

SAFETY DATA SHEET (SDS)

IDENTIFICATION OF PRODUCT (MIXTURE) AND SUPPLIER (1):

Product Name:	Kallestad™ Mounting Media
Product Number:	30403 (2.5 mL)
Intended Use:	This is a kit replacement, or separately purchased component, identical to those found in the kits, which are to be used exclusively with these Bio-Rad Laboratories kits: Kallestad™ Crithidia luciliae Substrate (Catalog # 30404 and 31069) Kallestad™ HEp-2 Cell Line Substrate (Catalog # 30471, 30472 and 32583) Kallestad™ Mouse Stomach/Kidney (Catalog # 30443) Refer to the <i>Instructions For Use, Package Insert</i> for additional product information.
Manufactured by:	Bio-Rad Laboratories, Inc.
Address:	6565 185th Avenue NE Redmond, WA 98052-5039, USA
Website:	www.bio-rad.com
Phone Number:	1-800-2-BIORAD (1-800-224-6723); or 1-425-881-8300 (daytime PT)
SDS e-mail contact:	ro-sds@bio-rad.com
Technical Information Contacts:	Bio-Rad provides a toll free line for technical assistance, available 24 hours a day, 7 days a week. In the United States of America and Puerto Rico, call toll free 1-800-2-BIORAD (1-800-224-6723). Outside the U.S.A., please contact your regional Bio-Rad office for assistance. Refer to section 16 for non-US local Bio-Rad agent contact information.
Authorized Representative in the European Community:	FRANCE: Bio-Rad Laboratories 3 boulevard Raymond Poincaré 92430 Marnes-la-Coquette Phone: +33 (0) 1 47 95 60 00 / Fax: +33 (0) 1 47 41 91 33 [fds-msds.fr@bio-rad.com]
Emergency Phone Number:	This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887. Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION, or ACCIDENT with this product. Refer to section 16 for non-US local Bio-Rad agent contact information.

HAZARDS IDENTIFICATION -- HAZARDOUS COMPONENTS (2):

This test kit should be handled only by qualified personnel trained in laboratory procedures and familiar with their potential hazards. Specific warnings are given in the instructions for use. The absence of a specific warning should not be interpreted as an indication of safety. Refer to Section 16 for the full text of any *Risk (R)* and *Safety (S)* statement provided below.

Component	Content
Mounting Media	- A semi-permanent buffered mounting media in a Trizma buffered solution , pH 7 - 8, containing: - ≤ 7.5% polyvinyl alcohol [PVA – (C ₂ H ₄ O) _n], CAS# 9002-89-5, EC No 209-183-3 [dilution is not subject to GHS and EU 2008/1272/EC Regulation or 1999/45/EC Directive labeling requirements]. - ≤ 20% 1,2,-Propanediol [propylene glycol – C ₃ H ₈ O ₂], CAS# 57-55-6, EC No 200-338-0 [dilution is not subject to GHS and EU 2008/1272/EC Regulation or 1999/45/EC Directive labeling requirements].

Markings according to the United Nations (UN) Globally Harmonized System (GHS), United States Hazard Communication Standard (HCS) and European Community (EC) 2008/1272/EC guidelines:

This product is not subject to labeling classification or identification according to GHS guidelines, United States Hazard Communication Standard (HCS) and EU 2008/1272/EC Regulations or other sources of literature known to us.

COMPOSITION/INFORMATION ON INGREDIENTS -- HAZARDOUS COMPONENTS (3):

The following information is furnished for those product hazardous constituents that require regulatory control or disclosure at the concentration found in the product. Note that the information here is often based on data from the chemical raw material (LD₅₀, exposure limits, etc.) and that the product contains a significantly diluted concentration in an aqueous solution; thus, the assessment below has taken hazard reduction processing into consideration when possible. The GHS and EU classifications were made according to the latest editions, and expanded upon from company and literature data. (Refer to the *Key* below.)

Chemical Ingredient	Data / Information
Propylene Glycol [≤ 20%]	CAS#: 57-55-6 (100%) + EC No: 200-338-0 (100%) + Chemical Formula: C ₃ H ₈ O ₂ (100%) + LD ₅₀ (oral-rat): 20,000 mg/kg (100%) + IATA/DOT ID: NE HMIS Codes: H=1, F=0, R=0 ++ GHS / 2008/1272/EC Classification: Not subject to EU 2008/1272/EC and GHS regulatory requirements ++ RTECS#: TY2000000 (100%) + Synonyms: 1,2,-Propanediol Flash Point: 217°F / 103°C (100%) + TLV and PEL: NE RCRA Code: NE The chemical, physical and toxicological properties have not been thoroughly investigated. Propylene glycol solutions may cause slight irritation by all routes of entry. The potential for these adverse health effects is unknown for the small volume of Propylene glycol in this product, but is unlikely if handled appropriately with the requisite Good Laboratory Practices. Dispose of this material in accordance with local, regional, national and international regulation. EU Labeling Classification for 100% chemical concentration per Table 3.2 of 2008/1272/EC - <i>from Annex I to Directive 67/548/EEC: Not Listed</i>
Polyvinyl Alcohol [≤ 7.5 % w/v PVA]	CAS#: 9002-89-5 (100%) + EC No: 209-183-3 (100%) + Chemical Formula: (C ₂ H ₄ O) _n (100%) + LD ₅₀ (oral-rat): >20,000 mg/kg (100%) + IATA/DOT ID: NE HMIS Codes: H=1, F=0, R=0 ++ GHS / 2008/1272/EC Classification: Not subject to EU 2008/1272/EC and GHS regulatory requirements ++ RTECS#: TY2000000 (100%) + Flash Point: 174°F / 79°C (100%) + TLV and PEL: NE RCRA Code: NE Polyvinyl alcohol solutions are potentially irritating. [NOTE: this chemical has been designated by IARC with a carcinogen Classification 3, which indicates that "the Agent is NOT CLASSIFIABLE as Carcinogenic"]. The chemical, physical and toxicological properties have not been thoroughly investigated. The potential for adverse health effects is unknown for the diluted, small volume of polyvinyl alcohol in this kit, but is unlikely if handled appropriately with the requisite Good Laboratory Practices and Universal Precautions. Dispose of this material in accordance with local, regional, national and international regulation. EU Labeling Classification for 100% chemical concentration per Table 3.2 of 2008/1272/EC - <i>from Annex I to Directive 67/548/EEC: Not Listed</i>

Key:

+ The Kit Concentration was not tested; the values refer to the solution concentration as tested, designated by percentage within parentheses.
++ The Kit Concentration was tested or the values given were estimated for the general diagnostic laboratory usage of the kit reagent dilution.
NE: Not Established or Unknown (unable to locate data); typically for concentrate form unless otherwise specified.
Abbreviations for component HMIS hazard ratings are as follows: H=Health, F=Flammability, R=Reactivity
GHS = Globally Harmonized System
RTECS # - Registry of Toxic Effects of Chemical Substances number
PEL - Permissible Exposure Limit / Occupational Exposure Limit (OEL)
TLV/TWA - Threshold Limit Value / Time-Weighted Average
STEL - Short Term Exposure Limit
IDLH - Immediately Dangerous to Life or Health

Related product information:

- ◆ Refer to section 2 for the full text of any *GHS* /2008/1272/EC statement coded above.
Refer to section 16 for the full text of any *Risk* (R) and *Safety* (S) statement for the above kit component concentration.
- ◆ No significant adverse health effects are expected by any route for the following chemical constituents in the kit volumes and concentrations present [dilution not subject to GHS or EU hazard labeling]:
 - < 1% **Tris** (TRIZMA HCl) buffer solution; Tris (hydroxymethyl) aminomethane: 2-amino-2-(hydroxy-methyl)-1, 3-propanediol [C₄H₁₁NO₃ • HCl], EC No 214-684-5, CAS# 1185-53-1.
 - < 1% **Tris** (TRIZMA BASE) buffer solution; 2-Amino-2-(hydroxymethyl)-3,1-propanediol, [C₄H₁₁NO₃], EC No 201-064-4, CAS# 77-86-1, 25149-07-9; 108195-86-4.
 - The miscellaneous salts, buffers, water, or other ingredients in the kit.

- ◆ Do not eat, drink or smoke when using this product.
- ◆ Wear protective gloves/protective clothing/eye protection/face protection. Take off contaminated clothing and wash before reuse.

EMERGENCY FIRST AID MEASURES (4):

Health Effects:	May slightly irritate eyes or skin, depending on amount and contact time.
Eye Contact:	Flush eyes with copious water for at least 15 minutes. Ensure adequate flushing by separating the eyelids with fingers while flushing with water. OBTAIN MEDICAL ATTENTION.
Skin Contact:	Remove contaminated clothing. Flush skin with copious water and wash affected area with soap and water. If blood-to-blood contact occurs, or if more severe symptoms develop, consult a physician.
Inhalation:	Remove person from exposure area to fresh air. Treat symptomatically and supportively. Generally, this aqueous product is not a significant inhalation hazard in the kit volumes and concentrations present.
If Swallowed:	If ingested, rinse out mouth thoroughly with water, provided the person is conscious, and OBTAIN MEDICAL ATTENTION. Call a physician or the local poison control center. Treat symptomatically and supportively. If vomiting occurs, keep head lower than hips to prevent aspiration.
Notes to Physician:	According to the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030), Universal Precautions apply. Persons handling human blood source samples should be offered hepatitis B vaccination prior to working with human source material.

FIREFIGHTING MEASURES (5):

Extinguishing Media:	Use extinguishing media appropriate for the surrounding fire.
Hazardous Combustion Products:	Oxides of carbon or nitrogen may form when heated to decomposition.
Special Firefighting Procedures:	Conventional firefighting full protective equipment (with NIOSH-approved self-contained breathing apparatus) and procedures appropriate for the surrounding fire should be sufficient.

ACCIDENTAL RELEASE MEASURES (6):

- ◆ Avoid direct contact with skin, eyes, mucous membranes and clothing by wearing appropriate lab personal protective equipment (PPE), including gloves, lab coat and eye/face protection.
- ◆ In the event of a hazardous material spill, contain the spill if it is safe to do so and immediately move to a safe area, free from potential aerosols, to decontaminate and/or safely remove any contaminated clothing, as necessary. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Isolate the hazard area and ventilate if appropriate. Ensure that appropriate spill cleanup materials and PPE are available and used.
- ◆ Follow established laboratory policy and applicable CDC/NIH biosafety and/or OSHA/WISHA hazardous material spill and/or NFPA/Fire Code guidelines for appropriate hazardous chemical and/or biological material spill response and clean-up. Avoid release to the environment.
- ◆ Wear appropriate PPE. Clean the spill area with water and wipe dry. Spills can also be absorbed with an appropriate inert material (e.g., spill pillows, absorbent pads, etc.) which is secured in an appropriate, labeled, sealed container. Material used to absorb the spill may require hazardous material waste disposal. Infectious, chemical and laboratory wastes must be handled and discarded in accordance with all local, regional, national and international regulations.
- ◆ Refer to Sections 8 and 13 for more specifics.

HANDLING AND STORAGE INFORMATION (7):

Handling:	This test kit should be handled only by qualified personnel trained in laboratory procedures and familiar with their potential hazards. Follow proper good laboratory practices and safety guidelines for handling chemical, biological and laboratory hazards. Do not smoke, eat, or drink in areas where patient samples and kit reagents are handled. Wash your hands after use. Wear appropriate personal protective equipment (PPE), including gloves, lab coat or equivalent and eye/face protection. Keep containers tightly closed; avoid splashing, spills and the generation of aerosols.
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	Handle all human source specimens, materials and equipment used to perform the operations as though they are capable of transmitting infectious disease, as per <i>Standard</i> and <i>Universal Precautions</i> . All personal protective equipment should be removed before leaving the work area. Refer to Section 8 for more specifics. Avoid release to the environment. Do not allow undiluted product hazardous chemical ingredient or large quantities of it to reach ground water or water course. Consult with your Environmental Health & Safety Office for assistance.
Storage:	Store according to the product and label instructions (generally at 2-8 °C).
Caution, consult accompanying documents. Refer to the <i>Instructions For Use</i> and/or <i>Package Insert</i> for additional product information.	
This is a separately purchased component, identical to those found in the kits, which is to be used exclusively with the Bio-Rad Laboratories kits listed in Section 1.	

EXPOSURE CONTROL / PERSONAL PROTECTION MEASURES (8):

Control Parameters – Component chemicals 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.

The following personal protective equipment (PPE) is recommended to prevent blood or other potentially infectious or hazardous materials from reaching the user's work or street clothes, skin, mouth, mucous membranes and eyes, and to prevent hazard inhalation, under normal conditions of use and for the time during which the protective equipment is utilized:

Ventilation:	Adequate lab ventilation is required.
Eye / Face Protection:	Wear ANSI approved safety glasses, goggles or face shield with safety glasses or goggles. Contact lenses should not be worn when handling lab hazards.
Protective Gloves:	Suitable gloves must be worn at all times when handling kit reagents or patient samples to provide skin protection from splash and intermittent contact. Synthetic gloves, such as Nitrile, Neoprene and Vinyl, are recommended because they are sturdy, effective and contain no natural latex ingredients associated with latex glove allergic reactions. Disposable (single use) gloves should be changed often and never be reused. Wash hands thoroughly after removing gloves.
Protective Clothing:	Wear a lab coat, clinic jacket, gown, apron and/or smock. Disposable clothing is strongly recommended when handling biohazardous material.
Respiratory Protection:	Not Required.
Other:	All personal protective equipment should be removed before leaving the work area and placed in an appropriately designated area or container for storage, processing, decontamination or disposal.
Note:	Occupational exposure limit values and health hazard data were given in section 3. Environmental Controls are included in following sections.

PHYSICAL AND CHEMICAL PROPERTIES (9):

Appearance:	Clear aqueous liquid.		
Odour:	Data is not available.	Odour threshold:	Not Established.
pH:	Neutral, pH between 6 and 8		
Boiling point:	Not established.	Melting point:	Not established.
Flash point:	Not applicable. Flammable limits: LEL/LFL is <u>Not applicable</u> ; UEL/UFL is <u>Not applicable</u> .		
Evaporation rate:	Data is not available.		
Fire hazard:	Although the components have not been tested for fire hazard and explosion data, being water-based, they are not expected to be fire hazards, but some of the kit packaging materials may burn under fire conditions.		

Vapor pressure:	Data is not available.
Vapor density:	Data is not available.
Relative density:	Approximately 1.
Solubility:	Miscible in water.
Partition coefficient (n-octanol/water):	Data is not available.
Auto igniting:	Product is not known to be self-igniting.
Decomposition temperature:	Data is not available.
Viscosity:	Data is not available.
Danger of explosion:	Product is not known to present an explosion hazard.
No Other Standard Characteristics applicable to the identification or hazards of the product are known.	

STABILITY AND REACTIVITY INFORMATION (10):

NOTE: Chemical reactions that could result in a hazardous situation (e.g. generation of flammable or toxic chemicals, fire or detonation) are listed here. Although not intended to be complete, an overview of important reactions involving common chemicals is provided to assist in the development of safe work practices.

Chemical Stability / Reactivity:	Stable under ordinary conditions of use and storage.
Conditions and/or Materials to Avoid:	None known when used as intended.
Hazardous Decomposition Products:	Oxides of carbon or nitrogen may form when heated to decomposition.
Hazardous Polymerization:	Has not been reported to occur.

TOXICOLOGICAL INFORMATION -- GENERAL COMPOSITE (11):

Refer to Sections 2 and 3 for the kit component concentrations. The composite toxicological information for this product is:

Acute Health Effects

Toxicity:	No significant toxic effect known.
Primary Irritant Effect:	May slightly irritate eyes or skin, depending on amount and contact time.
Serious Eye Damage / Irritation:	May slightly irritate eyes depending on amount and contact time.
STOT-Single Exposure:	Data is not available
STOT-Repeated Exposure:	Data is not available
Aspiration Hazard:	Data is not available
Other Acute Health Effects:	No significant other health effect is known.

Chronic Toxicity

Sensitization:	No sensitization effect known.
Carcinogenicity:	IARC designates Polyvinyl Alcohol (CAS# 9002-89-5) in the carcinogen Group 3, which specifies, "the Agent is NOT CLASSIFIABLE as Carcinogenic."
Germ Cell Mutagenicity:	Data is not available
Reproductive hazard:	No reproductive toxic effect known.

Additional Toxicological Information: The chemical, physical and toxicological properties have not been thoroughly investigated.

ECOLOGICAL INFORMATION (12):

This product was not tested. The following assessment is based on information for the ingredients.

Toxicity:	No information found.
Persistence and degradability:	No information found.
Bioaccumulation potential:	No information found.
Mobility in soil:	No information found.
PBT and vPvB assessment:	No information found.
Other adverse affects:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Avoid release to the environment.

DISPOSAL CONSIDERATIONS (13):

Disposal of hazardous and/or laboratory wastes, product or packaging must be conducted in accordance with all applicable local, regional, national and international regulations. This section specifies the general and United States RCRA requirements. Processing, use or contamination of the kit components may change waste management requirements and options. Contact your Environmental Health & Safety Office for your specific disposal procedures.

Recommended Product and/or Packaging Disposal: Dispose of product and packaging waste in accordance with all applicable local, regional, national and international regulations.

Do not allow undiluted product or large quantities of it to reach ground water or water course.

TRANSPORT INFORMATION (14):

Shipping of product, packaging and waste must be conducted in accordance with all applicable local, regional, national and international regulations. Processing, use or contamination of the kit components may change shipping requirements and options. Contact your Environmental Health & Safety Office for your specific shipping procedures.

Recommended Unused product Multi-Modal Transportation: According to US DOT, IATA and UN “Model Regulations”, the product must be transported as follows: No known transport restrictions.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

REGULATORY INFORMATION (15):

Composite HMIS Rating: Health: 1 Flammability: 0 Reactivity: 0

California Proposition 65: The Product does not contain listed substances.

Carcinogenicity Categories:

IARC (International Agency for Research on Cancer): IARC Group 3, The Agent is NOT CLASSIFIABLE as Carcinogenic to Humans: **Polyvinyl Alcohol**, CAS# 9002-89-5.

NTP (National Toxicity Program): The Product does not contain listed ingredients.

ACGIH TLV-CAR (Threshold Limit Value established by American Conference of Governmental Industrial Hygienists): The Product does not contain listed ingredients.

OSHA Subpart Z (Occupational Health and Safety Administration, U.S. Department of Labor): The Product does not contain listed ingredients.

National Regulations:

WHMIS Classification: This SDS contains the required information in accordance with the **Workplace Hazardous Materials Information System (WHMIS) Canadian Standard** for the hazard classification criteria for this product.

Mexican Standard: This SDS contains the required information for preparation in accordance with the **Mexican Standard (NMX-R-019-SCFI-2011) SISTEMA ARMONIZADO DE CLASIFICACIÓN Y COMUNICACIÓN DE PELIGROS DE LOS PRODUCTOS QUÍMICOS GLOBALLY HARMONIZED SYSTEM (GHS).**

Australian Code: This SDS contains the required information for preparation according to the *Australian Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals* under Section 274 of the *Work Health and Safety Act*.
Australian Inventory of Chemical Substances: All pertinent ingredients are listed.

Markings according to European Community 1999/45/EC, 2001/59/EC, 2001/60/EC, 2006/102/EC guidelines: This product is not subject to EU labeling classification or identification according to EU lists, Directives 1999/45/EC, 2001/59/EC, 2001/60/EC, 2006/102/EC and other sources of literature known to us.

OTHER INFORMATION (16):

Risk Phrases: None

Safety Phrases: None

This test kit should be handled only by qualified personnel trained in laboratory procedures and familiar with their potential hazards.

Specific warnings are given in the instructions for use. The absence of a specific warning should not be interpreted as an indication of safety.

These are kit Replacement, optional or separately purchased component, identical to those found in the kits, which are to be used exclusively with the Bio-Rad Laboratories kits listed in Section 1.

Sources of key data used to compile the Safety Data Sheet:

Raw Material Vendor Safety Data Sheets

United Nations (UN) Globally Harmonized System (GHS)

United States OSHA Hazard Communication Standard (HCS) 1910.1200

Canadian Workplace Hazardous Materials Information System (WHMIS)

European Community (EC) Regulations 2008/1272/EC, 2010/453/EC, 2006/1907/EC

Mexican Standard NMX-R-019-SCFI-2011

Australian Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Section 274 of the Work Health and Safety Act)

EU Directives 1999/45/EC, 2001/59/EC, 2001/60/EC, 2006/102/EC

Registry of Toxic Effects of Chemical Substances (RTECS)

International Agency for Research on Cancer (IARC)

American Conference of Governmental Industrial Hygienists (ACGIH)

National Toxicity Program (NTP)

Occupational Safety and Health Administration, U.S. Department of Labor (OSHA)

National Institute for Occupational Safety and Health (NIOSH)

World Health Organization. *Laboratory Biosafety Manual*

CDC/NIH *Biosafety in Microbiological and Biomedical Laboratories*

Australian Inventory of Chemical Substances (ACIS) [7-27-2012]

California Proposition 65

Chemical safety assessment: Mixtures covered in this SDS were classified using the EU Regulation 1272/2008/EC and/or UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Fourth edition unless otherwise specified.

Key / legend to abbreviations and acronyms used in the safety data sheet:

ACGIH – American Conference of Governmental Industrial Hygienists

ACIS – Australian Inventory of Chemical Substances

ANSI – American National Standards Institute

CAS – Chemical Abstracts Service

CDC – Centers for Disease Control, USA

CNS – Central Nervous System

DOT – Department of Transportation

EC₅₀ – half maximal effective concentration

EU – European Union

GHS – Globally Harmonized System

HCS – Hazard Communication Standard, USA

IATA – International Air Transport Association

IARC – International Agency for Research on Cancer

ICAO – International Civil Aviation Organization

IDLH – Immediately Dangerous to Life or Health
 IMDG – International Maritime Dangerous Goods
 IPCS – International Programme on Chemical Safety
 LC₅₀ – median lethal concentration, 50%
 LD₅₀ – median lethal dose, 50%
 NIOSH – National Institute for Occupational Safety and Health
 NTP – National Toxicity Program
 OEL – Occupational Exposure Limit
 PEL – Permissible Exposure Limit
 ppm – parts per million
 RTECS # – Registry of Toxic Effects of Chemical Substances number
 SDS – Safety Data Sheet
 STEL – Short Term Exposure Limit
 TLV/TWA – Threshold Limit Value / Time-Weighted Average
 UN – United Nations
 US EPA – United States Environmental Protection Agency
 US OSHA – Occupational Safety and Health Administration, U.S. Department of Labor
 WHMIS – Workplace Hazardous Materials Information System (Canadian)
 WHO – World Health Organization (United Nations)

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

This Revision: Updated, reformatted and added new GHS information.

Bio-Rad Laboratories:

Department issuing SDS: Environmental Health and Safety

Contact for general SDS information: Redmond Operations, Environmental Health & Safety, 6565 185th Ave. NE, Redmond, WA 98052, USA, Phone: 425-881-8300 (8 am to 5 pm PT), ro-sds@bio-rad.com

Customer support contact: Clinical Diagnostics Group, 4000 Alfred Nobel Drive, Hercules, CA 94547, USA
 Phone: 1-800-224-6723, www.bio-rad.com/diagnostics

Contact Local Bio-Rad Agents for general information:

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