SAFETY DATA SHEET (SDS)

SECTION 1: IDENTIFICATION OF PRODUCT (MIXTURE) AND SUPPLIER

Product Name:	**BioPlex® 2200 Detector Clean Pack**
Product Number:	**666-0002** (30 mL)
Intended Use:	This product is intended for use with the Bio-Rad BioPlex® 2200 System. Read and follow BioPlex® 2200 System Instrument Manual instructions.
Supplier's Name:	**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* 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.***

SECTION 2: HAZARDS IDENTIFICATION -- HAZARDOUS COMPONENTS

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
Detector Clean Pack, 30 mL  **DANGER!**	- **60-80% Isopropanol** [IPA - $(CH_3)_2CHOH$], CAS# 67-63-0, EC No 200-661-7. [GHS \ US HCS \ 2008/1272/EC Classification: DANGER! GHS02, GHS07; H225, H319, H336; EUH066; P210 + P243, P261; P312, P370 + P378; P405; P501.] [EU Classification per 1999/45/EC: Highly Flammable: F, Irritant: Xi; R 11-36-67; S 7-16-24/25-26-36-60.]- - **20-40% water** [H_20] CAS# 7732-18-5, EC No 231-791-2 [Not subject to GHS, US HCS and EU 2008/1272/EC regulatory requirements].

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

This product has been conservatively classified and labeled in accordance with applicable *United Nations (UN)* GHS, *United States* Hazard Communication Standard (US HCS) and related *European Community (EC)* 2008/1272/EC guidelines. The following regulated hazardous chemical concentrations are found in product component(s):

70% Isopropanol [IPA - $(CH_3)_2CHOH$], CAS# 67-63-0, EC No 200-661-7.

Comprehensive Classification *[* denotes precautionary statements included on the product label]*:
Flammable Liquid Category 2; Eye Irritant Category 2; STOT SE Category 3

Label(s):	**GHS02** **GHS07**
Signal Word:	**DANGER!**
Label Hazard Statement:	**H225: Highly Flammable liquid and vapor.** **H319: Causes serious eye irritation.** **H336: May cause drowsiness or dizziness.**
Supplemental Hazard Statement:	**EUH066: Repeated exposure may cause skin dryness or cracking.**
Precautionary Statement – Prevention:	**P210**: + **P243**: Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Take precautionary measures against static discharge. * **P241**: Use explosion-proof electrical / ventilating / lighting / equipment. **P261**: Avoid breathing mist / vapour s /spray. * **P271**: Use only outdoors or in a well-ventilated area. **P280**: Wear protective gloves / protective clothing / eye protection / face protection.
Precautionary Statement – Response:	**P312**: Call a POISON CENTER or doctor/physician if you feel unwell.* **P303** + **P361** + **P352**: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. **P304** + **P340**: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. **P370** + **P378**: In case of fire: alcohol- resistant fire-fighting foams are the extinguishing media of choice for extinction. *
Precautionary Statement – Storage:	**P405**: Store locked up. * **P403** + **P233**: Store in a well-ventilated place. Keep container tightly closed.
Precautionary Statement – Disposal:	**P501**: This material and its container must be disposed of as hazardous waste.*

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS -- HAZARDOUS COMPONENTS

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 (LD_{50}, exposure limits, etc.) and that the product contains a significantly diluted concentration in an aqueous solution, thus this assessment below has taken hazard reduction processing into consideration when possible. The GHS, US HCS and EU classifications were made according to the latest editions and expanded upon from company and literature data. Refer to Section 16 for the Key / legend to abbreviations and acronyms.

Chemical Ingredient	Data / Information
70 % (v/v) Isopropanol   **DANGER!** 	CAS#: 67-63-0 (100%) + RTECS#: NT8050000 (100%) + EC No: 200-661-7(100%) + Synonyms: Isopropyl alcohol, 2- propanol, sec-propanol, IPA Chemical Formula: $(CH_3)_2CHOH$ (100%) + Flash Point: 64°F / 18.3°C (100%) + LD_{50} (oral-rat): 4,720 mg/kg (100%) + LC_{50} (inhalation-rat): 17,000 ppm/4H (100%) + LD_{50} (skin-rabbit): 12,890 mg/kg (100%) + STEL: 400 ppm (100%) + PEL: 400 ppm (100%) + TLV/TWA: 200 ppm (100%) + IATA/DOT ID: UN1219, Class 3 + HMIS Codes: H=2, F=3, R=0 ++ RCRA Code: D001 ++ EU Classification per 1999/45/EC: Highly Flammable: F, Irritant: Xi; R 11-36-67; S 7-16-24/25-26-36-60 ++ *GHS \ US HCS \ 2008/1272/EC Classification:* DANGER! GHS02, GHS07; H225, H319, H336; EUH066; P210 + P243, P261; P312, P370 + P378; P405; P501 ++ **Isopropanol** is a highly flammable liquid and vapor [H225] (LEL is 2.5 % and UEL is 12.7% v/v in air) and is an eye and skin irritant. Causes serious eye irritation [H319]. Contact may cause eye injury. Vapors may cause drowsiness or dizziness [H336]. It is readily absorbed through the skin. Repeated exposure may cause skin dryness or cracking [EUH066]. There is limited experimental evidence of teratogenic reproductive effects. Avoid breathing mist / vapours / spray [P261]. Wear protective gloves / protective clothing / eye protection / face protection. Keep away from heat, sparks and other sources of ignition, and strong oxidizers (may cause fire or explosion), acids, acid aldehydes, chlorine, hydrogen peroxide, ketones, aluminum, halogens and halogen compounds. Keep away from heat, sparks and other sources of ignition — No smoking. Ground containers and bond when dispensing or if use could potentially cause a static discharge situation. Take precautionary measures against static discharge. [P210 + P243] In case of fire: Use alcohol- resistant fire-fighting foams are the extinguishing media of choice for extinction [P370 + P378]. Use explosion-proof electrical / ventilating / lighting / equipment. Use only non-sparking tools. Call a POISON CENTER or doctor/physician if you feel unwell [P312]. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Store locked up [P405]. Store in a well-ventilated place. Keep container tightly closed. Spent **isopropanol** waste is considered a RCRA flammable hazardous waste, therefore this material and/or its container must be disposed of as hazardous waste, and in accordance with local, regional, national and international regulations [P501]. Handle appropriately with the requisite Good Laboratory Practices. EU Labeling Classification for 100% chemical concentration per Table 3.2 of 2008/1272/EC - *from Annex I to Directive 67/548/EEC*: Highly Flammable: F, Irritant: Xi; R 11: Highly Flammable. R 36: Irritating to eyes. R 67: Vapours may cause drowsiness or dizziness. S (2-): Keep out of the reach of children. S 7: Keep container tightly closed. S 16: Keep away from sources of ignition – No smoking. S 24/25: Avoid contact with skin and eyes. S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

+ 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.

Related product information:

- Refer to section 2 for the full text of any GHS \ US HCS \ 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 water in the kit volumes and concentrations present [dilution not subject to US HCS, EU or GHS hazard labeling]:
- 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.

SECTION 4: EMERGENCY FIRST AID MEASURES

Health Effects:	Symptoms of over exposure may include headache, dizziness, congestion and breathing difficulty. Causes serious eye irritation. Vapors may cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking. There is limited experimental evidence of teratogenic reproductive effects.
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. If breathing becomes difficult, immediately call for emergency medical assistance. Treat symptomatically and supportively.
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**.**

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media:	Use extinguishing media appropriate for the surrounding fire. Water may be ineffective because it will not cool {isopropanol} to below its flash point. Alcohol- resistant fire-fighting foams are the extinguishing media of choice.
Hazardous Combustion Products:	May emit toxic oxides of carbon and nitrogen under fire conditions.
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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 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. In case of inadequate ventilation wear respiratory protection. 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 cleanup. Avoid release to the environment.
- Wear appropriate PPE. Immediately, and on-site if possible:
  - Eliminate sources of ignition if safe to do so.
  - Have extinguishing agent available in case of fire.
  - Deactivate flammable material spills with a *Solvent adsorbent* product, using non-sparking tools.
- Clean the spill area with water and wipe dry. Spills can also be absorbed with appropriate inert materials (e.g. spill pillows, absorbent pads, etc.), which are 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.

SECTION 7: HANDLING AND STORAGE INFORMATION

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. Handle all human source materials, specimens and equipment used to perform the operations as though they were capable of transmitting infectious disease, as per *Standard* and *Universal Precautions.* 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 the kit components as specified on the product label and/or as specified in the product instructions / package insert provided with the test kit or in the instrument operation manual. Store in a well-ventilated place. Keep cool. Keep container tightly closed.
Caution, consult accompanying documents. Read and follow *BioPlex® 2200 System Instrument Manual* instructions.	
This product is intended for use with the Bio-Rad BioPlex® 2200 System.	

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION MEASURES

Control Parameters – *Component chemicals with limit values that require monitoring at the workplace*:

Chemical	CAS-No.	Value	Control parameter	Basis
Isopropanol	***67-63-0***	TLV – TWA	200 ppm / 492 mg/m^3	USA. ACGIH Threshold Limit Values (TLV)
		TLV – STEL	400 ppm / 980 mg/m^3	USA. ACGIH Threshold Limit Values (TLV)
		PEL – TWA	400 ppm / 980 mg/m^3	USA. OSHA Occupational Exposure Limits
		PEL – STEL	500 ppm / 1225 mg/m^3	USA. OSHA Occupational Exposure Limits
		TWA – 8 hr	400 ppm / 999 mg/m^3	UK. EH40/2005 Workplace exposure limits
		STEL – 15 min	500 ppm / 1250 mg/m^3	UK. EH40/2005 Workplace exposure limits
		MAK	500 mg/m^3	Germany. TRGS 900
		DFG MAK	200 mg/m^3	Germany. TRGS 900
		VLE – 15 min	400 ppm / 980 mg/m³	France.

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, or hazardous inhalation, under normal conditions of use and for the time during which the protective equipment is utilized**:**

Ventilation:	Adequate lab ventilation is required. Use only outdoors or in a well-ventilated area.
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:	Do not breathe mist / vapours / spray. In case of inadequate ventilation wear respiratory protection.
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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless, volatile liquid.		
Odour:	Mild, characteristic alcohol odor.	**Odour Threshold:**	Not available*.
pH:	Not available.		
Boiling Point:	Approximately 80-83°C / 176-181°F *	**Melting Point:**	Approximately -88°C *
Flash Point:	18°C (64.4°F) (CC)*. Flammable limits: LEL/LFL is **2%**; UEL/UFL is **12.7%** @ 25°C.		
Evaporation rate:	1.5 (BuAc=1).*		
Fire Hazard:	Dangerous fire and explosion hazard. Material will readily ignite at room temperature. Vapors are heavier than air and may travel a considerable distance to ignition source and flash back. Closed containers may rupture violently when exposed to fire or excessive heat for a sufficient amount of time.		
Vapor Pressure:	44 mm Hg at 25°C / 4.985 kPa*.		
Vapor Density:	2 (Air = 1).*		
Relative Density:	0.8 – 0.9*		
Solubility:	Miscible in water.		
Partition coefficient (n-octanol/water):	No applicable information was found.		
Auto Igniting:	Approximately 399°C / 750°F*.		
Decomposition temperature:	No applicable information was found.		
Viscosity:	No applicable information was found.		
Danger of Explosion:	Dangerous fire and explosion hazard. Material will readily ignite at room temperature. Vapors are heavier than air and may travel a considerable distance to ignition source and flash back. Closed containers may rupture violently when exposed to fire or excessive heat for a sufficient amount of time.		
Conversion Factor:	1 ppm = 2.45 mg/L; 1 mg/L = 0.41 ppm (calculated).		
No Other Standard Characteristics applicable to the identification or hazards of the product are known.			

** Source: Raw Material Vendor Safety Data Sheet*

SECTION 10: STABILITY AND REACTIVITY INFORMATION

NOTE: Chemical reactions that could result in a hazardous situation (e.g. generation of flammable or toxic chemicals, fire or detonation) are listed here. Many of these reactions can be done safely if specific control measures (e.g. cooling of the reaction) are in place. 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 to Avoid:	Keep away from heat, sparks and other sources of ignition and incompatible material.
Materials to Avoid:	**Isopropanol** may react violently with increased risk of fire, in contact with strong oxidizers, like sulfuric acid and hydrochloric acid.

Hazardous Decomposition Products:	May emit toxic oxides of carbon and nitrogen under fire conditions.
Hazardous Polymerization:	Has not been reported to occur.

SECTION 11: TOXICOLOGICAL INFORMATION -- GENERAL COMPOSITE

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

Acute Health Effects

Toxicity:	Vapors may cause drowsiness or dizziness.
Primary Irritant Effect:	Causes serious eye irritation.
Serious Eye Damage / Irritation:	Causes serious eye irritation.
STOT-Single Exposure:	No applicable information was found.
STOT-Repeated Exposure:	No applicable information was found.
Aspiration Hazard:	No applicable information was found.
Other Acute Health Effects:	Repeated exposure may cause skin dryness or cracking.

Chronic Toxicity

Sensitization:	No sensitization effect known.
Carcinogenicity:	No carcinogenic effect known. No component, mixture or constituent has been classified as a carcinogen by NTP, IARC or OSHA.
Germ Cell Mutagenicity:	No applicable information was found.
Reproductive hazard:	There is limited experimental evidence of teratogenic reproductive effects.

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

SECTION 12: ECOLOGICAL INFORMATION

This product was not tested. The following assessment is based on information for the ingredients.	
Ecotoxicity:	**100% *Isopropanol* [CAS# 67-63-0]*:** Fish LC_{50} - Pimephales promelas (fathead minnow) - 9,640 mg/l - 96 h Daphnia EC_{50} - Daphnia magna (Water flea) – 5,102 mg/l - 24 h Algea EC_{50} - Scenedesmus subspicatus - > 2,000 mg/l - 72 h * *Source: Raw Material Vendor Safety Data Sheet*
Persistence and degradability:	No information found.
Bioaccumulation potential:	This material is not expected to significantly bioaccumulate or to be toxic to aquatic life.
Mobility in soil:	No information found.
PBT and vPvB assessment:	No information found.
Other adverse affects:	The **isopropanol** in this product is expected to evaporate quickly, be readily degraded in air (photochemically) and to moderately biodegrade when released in water or soil (Expected half-life of 1-10 days). An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

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 Disposal: Whatever flammable **Isopropanol** (≥ 24% alcohol with closed-cup Flash Point of ≤ 60°C/ 140°F) cannot be saved for recovery or recycling requires disposal as a flammable hazardous waste in a RCRA approved waste facility (or equivalent); the US RCRA Waste disposal Code is D001; check your international, national, regional and local ordinances accordingly.

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

Recommended Unclean Packaging Disposal: Dispose in accordance with all applicable local, regional, national and international regulations.

SECTION 14: TRANSPORT INFORMATION

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 Product Multi-Modal Transportation: According to US DOT, IATA and UN "Model Regulations", the product must be transported as follows: Air and land transportation information for discarded kit components and waste from this product when used as intended is:

This kit contains **60-80 % Isopropanol**, thus any discarded kit component or waste generated from its use, resulting in a flammable liquid (closed-cup (ASTM Standard D-93-79 or D-93-80 or D-3278-78) Flash Point of ≤ 60.5°C) must be transported as follows:

Proper Shipping name: **Isopropanol**
UN Class: **3**
Packing group **II**
UN ID Number: **UN 1219**

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

SECTION 15: REGULATORY INFORMATION

Composite HMIS Rating: Health: 2 Flammability: 3 Reactivity: 0

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

Carcinogenicity Categories: No component, mixture or constituent has been classified as a carcinogen by NTP (National Toxicity Program), IARC (International Agency for Research on Cancer), TLV-CAR (Threshold Limit Value established by ACGIH) or OSHA (Occupational Health and Safety Administration, U.S. Department of Labor).

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.

Composite WHMIS Hazard Class: Class B2 - Flammable Liquid

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.

Korean* Code*: This SDS contains the required information in accordance with the **Korean Public Notice 2008-26** for the hazard classification criteria for this product.

Markings according to *European Community* 1999/45/EC, 2001/59/EC, 2001/60/EC, 2006/102/EC guidelines:

This product has been classified and labeled in accordance with applicable *European Community (EC) Directives* 1999/45/EC, 2001/59/EC, 2001/60/EC and 2006/102/EC.

Hazard Designation of Composite Product: HIGHLY FLAMMABLE: F  ; IRRITANT: Xi 

Hazard Determining Substance(s) of Labeling: **70% Isopropanol** (Isopropyl Alcohol - $(CH_3)_2CHOH$) in water (v/v), CAS# 67-63-0, EC No 200-661-7, Flash Point: 18.3°C / 64°F [Highly Flammable: F, Irritant: Xi; R 11-36-67; S 7-16-24/25-26-36-60.]

SECTION 16: OTHER INFORMATION

Risk Phrases:

R 11	Highly flammable.
R 36	Irritating to eyes.
R 67	Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 7	Keep container tightly closed.
S 16	Keep away from sources of ignition – No smoking.
S 24/25	Avoid contact with skin and eyes.
S 26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36	Wear suitable protective clothing.
S 60	This material and its container must be disposed of as hazardous waste.

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.

This product is intended for use with the Bio-Rad BioPlex® 2200 System.

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 (US 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)
Occupational Safety and Health Administration, U.S. Department of Labor (OSHA)
National Toxicity Program (NTP)
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 US HCS, 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:

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
EC_{50} – half maximal effective concentration
EU – European Union
GHS – Globally Harmonized System
IARC – International Agency for Research on Cancer
IATA – International Air Transport Association
ICAO - International Civil Aviation Organization
IDLH – Immediately Dangerous to Life or Health
IMDG – International Maritime Dangerous Goods
IPCS – International Programme on Chemical Safety
LC_{50} – median lethal concentration, 50%
LD_{50} – 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
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 HCS – Hazard Communication Standard, USA
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 US HCS/GHS information.

Department issuing SDS: Environmental Health and Safety.

Contact for general SDS information: Seattle 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, FAX: 510-741-6373, www.bio-rad.com/diagnostics

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