
<th>Components with Classification</th>
<th>Present in Component</th>
<th>Concentration/Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 7664-93-9</td>
<td>1N Sulfuric Acid (0.5M) Synonyms: Sulphuric Acid</td>
<td>Stop Solution</td>
</tr>
<tr>
<td>CAS: 54-64-8</td>
<td>Thimerosal</td>
<td>20X Wash Buffer</td>
</tr>
<tr>
<td>EC: 200-210-4</td>
<td></td>
<td>4X Specimen Diluent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conjugate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive Control Plasma</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative Control Plasma</td>
</tr>
</tbody>
</table>

#### Additional Kit Components

| CAS: 9005-64-5                 | Sorbitan monolaurate, ethoxylated Synonyms: Tween 20 |
| EC: 500-018-3                  |                                                      |
| CAS: 10049-21-5                | Dipotassium hydrogenorthophosphate Synonyms: Sodium Phosphate, Monobasic |
| EC: 231-834-5                  |                                                      |
| CAS: 7758-11-4                 | Dipotassium hydrogenorthophosphate Synonyms: Potassium Phosphate, Dibasic |
| EC: 231-834-5                  |                                                      |
| CAS: 54827-17-7                | 3,3’,5,5’-Tetramethylbenzidine (TMB)                  |
| EC: 259-364-6                  |                                                      |
| CAS: 7558-79-4                 | Sodium Phosphate, Dibasic Synonyms: Disodium hydrogenorthophosphosphate |
| EC: 231-448-7                  |                                                      |
| CAS: 7778-77-0                 | Potassium Phosphate, Monobasic Synonyms: Potassium dihydrogenorthophosphosphate |
| EC: 231-913-4                  |                                                      |
| CAS: 7647-14-5                 | Sodium Chloride                                      |
| EC: 231-598-3                  |                                                      |
| CAS: 7447-40-7                 | Potassium Chloride                                   |
| EC: 231-211-8                  |                                                      |
| CAS: N/A                       | Positive Control Plasma (Human Plasma)               |
| EC No: N/A                     |                                                      |
| CAS: N/A                       | Negative Control Plasma (Human Plasma)               |
| EC No: N/A                     |                                                      |
| CAS: N/A                       | KSHV/HHV-8 Antigen Coated ELISA Plate                |
| EC No: N/A                     |                                                      |
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 immediately with plenty of water and seek medical advice.
   After swallowing: If swallowed, seek medical advice immediately and show the container/label/SDS.

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
   Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture
   No further relevant information available.

5.3 Advice for firefighters
   Protective equipment: No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
   To minimize contact, wear a laboratory coat, nitrile or latex gloves, and protective glasses.
   Avoid breathing vapors, mist or gas.

6.2 Environmental precautions
   Disinfect material before disposal.

6.3 Methods and material for containment and cleaning up
   Take up with absorbent material. Disinfect area with 3% hydrogen peroxide followed by 70% isopropyl alcohol.

6.4 Reference to other sections
   See Section 7 for Safe Handling. See Section 8 for Exposure Controls. See Section 13 for Disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
   This product should be handled in accordance with Good Laboratory Practices and any applicable local guidelines.
   Wear appropriate protective equipment (see Section 8). Practice good work hygiene.

7.2 Conditions for safe storage, including any incompatibilities
   Storage temperature 2-8°C in well-sealed receptacle.
7.3 Specific end use(s)
Advanced Biotechnologies Inc’s indirect ELISA for Human KSHV/HHV-8 IgG antibody detects KSHV/HHV-8 IgG specific antibodies in human serum or plasma. The test is intended as an aid in the detection of reactivation/reinfection or persistent infection with KSHV/HHV-8 and can provide serological evidence of previous KSHV/HHV-8 infection.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients with limit values that require monitoring at the workplace

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>OSHA PEL TWA</th>
<th>NIOSH REL TWA</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>TWA 1mg/m³</td>
<td>TWA 1mg/m³</td>
<td>0.2 mg/m³ (Thoracic fraction)</td>
</tr>
<tr>
<td>Thimerosal (Organomercury)</td>
<td>TWA 0.01mg/m³ Ceiling 0.04mg/m³</td>
<td>TWA 0.01mg/m³ STEL 0.03 mg/m³ Ceiling 0.04 mg/m³</td>
<td>TWA 0.01mg/m³ STEL 0.03mg/m³ (skin)</td>
</tr>
<tr>
<td>Cal/OSHA PEL</td>
<td>TWA 0.01mg/m³ STEL 0.03 mg/m³ Ceiling 0.04 mg/m³</td>
<td>TWA 0.01mg/m³ STEL 0.03mg/m³ (skin)</td>
<td></td>
</tr>
<tr>
<td>Thimerosal (Organomercury)</td>
<td>TWA 0.01mg/m³ STEL 0.03mg/m³ (skin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sucrose</td>
<td>OSHA PEL TWA 15mg/m³ (total) TWA 5mg/m³ (respirable fraction)</td>
<td>NIOSH REL TWA 10mg/m³ (total) TWA 5mg/m³ (respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls
Personal protective equipment
General protective/hygienic measures
The usual precautionary measures are to be adhered to when handling chemicals and biological material.

Ventilation
Work in a biological safety cabinet to reduce the possibility of exposure.

Respiratory protection
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard, if a risk assessment indicates this is necessary.

Protection of hands
Protective gloves (i.e. nitrile or equivalent).

Eye protection
Safety glasses or safety goggles, as appropriate.

Body protection
Protective work clothing and laboratory coats.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance
Form: Liquid
Color: Clear, transparent
Odor
Odorless
Odor Threshold
Not determined
pH
Stop Solution: pH ≤ 2
TMB: pH 3.3 – 3.8
Other components: pH 6 - 8
Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Flash point
Not applicable
Evaporation rate
Not determined
Flammability (solid, gaseous)
Does not apply, substance is a liquid.
Auto/Self-ignition temperature
Not determined
Decomposition temperature
Not determined
Self-igniting
Product is not self-igniting.
Danger of explosion
Product does not present an explosion hazard.
Vapor pressure/density
Not determined
Density
Not determined
Viscosity
Not determined
Solubility in/Miscibility with Water
Soluble
9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No further relevant information available.
10.2 Chemical stability
Stable under normal conditions of use.
10.3 Possibility of hazardous reactions
All components are stable with no known reactivity, with the exception of Stop Solution, which may have an exothermic reaction with strong bases and reducing agents.
10.4 Conditions to avoid
Store away from reactive materials.
10.5 Incompatible materials
No further relevant information available.
10.6 Hazardous decomposition products
No further relevant information available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Sulfuric Acid – Human Inhibitor Concentration 20mmol/L/24hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD/LC50 values relevant for classification</td>
<td>ATE &gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Primary irritant effect</td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Sulfuric Acid – Severe Irritant, Rabbit (250µg or 5mg/30s rinse)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Sulfuric Acid – Severe Irritant, Rabbit (250µg or 5mg/30s rinse)</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Sulfuric Acid – Acute Inhalation Toxicity, Rat (255 mg/m³, 4Hr)</td>
</tr>
<tr>
<td>CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Sulfuric Acid – Suspected human carcinogen</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Sulfuric Acid – Developmental Abnormalities, Rabbit (20mg/m³/7Hr)</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity | Sulfuric Acid - The substance is harmful to aquatic organisms. |
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. |
| General notes | Avoid release to the environment. |
12.5 Results of PBT and vPvB assessment

PBT | None of the substances present are considered PBT. |
| vPvB | None of the substances present are considered vPvB. |
12.6 Other adverse effects | No further relevant information available. |
SECTION 13: Disposal considerations

13.1 Waste treatment methods

**Recommendation**
The user of this product has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state, and federal laws and regulations regarding treatment, storage, and disposal for hazardous and nonhazardous wastes.

**Uncleaned packaging recommendation**
Disposal must be made according to official regulations.

**Recommended cleansing agents**
Disinfection with 3% hydrogen peroxide followed by 70% isopropyl alcohol.

SECTION 14: Transport information

14.1 UN number
DOT, ADR, IMDG, IATA

14.2 UN proper shipping name
DOT, ADR, IMDG, IATA

14.3 Transport hazard class(es)
DOT, ADR, IMDG, IATA Class

14.4 Packing group
DOT, ADR, IMDG, IATA

14.5 Environmental hazards
Marine Pollutant

14.6 Special precautions for user
Not Applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not Applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

**Unites States (USA)**
SARA Section 355 (extremely hazardous substances)
Sodium Phosphate, Dibasic and Sulfuric Acid listed, but are present below the CERCLA RQ.

SARA Section 313 (Specific toxic chemical listings)
Mercury compounds (thimerosal) listed.

TSCA (Toxic Substances Control Act)
All chemicals are listed.

Proposition 65 (California)
Sulfuric Acid listed.

Chemicals known to cause Cancer
Mercury compounds (thimerosal) listed.

Chemicals known to cause rep. toxicity for females
Mercury compounds (thimerosal) listed.

Chemicals known to cause developmental toxicity
Mercury compounds (thimerosal) listed.

Carcinogenic Categories
EPA
Mercury compounds (thimerosal) listed.

IARC
Mercury compounds (thimerosal) and Sulfuric Acid listed.

NIOSH-Ca
Mercury compounds (thimerosal) listed.

Canada - Canadian Domestic Substances List (DSL)
Sulfuric Acid listed.

Other regulations, limitations and prohibitive regulations
Sucrose listed.

Seveso III Directive (2012/18/EU)
All chemicals are listed.

Substances of very high concern (SVHC)
None of the ingredients are listed.

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.
SECTION 16: Other information

Disclaimer
The above information is believed to be accurate but does not purport to be all inclusive and shall be used only as a guide. Advanced Biotechnologies, Inc. shall not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Abbreviations and acronyms
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DOT: US Department of Transportation
EPA: Environmental Protection Agency
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
IATA: International Air Transport Association
IARC: International Agency for Research on Cancer
IMDG: International Maritime Code for Dangerous Goods
LC50/LD50: Lethal concentration, 50 percent/Lethal dose, 50 percent
OSHA: Occupational Safety and Health Administration
PBT/vPvB: Persistent, Bioaccumulative and Toxic/very Persistent and very Bioaccumulative
PEL/REL: Permissible Exposure Limit/Recommended Exposure Limit
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals (EC 1907/2006)
SARA: Superfund Amendments and Reauthorization Act
STOT: Specific Target Organ Toxicity
SVHC: Candidate List of Substances of Very High Concern
TWA: Time Weighted Average
WEEL: Workplace Environmental Exposure Levels

Date of Preparation
The effective date in the header of this document is the date of preparation and/or last revision.