

02/13/2017

**Kit Components**

| Product code    | Description                             |
|-----------------|---|
| <b>195-5869</b> | <b>Vitamin A/E by HPLC, Reagent Kit</b> |

## Components:

|         |                               |
|---------|-------------------------------|
| 1955871 | Vitamin A/E by HPLC, REAG 1   |
| 1955874 | Vitamin A/E by HPLC, MP       |
| 1955822 | Vitamin A/E by HPLC, INT STND |
| 1955876 | Vitamin A/E by HPLC, CAL      |

**Safety Data Sheet**  
acc. to OSHA HCS



Printing date 02/13/2017

Reviewed on 02/10/2017

## 1 Identification

- **1.1 Product identifier**
- **Trade name:** Vitamin A/E by HPLC, REAG 1
- **Article number:** 1955871
- **Application of the substance / the mixture** In-Vitro-laboratory reagent or component
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Inc  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA  
Phone: 510-724-7000  
Toll-Free: 1-800-2-BIORAD (800-224-6723)  
Fax: 510-741-6373
- **Information department:**  
Technical Support:  
Email: support@bio-rad.com
- **1.4 Emergency telephone number:**  
GBK Gefahrgut Büro GmbH  
Tel.: 0049(0)6123-84463

## 2 Hazard(s) identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Flam. Liq. 2 H225 Highly flammable liquid and vapor.  
Acute Tox. 5 H333 May be harmful if inhaled.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
STOT SE 3 H336 May cause drowsiness or dizziness.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labeled according to the CLP regulation.
- **Hazard pictograms**  
   
GHS02 GHS07
- **Signal word** Danger
- **Hazard-determining components of labeling:**  
propan-2-ol
- **Hazard statements**  
H225 Highly flammable liquid and vapor.  
H333 May be harmful if inhaled.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.
- **Precautionary statements**  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.

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Trade name: Vitamin A/E by HPLC, REAG 1

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P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **3.2 Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|         |             |         |
|---------|-------------|---------|
| 67-63-0 | propan-2-ol | 50-100% |
|---------|-------------|---------|

## 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:** Generally the product does not irritate the skin.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **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.

## 5 Fire-fighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **5.2 Special hazards arising from the substance or mixture** Carbon monoxide (CO)

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Reviewed on 02/10/2017

Trade name: Vitamin A/E by HPLC, REAG 1

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

### 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **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).  
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.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

|         |             |         |
|---------|-------------|---------|
| 67-63-0 | propan-2-ol | 400 ppm |
|---------|-------------|---------|

- **PAC-2:**

|         |             |           |
|---------|-------------|-----------|
| 67-63-0 | propan-2-ol | 2000* ppm |
|---------|-------------|-----------|

- **PAC-3:**

|         |             |             |
|---------|-------------|-------------|
| 67-63-0 | propan-2-ol | 12000** ppm |
|---------|-------------|-------------|

### 7 Handling and storage

- **7.1 Precautions for safe handling**  
Store in cool, dry place in tightly closed receptacles.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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Trade name: Vitamin A/E by HPLC, REAG 1

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## · 8.1 Control parameters

### · Components with limit values that require monitoring at the workplace:

#### 67-63-0 propan-2-ol

|     |  |
|-----|--|
| PEL | Long-term value: 980 mg/m <sup>3</sup> , 400 ppm   |
| REL | Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm<br>Long-term value: 980 mg/m <sup>3</sup> , 400 ppm |
| TLV | Short-term value: 984 mg/m <sup>3</sup> , 400 ppm<br>Long-term value: 492 mg/m <sup>3</sup> , 200 ppm  |
| BEI |  |

### · Ingredients with biological limit values:

#### 67-63-0 propan-2-ol

|     |   |
|-----|---|
| BEI | 40 mg/L<br>Medium: urine<br>Time: end of shift at end of workweek<br>Parameter: Acetone (background, nonspecific) |
|-----|---|

· **Additional information:** The lists that were valid during the creation were used as basis.

## · 8.2 Exposure controls

### · Personal protective equipment:

#### · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.

#### · Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

#### · Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

#### · Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

#### · Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

#### · Eye protection:



Tightly sealed goggles

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· **Body protection:** Protective work clothing

### 9 Physical and chemical properties

#### · 9.1 Information on basic physical and chemical properties

##### · General Information

##### · Appearance:

|                 |                 |
|-----------------|-----------------|
| Form:           | Fluid           |
| Color:          | Colorless       |
| Odor:           | Alcohol-like    |
| Odor threshold: | Not determined. |

|             |                 |
|-------------|-----------------|
| · pH-value: | Not determined. |
|-------------|-----------------|

##### · Change in condition

|                              |                    |
|------------------------------|--------------------|
| Melting point/Melting range: | -89.5 °C (-129 °F) |
| Boiling point/Boiling range: | >82 °C (>180 °F)   |

|                |               |
|----------------|---------------|
| · Flash point: | 16 °C (61 °F) |
|----------------|---------------|

|                                  |                 |
|----------------------------------|-----------------|
| · Flammability (solid, gaseous): | Not applicable. |
|----------------------------------|-----------------|

|                         |                 |
|-------------------------|-----------------|
| · Ignition temperature: | 425 °C (797 °F) |
|-------------------------|-----------------|

|                              |                 |
|------------------------------|-----------------|
| · Decomposition temperature: | Not determined. |
|------------------------------|-----------------|

|                  |                              |
|------------------|------------------------------|
| · Auto igniting: | Product is not selfigniting. |
|------------------|------------------------------|

|                        |  |
|------------------------|--|
| · Danger of explosion: | Product is not explosive. However, formation of explosive air/vapor mixtures are possible. |
|------------------------|--|

##### · Explosion limits:

|        |            |
|--------|------------|
| Lower: | 2 Vol %    |
| Upper: | 12.7 Vol % |

|                                    |                   |
|------------------------------------|-------------------|
| · Vapor pressure at 20 °C (68 °F): | 43 hPa (32 mm Hg) |
|------------------------------------|-------------------|

|                             |                                       |
|-----------------------------|---------------------------------------|
| · Density at 20 °C (68 °F): | 0.8 g/cm <sup>3</sup> (6.676 lbs/gal) |
|-----------------------------|---------------------------------------|

|                    |                 |
|--------------------|-----------------|
| · Relative density | Not determined. |
|--------------------|-----------------|

|                 |                 |
|-----------------|-----------------|
| · Vapor density | Not determined. |
|-----------------|-----------------|

|                    |                 |
|--------------------|-----------------|
| · Evaporation rate | Not determined. |
|--------------------|-----------------|

|   |       |
|---|-------|
| · Solubility in / Miscibility with<br>Water at 20 °C (68 °F): | 1 g/l |
|---|-------|

|  |                 |
|--|-----------------|
| · Partition coefficient (n-octanol/water): | Not determined. |
|--|-----------------|

##### · Viscosity:

|              |                 |
|--------------|-----------------|
| Dynamic:     | Not determined. |
| Kinematic:   | Not determined. |
| VOC content: | 100.0 %         |

|                         |  |
|-------------------------|--|
| · 9.2 Other information | No further relevant information available. |
|-------------------------|--|

### 10 Stability and reactivity

|                   |  |
|-------------------|--|
| · 10.1 Reactivity | No further relevant information available. |
|-------------------|--|

|                           |  |
|---------------------------|--|
| · 10.2 Chemical stability |  |
|---------------------------|--|

|   |   |
|---|---|
| · Thermal decomposition / conditions to be avoided: | No decomposition if used according to specifications. |
|---|---|

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- **10.3 Possibility of hazardous reactions**  
*Reacts with alkaline metals.*  
*Reacts with oxidizing agents.*
- **10.4 Conditions to avoid** *No further relevant information available.*
- **10.5 Incompatible materials:** *No further relevant information available.*
- **10.6 Hazardous decomposition products:** *Carbon monoxide and carbon dioxide*

### 11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**  
*May be harmful if inhaled.*
- **Primary irritant effect:**
- **on the skin:** *Based on available data, the classification criteria are not met.*
- **on the eye:**  
*Causes serious eye irritation.*
- **Sensitization:** *Based on available data, the classification criteria are not met.*
- **Additional toxicological information:**
- **Carcinogenic categories**

|   |   |
|---|---|
| · <b>IARC (International Agency for Research on Cancer)</b> |   |
| 67-63-0   <i>propan-2-ol</i>                                | 3 |

|  |  |
|--|--|
| · <b>NTP (National Toxicology Program)</b> |  |
| <i>None of the ingredients is listed.</i>  |  |

|  |  |
|--|--|
| · <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b> |  |
| <i>None of the ingredients is listed.</i>                          |  |

### 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.*
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 1 (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*
- **12.6 Other adverse effects** *No further relevant information available.*

### 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.*

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Trade name: Vitamin A/E by HPLC, REAG 1

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |  |   |
|--|---|
| · <b>14.1 UN-Number</b>  | UN1219  |
| · <b>DOT, ADR, IMDG, IATA</b>  |   |
| · <b>14.2 UN proper shipping name</b>  | Isopropanol solution  |
| · <b>DOT</b>   | 1219 Isopropanol solution   |
| · <b>ADR</b>   | ISOPROPANOL (ISOPROPYL ALCOHOL) solution  |
| · <b>IMDG, IATA</b>  |   |
| · <b>14.3 Transport hazard class(es)</b>   |   |
| · <b>DOT</b>   |   |
|      |   |
| · <b>Class</b>   | 3 Flammable liquids   |
| · <b>Label</b>   | 3   |
| · <b>ADR, IMDG, IATA</b>   |   |
|     |   |
| · <b>Class</b>   | 3 Flammable liquids   |
| · <b>Label</b>   | 3   |
| · <b>14.4 Packing group</b>  | II  |
| · <b>DOT, ADR, IMDG, IATA</b>  |   |
| · <b>14.5 Environmental hazards:</b>   |   |
| · <b>Marine pollutant:</b>   | No  |
| · <b>14.6 Special precautions for user</b>   | Warning: Flammable liquids  |
| · <b>Danger code (Kemler):</b>   | 33  |
| · <b>EMS Number:</b>   | F-E,S-D   |
| · <b>Stowage Category</b>  | B   |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | Not applicable.   |
| · <b>Transport/Additional information:</b>   |   |
| · <b>ADR</b>   |   |
| · <b>Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>IMDG</b>  |   |
| · <b>Limited quantities (LQ)</b>   | 1L  |

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Trade name: Vitamin A/E by HPLC, REAG 1

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|                            |   |
|----------------------------|---|
| · Excepted quantities (EQ) | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · UN "Model Regulation":   | UN 1219 ISOPROPANOL SOLUTION, 3, II   |

## 15 Regulatory information

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

- Section 355 (extremely hazardous substances):

None of the ingredient is listed.

- Section 313 (Specific toxic chemical listings):

All ingredients are listed.

- TSCA (Toxic Substances Control Act):

All ingredients are listed.

- Proposition 65

- Chemicals known to cause cancer:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- Cancerogenity categories

- EPA (Environmental Protection Agency)

None of the ingredients is listed.

- TLV (Threshold Limit Value established by ACGIH)

67-63-0 | propan-2-ol

A4

- NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS:

Bio-Rad Laboratories GmbH

Heidemannstrasse 164

D-80939 Munich

- Contact:

Technical Support:

E-Mail: cts-ce@bio-rad.com

- Date of preparation / last revision 02/13/2017 / 18

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**Trade name: Vitamin A/E by HPLC, REAG 1**

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· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
 ICAO: International Civil Aviation Organisation  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)  
 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  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 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)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 VOC: Volatile Organic Compounds (USA, EU)  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety & Health  
 TLV: Threshold Limit Value  
 PEL: Permissible Exposure Limit  
 REL: Recommended Exposure Limit  
 BEI: Biological Exposure Limit  
 Flam. Liq. 2: Flammable liquids – Category 2  
 Acute Tox. 5: Acute toxicity – Category 5  
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **\* Data compared to the previous version altered.**

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 01/09/2017

## 1 Identification

- **1.1 Product identifier**
- **Trade name:** Vitamin A/E by HPLC, MP
- **Article number:** 1955874
- **Application of the substance / the mixture** In-Vitro-laboratory reagent or component
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Inc  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA  
Phone: 510-724-7000  
Toll-Free: 1-800-2-BIORAD (800-224-6723)  
Fax: 510-741-6373
- **Information department:**  
Technical Support:  
Email: support@bio-rad.com
- **1.4 Emergency telephone number:**  
GBK Gefahrgut Büro GmbH  
Tel.: 0049(0)6123-84463

## 2 Hazard(s) identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Flam. Liq. 2 H225 Highly flammable liquid and vapor.  
Acute Tox. 3 H301 Toxic if swallowed.  
Acute Tox. 3 H311 Toxic in contact with skin.  
Acute Tox. 3 H331 Toxic if inhaled.  
STOT SE 1 H370 Causes damage to organs.

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



GHS02 GHS06 GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
methanol
- **Hazard statements**  
H225 Highly flammable liquid and vapor.  
H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.  
H370 Causes damage to organs.
- **Precautionary statements**  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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Trade name: Vitamin A/E by HPLC, MP

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P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*3

Fire = 3

Reactivity = 0

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **3.2 Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

67-56-1 methanol

50-100%

## 4 First-aid measures

· **4.1 Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Do not induce vomiting; immediately call for medical help.

· **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.

## 5 Fire-fighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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Trade name: Vitamin A/E by HPLC, MP

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- **5.2 Special hazards arising from the substance or mixture** Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **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 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.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

|          |                  |           |
|----------|------------------|-----------|
| 67-56-1  | methanol         | 530 ppm   |
| 631-61-8 | ammonium acetate | 3.8 mg/m3 |

- **PAC-2:**

|          |                  |           |
|----------|------------------|-----------|
| 67-56-1  | methanol         | 2,100 ppm |
| 631-61-8 | ammonium acetate | 42 mg/m3  |

- **PAC-3:**

|          |                  |           |
|----------|------------------|-----------|
| 67-56-1  | methanol         | 7200* ppm |
| 631-61-8 | ammonium acetate | 250 mg/m3 |

### 7 Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**  
**Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

US

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Trade name: Vitamin A/E by HPLC, MP

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### 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**67-56-1 methanol**

|     |   |
|-----|---|
| PEL | Long-term value: 260 mg/m <sup>3</sup> , 200 ppm  |
| REL | Short-term value: 325 mg/m <sup>3</sup> , 250 ppm |
|     | Long-term value: 260 mg/m <sup>3</sup> , 200 ppm  |
|     | Skin  |
| TLV | Short-term value: 328 mg/m <sup>3</sup> , 250 ppm |
|     | Long-term value: 262 mg/m <sup>3</sup> , 200 ppm  |
|     | Skin; BEI   |

· **Ingredients with biological limit values:**

**67-56-1 methanol**

|     |   |
|-----|---|
| BEI | 15 mg/L                                       |
|     | Medium: urine                                 |
|     | Time: end of shift                            |
|     | Parameter: Methanol (background, nonspecific) |

· **Additional information:** The lists that were valid during the creation were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: Vitamin A/E by HPLC, MP

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## · Eye protection:



Tightly sealed goggles

## · Body protection: Protective work clothing

## 9 Physical and chemical properties

## · 9.1 Information on basic physical and chemical properties

## · General Information

## · Appearance:

|                 |                 |
|-----------------|-----------------|
| Form:           | Fluid           |
| Color:          | Colorless       |
| Odor:           | Alcohol-like    |
| Odor threshold: | Not determined. |

· pH-value: Not determined.

## · Change in condition

|                              |                |
|------------------------------|----------------|
| Melting point/Melting range: | Undetermined.  |
| Boiling point/Boiling range: | 64 °C (147 °F) |

· Flash point: 11 °C (52 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 455 °C (851 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

## · Explosion limits:

|        |            |
|--------|------------|
| Lower: | 5.5 Vol %  |
| Upper: | 44.0 Vol % |

· Vapor pressure at 20 °C (68 °F): 128 hPa (96 mm Hg)

· Density at 20 °C (68 °F): 0.79 g/cm<sup>3</sup> (6.59255 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

## · Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

## · Viscosity:

|              |                 |
|--------------|-----------------|
| Dynamic:     | Not determined. |
| Kinematic:   | Not determined. |
| VOC content: | 93.1 %          |

· 9.2 Other information: No further relevant information available.

-US

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Trade name: Vitamin A/E by HPLC, MP

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### 10 Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong oxidizing agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

### 11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**  
Toxic if swallowed, in contact with skin or if inhaled.
- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 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.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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### 13 Disposal considerations

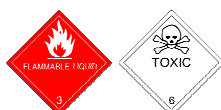
- **13.1 Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- **14.1 UN-Number**
- **DOT, ADR, IMDG, IATA** UN1230
- **14.2 UN proper shipping name**
- **DOT** Methanol mixture
- **ADR** 1230 Methanol mixture
- **IMDG, IATA** METHANOL mixture

#### · 14.3 Transport hazard class(es)

##### · DOT



- **Class** 3 Flammable liquids
- **Label** 3, 6.1

##### · ADR



- **Class** 3 Flammable liquids
- **Label** 3+6.1

##### · IMDG



- **Class** 3 Flammable liquids
- **Label** 3/6.1

##### · IATA



- **Class** 3 Flammable liquids
- **Label** 3 (6.1)

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|   |   |
|---|---|
| · 14.4 Packing group  |   |
| · DOT, ADR, IMDG, IATA  | II  |
| · 14.5 Environmental hazards:   |   |
| · Marine pollutant:   | No  |
| · 14.6 Special precautions for user   | Warning: Flammable liquids  |
| · Danger code (Kemler):   | 336   |
| · EMS Number:   | F-E,S-D   |
| · Stowage Category  | B   |
| · Stowage Code  | SW2 Clear of living quarters.   |
| · 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable.   |
| · Transport/Additional information:   |   |
| · ADR   |   |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · IMDG  |   |
| · Limited quantities (LQ)   | 1L  |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · UN "Model Regulation":  | UN 1230 METHANOL MIXTURE, 3 (6.1), II   |

### 15 Regulatory information

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

#### · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

#### · Section 313 (Specific toxic chemical listings):

67-56-1 | methanol

#### · TSCA (Toxic Substances Control Act):

All ingredients are listed.

#### · Proposition 65

##### · Chemicals known to cause cancer:

None of the ingredients is listed.

##### · Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

##### · Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

##### · Chemicals known to cause developmental toxicity:

67-56-1 | methanol

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· **Carcinogenicity categories**· **EPA (Environmental Protection Agency)**

631-61-8 ammonium acetate

D

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:**

Bio-Rad Laboratories GmbH  
Heidemannstrasse 164  
D-80939 Munich

· **Contact:**

Technical Support:  
E-Mail: cts-ce@bio-rad.com

· **Date of preparation / last revision** 02/13/2017 / 5· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organisation  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)  
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  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
ACGIH: American Conference of Governmental Industrial Hygienists  
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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEI: Biological Exposure Limit  
Flam. Liq. 2: Flammable liquids – Category 2  
Acute Tox. 3: Acute toxicity – Category 3  
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

· **\* Data compared to the previous version altered.**

US

**Safety Data Sheet**  
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Printing date 02/13/2017

Reviewed on 02/13/2017

## 1 Identification

- **1.1 Product identifier**
- **Trade name:** Vitamin A/E by HPLC, INT STND
- **Article number:** 1955822
- **Application of the substance / the mixture** In-Vitro-laboratory reagent or component
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Inc  
4000 Alfred Nobel Drive  
Hercules, California 94547  
USA  
Phone: 510-724-7000  
Toll-Free: 1-800-2-BIORAD (800-224-6723)  
Fax: 510-741-6373
- **Information department:**  
Technical Support:  
Email: support@bio-rad.com
- **1.4 Emergency telephone number:**  
GBK Gefahrgut Büro GmbH  
Tel.: 0049(0)6123-84463

## 2 Hazard(s) identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Flam. Liq. 2 H225 Highly flammable liquid and vapor.  
Acute Tox. 4 H302 Harmful if swallowed.  
Acute Tox. 4 H312 Harmful in contact with skin.  
Acute Tox. 5 H333 May be harmful if inhaled.  
Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS02 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
acetonitrile
- **Hazard statements**  
H225 Highly flammable liquid and vapor.  
H302+H312 Harmful if swallowed or in contact with skin.  
H333 May be harmful if inhaled.  
H319 Causes serious eye irritation.
- **Precautionary statements**  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.

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- P280** Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 3  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 2 Health = 2  
FIRE 3 Fire = 3  
REACTIVITY 0 Reactivity = 0

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

|         |              |         |
|---------|--------------|---------|
| 75-05-8 | acetonitrile | 50-100% |
|---------|--------------|---------|

### 4 First-aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **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.

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## 5 Fire-fighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **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 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.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

### · PAC-1:

|         |              |        |
|---------|--------------|--------|
| 75-05-8 | acetonitrile | 13 ppm |
|---------|--------------|--------|

### · PAC-2:

|         |              |        |
|---------|--------------|--------|
| 75-05-8 | acetonitrile | 50 ppm |
|---------|--------------|--------|

### · PAC-3:

|         |              |         |
|---------|--------------|---------|
| 75-05-8 | acetonitrile | 150 ppm |
|---------|--------------|---------|

## 7 Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

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### 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**75-05-8 acetonitrile**

|      |  |
|------|--|
| PEL  | Long-term value: 70 mg/m <sup>3</sup> , 40 ppm |
| REL  | Long-term value: 34 mg/m <sup>3</sup> , 20 ppm |
| TLV  | Long-term value: 34 mg/m <sup>3</sup> , 20 ppm |
| Skin |  |

· **Additional information:** The lists that were valid during the creation were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

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### 9 Physical and chemical properties

#### · 9.1 Information on basic physical and chemical properties

##### · General Information

##### · Appearance:

|                 |                 |
|-----------------|-----------------|
| Form:           | Fluid           |
| Color:          | Colorless       |
| Odor:           | Ether-like      |
| Odor threshold: | Not determined. |

· pH-value: Not determined.

##### · Change in condition

|                              |                   |
|------------------------------|-------------------|
| Melting point/Melting range: | -45.7 °C (-50 °F) |
| Boiling point/Boiling range: | 81 °C (178 °F)    |

· Flash point: 2 °C (36 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 524 °C (975 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

##### · Explosion limits:

|        |          |
|--------|----------|
| Lower: | 3 Vol %  |
| Upper: | 17 Vol % |

· Vapor pressure at 20 °C (68 °F): 97 hPa (73 mm Hg)

· Density at 20 °C (68 °F): 0.79 g/cm<sup>3</sup> (6.59255 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

##### · Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

##### · Viscosity:

|            |                 |
|------------|-----------------|
| Dynamic:   | Not determined. |
| Kinematic: | Not determined. |

· 9.2 Other information: No further relevant information available.

### 10 Stability and reactivity

· 10.1 Reactivity: No further relevant information available.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· 10.3 Possibility of hazardous reactions: No dangerous reactions known.

· 10.4 Conditions to avoid: No further relevant information available.

· 10.5 Incompatible materials: No further relevant information available.

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· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**  
Harmful if swallowed or in contact with skin.  
May be harmful if inhaled.
- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:**  
Causes serious eye irritation.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 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.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### 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.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

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Trade name: Vitamin A/E by HPLC, INT STND

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· Recommended cleansing agent: Water, if necessary with cleansing agents.

## 14 Transport information

|   |   |
|---|---|
| · 14.1 UN-Number  | UN1648  |
| · DOT, ADR, IMDG, IATA  |   |
| · 14.2 UN proper shipping name  | Acetonitrile mixture  |
| · DOT   | 1648 Acetonitrile mixture   |
| · ADR   | ACETONITRILE mixture  |
| · IMDG, IATA  |   |
| · 14.3 Transport hazard class(es)   |   |
| · DOT   |   |
|    |   |
| · Class   | 3 Flammable liquids   |
| · Label   | 3   |
| · ADR, IMDG, IATA   |   |
|  |   |
| · Class   | 3 Flammable liquids   |
| · Label   | 3   |
| · 14.4 Packing group  |   |
| · DOT, ADR, IMDG, IATA  | II  |
| · 14.5 Environmental hazards:   |   |
| · Marine pollutant:   | No  |
| · 14.6 Special precautions for user   | Warning: Flammable liquids  |
| · Danger code (Kemler):   | 33  |
| · EMS Number:   | F-E,S-D   |
| · Stowage Category  | B   |
| · Stowage Code  | SW2 Clear of living quarters.   |
| · 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code     | Not applicable.   |
| · Transport/Additional information:   |   |
| · ADR   |   |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · IMDG  |   |
| · Limited quantities (LQ)   | 1L  |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/13/2017

Trade name: Vitamin A/E by HPLC, INT STND

(Contd. of page 7)

· UN "Model Regulation":

UN 1648 ACETONITRILE MIXTURE, 3, II

## 15 Regulatory information

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

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

75-05-8 | acetonitrile

· TSCA (Toxic Substances Control Act):

75-05-8 | acetonitrile

121-00-6 | 2-tert-butyl-4-methoxyphenol

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

75-05-8 | acetonitrile

CBD, D

· TLV (Threshold Limit Value established by ACGIH)

75-05-8 | acetonitrile

A4

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS:

Bio-Rad Laboratories GmbH

Heidemannstrasse 164

D-80939 Munich

· Contact:

Technical Support:

E-Mail: cts-ce@bio-rad.com

· Date of preparation / last revision 02/13/2017 / 15

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

(Contd. on page 9)

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 02/13/2017

Reviewed on 02/13/2017

**Trade name: Vitamin A/E by HPLC, INT STND**

(Contd. of page 8)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
 ICAO: International Civil Aviation Organisation  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)  
 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  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 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)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety & Health  
 TLV: Threshold Limit Value  
 PEL: Permissible Exposure Limit  
 REL: Recommended Exposure Limit  
 Flam. Liq. 2: Flammable liquids – Category 2  
 Acute Tox. 4: Acute toxicity – Category 4  
 Acute Tox. 5: Acute toxicity – Category 5  
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· **\* Data compared to the previous version altered.**

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

## 1 Identification

- **1.1 Product identifier**
- **Trade name:** Vitamin A/E by HPLC, CAL
- **Article number:** 1955876
- **Application of the substance / the mixture** *In-Vitro-laboratory reagent or component*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Bio-Rad Laboratories, Inc  
 4000 Alfred Nobel Drive  
 Hercules, California 94547  
 USA  
 Phone: 510-724-7000  
 Toll-Free: 1-800-2-BIORAD (800-224-6723)  
 Fax: 510-741-6373
- **Information department:**  
 Technical Support:  
 Email: support@bio-rad.com
- **1.4 Emergency telephone number:**  
 GBK Gefahrgut Büro GmbH  
 Tel.: 0049(0)6123-84463

## 2 Hazard(s) identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
*The product is not classified according to the CLP regulation.*

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** *Void*
- **Hazard pictograms** *Void*
- **Signal word** *Void*
- **Hazard statements** *Void*
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Human source material. Treat as potentially infectious.

(Contd. on page 2)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

Trade name: Vitamin A/E by HPLC, CAL

(Contd. of page 1)

· **Dangerous components:** Void

### 4 First-aid measures

- **4.1 Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **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.

### 5 Fire-fighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **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.

### 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.
- **6.4 Reference to other sections**  
No dangerous substances are released.  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

|                                    |
|------------------------------------|
| · <b>PAC-1:</b>                    |
| None of the ingredients is listed. |
| · <b>PAC-2:</b>                    |
| None of the ingredients is listed. |
| · <b>PAC-3:</b>                    |
| None of the ingredients is listed. |

### 7 Handling and storage

- **7.1 Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.

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## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

Trade name: Vitamin A/E by HPLC, CAL

(Contd. of page 2)

- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1 Control parameters**
- **Components 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:** The lists that were valid during the creation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.

### 9 Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

|        |                                    |
|--------|------------------------------------|
| Form:  | Solid                              |
| Color: | According to product specification |
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**

|                              |               |
|------------------------------|---------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | Undetermined. |
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

Trade name: Vitamin A/E by HPLC, CAL

(Contd. of page 3)

|   |   |
|---|---|
| · <b>Ignition temperature:</b>                    |   |
| · <b>Decomposition temperature:</b>               | Not determined.                               |
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |   |
| Lower:  | Not determined.                               |
| Upper:  | Not determined.                               |
| · <b>Vapor pressure:</b>                          | Not applicable.                               |
| · <b>Density:</b>                                 | Not determined.                               |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapor density</b>                            | Not applicable.                               |
| · <b>Evaporation rate</b>                         | Not applicable.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Soluble.                                      |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |   |
| Dynamic:  | Not applicable.                               |
| Kinematic:  | Not applicable.                               |
| · <b>9.2 Other information</b>                    | No further relevant information available.    |

## 10 Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 5)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

Trade name: Vitamin A/E by HPLC, CAL

(Contd. of page 4)

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 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.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:** Disposal must be made according to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>14.1 UN-Number</b><br>· DOT, ADR, ADN, IMDG, IATA                                 | Void            |
| · <b>14.2 UN proper shipping name</b><br>· DOT, ADR, ADN, IMDG, IATA                   | Void            |
| · <b>14.3 Transport hazard class(es)</b><br>· DOT, ADR, ADN, IMDG, IATA<br>· Class     | Void            |
| · <b>14.4 Packing group</b><br>· DOT, ADR, IMDG, IATA                                  | Void            |
| · <b>14.5 Environmental hazards:</b><br>· Marine pollutant:                            | No              |
| · <b>14.6 Special precautions for user</b>   | Not applicable. |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | Not applicable. |

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

Trade name: Vitamin A/E by HPLC, CAL

(Contd. of page 5)

· UN "Model Regulation":

Void

## 15 Regulatory information

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

- Section 355 (extremely hazardous substances):

None of the ingredient is listed.

- Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

- TSCA (Toxic Substances Control Act):

68-26-8 | retinol

10191-41-0 | 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol

- Proposition 65

- Chemicals known to cause cancer:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:

68-26-8 | retinol

- Cancerogenity categories

- EPA (Environmental Protection Agency)

None of the ingredients is listed.

- TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS:

Bio-Rad Laboratories GmbH

Heidemannstrasse 164

D-80939 Munich

- Contact:

Technical Support:

E-Mail: cts-ce@bio-rad.com

- Date of preparation / last revision 02/13/2017 / 5

- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

(Contd. on page 7)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/13/2017

Reviewed on 02/10/2017

**Trade name: Vitamin A/E by HPLC, CAL**

(Contd. of page 6)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
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DOT: US Department of Transportation  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
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NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit

· **\* Data compared to the previous version altered.**

US