SAFETY DATA SHEET
Cat# K527-200 Phenolic Compounds Assay Kit
SDS DATE: Dec 6, 2017

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Phenolic Compounds Assay Kit
PRODUCT CODES: Cat# K527-200
MANUFACTURER: BioVision, Inc.
DIVISION:
ADDRESS: 155 South Milpitas Blvd., Milpitas, CA 95035

EMERGENCY PHONE: 858-373-8066
CHEMTREC PHONE: 
OTHER CALLS: 408-493-1800
FAX PHONE: 408-493-1801

SECTION 2: HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Volume</th>
<th>Safety Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC Assay Buffer</td>
<td>In EtOH</td>
<td>25 ml</td>
<td>See below</td>
</tr>
<tr>
<td>PC Probe</td>
<td>Liquid</td>
<td>4 ml</td>
<td>No hazards</td>
</tr>
<tr>
<td>Catechin Standard (100 mM)</td>
<td>Catechin in EtOH</td>
<td>100 μl</td>
<td>See below</td>
</tr>
<tr>
<td>Vanillic Acid (50 mM)</td>
<td>In EtOH</td>
<td>500 μl</td>
<td>See below</td>
</tr>
</tbody>
</table>

Ethanol:
Emergency Overview
GHS Classification: Flammable liquids (Category 2)
Skin irritation (Category 2)
Eye irritation (Category 2B)
Specific target organ toxicity – single exposure (Category 3)

GHS Label elements, including precautionary statements
Pictogram:

Signal word: Danger
Hazard statement(s):
H225 Highly flammable liquid and vapor
H315+H320 Causes skin and eye irritation.
H335 May cause respiratory irritation.
Precautionary statement(s):
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification
Health hazard: 2
Chronic health hazard: *
Flammability: 3
Physical hazards: 0

NFPA Rating
Health Hazard: 2
Fire: 3
Reactivity Hazard: 0

Potential Health Effects
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes eye irritation.
Ingestion: May be harmful if swallowed.

CATECHIN:
Emergency Overview
GHS Classification: Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity – single exposure (Category 3)

GHS Label elements, including precautionary statements
Pictogram:
Signal word: Warning

Hazard statement(s):
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

Precautionary statement(s):
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
- P321 Specific treatment (see supplemental first aid instructions on this label).
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant

HMIS Classification
- Health hazard: 2
- Flammability: 0
- Physical hazards: 0

NFPA Rating
- Health Hazard: 2
- Fire: 0
- Reactivity Hazard: 0

Potential Health Effects
- Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
- Skin: May be harmful if absorbed through skin. Causes skin irritation.
- Eyes: Causes eye irritation.
- Ingestion: May be harmful if swallowed.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>EC-No.</th>
<th>Molecular Weight</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>200-578-6</td>
<td>46.07</td>
<td>C2H6O</td>
</tr>
<tr>
<td>CATECHIN</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

Ethanol:
- Condition of flammability: Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
- Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.
- Hazardous combustion products: Hazardous decomposition products formed under fire conditions— see section 10.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
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Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20 °C.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,900 mg/m³</td>
<td>USA. OSHA: TABLE Z-1 Limits for Air Contaminants – 1910.1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>USA. Occupational Exposure Limits (OSHA): Table Z-1 Limits for Air Contaminants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,900 mg/m³</td>
<td>USA. NIOSH recommended exposure limits</td>
</tr>
</tbody>
</table>

CATECHIN:
Contain no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Ethanol</th>
<th>CATECHIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Clear liquid</td>
<td>No data available</td>
</tr>
<tr>
<td>pH:</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility:</td>
<td>Completely soluble</td>
<td>No data available</td>
</tr>
<tr>
<td>Other Solubility:</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point (°C):</td>
<td>78-80 °C (172.4-176 °F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point (°C):</td>
<td>-144 °C (-227.2 °F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point (°C):</td>
<td>14 °C (57.2 °F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Ignition Temperature (°C):</td>
<td>363 °C (685°F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Density:</td>
<td>0.79 g/cm³</td>
<td>No data available</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Ethanol</th>
<th>CATECHIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability:</td>
<td>Stable under recommended storage conditions</td>
<td>No data available</td>
</tr>
<tr>
<td>Conditions to avoid:</td>
<td>Heat, flames, sparks, direct sunlight</td>
<td>No data available</td>
</tr>
<tr>
<td>Materials to avoid:</td>
<td>Alkali metals, ammonia, oxidizing agents, peroxides</td>
<td>Strong oxidizing agents, strong bases</td>
</tr>
<tr>
<td>Hazardous decomposition products:</td>
<td>Carbon oxides</td>
<td>No data available</td>
</tr>
</tbody>
</table>

SECTION 11: TOXICOLOGICAL INFORMATION

Ethanol:
Acute toxicity: LD50 Oral – rat – 7,060 mg/kg → Remarks: Lungs, thorax, or respiration: other changes
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LC50 Inhalation – rat – 10 h – 20000 ppm
Skin corrosion/irritation: Skin – rabbit – irritating to skin – 24 h
Serious eye damage/eye irritation: Eyes – rabbit – mild eye irritation – 24 h (Draize test)
Respiratory or skin sensitization: no data available

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Reproductive toxicity – human – female – oral→ Effects on newborn: apgar score (human only), other neonatal measures or effects, and drug dependence.

CATECHIN:
Acute toxicity: no data available
Skin corrosion/irritation: no data available
Serious eye damage/eye irritation: no data available
Respiratory or skin sensitization: no data available
Germ cell mutagenicity: no data available
Carcinogenicity: no data available

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity – single exposure (GHS): no data available
Specific target organ toxicity – repeated exposure (GHS): no data available

Additional information: RTECS: KQ6300000

SECTION 12: ECOLOGICAL INFORMATION
Persistence and degradability: no data available
Toxicity: no data available
Bioaccumulative potential: no data available
Mobility in soil: no data available
PBT and vPvB assessment: no data available
Other adverse effects: no data available

SECTION 13: DISPOSAL CONSIDERATIONS

Product: Observe all federal, state, and local environmental regulations.
Contaminated packaging: Dispose of as unused product.
SECTION 14: TRANSPORT INFORMATION

**Ethanol:**
DOT (US): UN-number: 1170, Class: 3, Packing group: II; Proper shipping name: Ethanol; Marine pollutant: No; Poison inhalation hazard: No
IMDG: UN-number: 1170, Class: 3, Packing group: II; EMS-No: F-E, S-D; Proper shipping name: ETHANOL; Marine pollutant: No
IATA: UN-number: 1170, Class: 3, Packing group: II; Proper shipping name: Ethanol

**CATECHIN:**
DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
IATA: Not dangerous goods.

SECTION 15: REGULATORY INFORMATION

**SARA 302 Components:** SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards:**
Ethanol: Fire Hazard, Acute Health Hazard, Chronic Health Hazard
CATECHIN: Acute Health Hazard

**Massachusetts Right To Know Components:** Ethanol, CAS-No. 64-17-5, Revision Date: 2007-03-01

**Pennsylvania Right To Know Components:**
Ethanol, CAS-No. 64-17-5, Revision Date: 2007-03-01
CATECHIN, CAS-No. --

**New Jersey Right To Know Components:**
Ethanol, CAS-No. 64-17-5, Revision Date: 2007-03-01
CATECHIN, CAS-No. --

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**EU regulations**

<table>
<thead>
<tr>
<th>Component</th>
<th>Risk Phrases</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>R11, R20/21/22</td>
<td>S16, S36/37/39, S45</td>
</tr>
<tr>
<td>CATECHIN</td>
<td>R36/37/38</td>
<td>S22, S24/25, S36/37/39, S45</td>
</tr>
</tbody>
</table>

SECTION 16: OTHER INFORMATION

**DISCLAIMER:**
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. BioVision, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.