

SAFETY DATA SHEET (SDS)**SECTION 1: IDENTIFICATION OF PRODUCT (MIXTURE) AND SUPPLIER**



Product Name:	BioPlex 2200 System MMRV IgG Reagent Pack
Product Number:	665-2450 (100 tests)
Intended Use:	The BioPlex 2200 MMRV IgG kit is a multiplex flow immunoassay intended for the qualitative detection of IgG antibodies to Measles, Mumps, Rubella, and Varicella-zoster virus (VZV) in human serum and EDTA or heparinized plasma. The BioPlex 2200 MMRV IgG kit is intended for use with the Bio-Rad BioPlex 2200 System.
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. <i>Refer to section 16 for non-US local Bio-Rad agent contact information.</i>
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]
Australian Importer:	Australia: Bio-Rad Laboratories Pty. Ltd., Level 5, 446 Victoria Road, Gladesville NSW 2111 Phone 61 2 9914 2800 Emergency numbers (24h/365d): 1 800 039 008 CHEMTREC Australia (Sydney): +(61)-290372994 sales.australia@bio-rad.com
New Zealand Importer:	Bio-Rad New Zealand, 189 Bush Road Unit B, Albany, Auckland Phone 64-9-415-2280 Emergency numbers (24h/365d): 800 2436 2255 CHEMTREC New Zealand (Auckland): +(64)-98010034 sales.nz@bio-rad.com
Canadian Importer:	Canada: Bio-Rad Laboratories, Ltd. 2403 Guénette Street, Montréal Québec H4R 2E9 Phone 1-514-334-4372 Emergency number (24h/365d): 1-514-334-4372 CHEMTREC: 1-800-424-9300 or 1-703-527-3887
Emergency Phone Number:	This SDS is listed with CHEMTREC 1-800-424-9300 or 1-703-527-3887 (US/CA) / +1-703-741-5970 (international – can be called collect). Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product. <i>Refer to section 16 for non-US local Bio-Rad agent contact information.</i>

BioPlex 2200 System MMRV IgG Reagent Pack

[Catalog 665-2450]

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. The following information is furnished for those product hazardous constituents that require regulatory control or disclosure at the concentration found in the product. Refer to Section 16 for the full text of any solely abbreviated or coded hazard statements provided below and for the key / legend to abbreviations and acronyms.

Component	Content
Bead Set BioPlex 2200 MMRV IgG One (1) 10 mL vial (Faint brown liquid)  WARNING	<ul style="list-style-type: none"> - Dyed beads coated with Measles (Rubeola), Mumps, Rubella, and VZV antigens plus an Internal Standard bead (ISB), a Serum Verification bead (SVB), and a Reagent Blank bead (RBB) in buffer with Glycerol and protein stabilizers (bovine CAS# 9048-46-8) (pH 7.4). - 50-100% water [H₂O] CAS# 7732-18-5, EC No 231-791-2. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - < 20% Glycerol [C₃H₈O₃], CAS# 56-81-5, EC No 200-289-5. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - < 2% Sodium chloride [NaCl], CAS# 7647-14-5, EC No 231-598-3. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - < 1% MOPS free acid buffer (3-[N-Morpholino]propanesulfonic acid - C₄H₈ON(CH₃)₃SO₃H], CAS# 1132-61-2, EC No 214-478-5. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - Preserved with ≤ 0.3% ProClin 300 (≤ 0.009% active ingredient), EC Index No 613-167-00-5 with CAS# 55965-84-9. GHS \ US HCS \ EC CLP Classification: WARNING; GHS07; H317, H412; P273, P280; P302 + P352, P333 + P313; P501. - Preserved with ≤ 0.1% sodium benzoate [C₇H₅O₂•Na], CAS# 532-32-1, EC No 208-534-8. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - Preserved with < 0.1% sodium azide [NaN₃], CAS# 26628-22-8 and EC No 247-852-1. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration.
Conjugate BioPlex 2200 MMRV IgG One (1) 5 mL vial (Pink aqueous liquid)  WARNING	<ul style="list-style-type: none"> - Phycoerythrin conjugated murine monoclonal anti-human IgG antibody and phycoerythrin conjugated murine monoclonal anti-human FXIII antibody, in buffer (pH 7.4) with protein stabilizers (bovine CAS# 9048-46-8). - 50-100% water [H₂O] CAS# 7732-18-5, EC No 231-791-2. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - < 1% Sodium chloride [NaCl], CAS# 7647-14-5, EC No 231-598-3. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - Preserved with ≤ 0.3% ProClin 300 (≤ 0.009% active ingredient), EC Index No 613-167-00-5 with CAS# 55965-84-9. GHS \ US HCS \ EC CLP Classification: WARNING; GHS07; H317, H412; P273, P280; P302 + P352, P333 + P313; P501. - Preserved with ≤ 0.1% sodium benzoate [C₇H₅O₂•Na], CAS# 532-32-1, EC No 208-534-8. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - Preserved with < 0.1% sodium azide [NaN₃], CAS# 26628-22-8 and EC No 247-852-1. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration.

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Component	Content
Sample Diluent BioPlex 2200 MMRV IgG One (1) 10 mL vial (Yellow aqueous liquid)	<ul style="list-style-type: none"> - Buffer with protein stabilizers (bovine CAS# 9048-46-8 and murine) (pH 7.4). - 50-100% water [H₂O] CAS# 7732-18-5, EC No 231-791-2. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - < 2% Magnesium Chloride Hexahydrate [MgCl₂•6H₂O], CAS# 7791-18-6; EC No 232-094-6. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - < 1% Sodium chloride [NaCl], CAS# 7647-14-5, EC No 231-598-3. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - ≤ 1% Triethanolamine hydrochloride [C₆H₁₅NO₃•HCl] CAS 637-39-8, EC No 211-284-2. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - Preserved with ≤ 0.3% ProClin 300 (≤ 0.009% active ingredient), EC Index No 613-167-00-5 with CAS# 55965-84-9. GHS \ US HCS \ EC CLP Classification: WARNING; H317, H412; P273, P280; P302 + P352, P333 + P313; P501. - Preserved with ≤ 0.1% sodium benzoate [C₇H₅O₂•Na], CAS# 532-32-1, EC No 208-534-8. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration. - Preserved with < 0.1% sodium azide [NaN₃], CAS# 26628-22-8 and EC No 247-852-1. Not subject to UN GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements in this product mixture and concentration.

**WARNING**

Markings according to the United Nations (UN) Globally Harmonized System (GHS), United States Hazard Communication Standard (US HCS), European Commission (EC) 2008/1272/EC (EC CLP) guidelines and analogous GHS-based global regulations: This product has been conservatively classified and labeled in accordance with *United Nations (UN) GHS, United States Hazard Communication Standard (US HCS), related European Commission (EC) 2008/1272/EC (EC CLP) guidelines and applicable analogous GHS-based global regulations.* The following regulated hazardous chemical concentrations are found in product component(s):

≤ 0.3% ProClin 300 [0.009% active ingredients – reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one (C₄H₄CINOS; CAS# 26172-55-4, EC No 247-500-7) and 2-methyl-2H -isothiazol-3-one (C₄H₅NOS; CAS# 2682-20-4, EC No 220-239-6) (3:1)], EC Index No 613-167-00-5 with CAS# 55965-84-9.

Comprehensive GHS Based Classification: Skin Sensitizer Category 1



Label(s):

Signal Word:

WARNING

Label Hazard Statements:

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements (statements for product intended use and as codified on the product label):

P273 Avoid release to the environment.

P280 Wear protective gloves / protective clothing / eye protection / face protection.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P501 Dispose of contents and container in accordance to local, regional, national and international regulations.

Supplemental Precautionary Statements (additional precautions to consider relative to specific customer use):

P261 Avoid breathing mist / vapours / spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

The following information is furnished for those product hazardous constituents that require regulatory control or disclosure regardless of the concentration found in the product. Note that the information here is often based on data from the chemical raw material safety data sheet and literature (LD₅₀, exposure limits, etc.). Chemical constituents that do not require regulatory disclosure are not generally included here. This product contains a significantly diluted concentration in an aqueous solution, thus the assessment below has not considered the dilution reduction effect on the hazard. That hazard communication information is provided in Section 2 above. Some components were tested at the concentration found in the kit. In that case, the assessment is provided for the chemical dilution tested and the tested concentration will be provided at the beginning of the *Chemical Ingredient Data/Information* box. The UN GHS, US HCS, EC CLP and analogous GHS-based global regulation classifications were made according to the latest editions and expanded upon from company and literature data. Refer to Section 16 for the full text of any *Comprehensive GHS-based Classification* statements coded below, for the list of sources utilized in the assessment and for the key / legend to abbreviations and acronyms.

Chemical Ingredient Data / Information

Chemical Ingredient: Glycerol

Chemical concentrations found in this product: **≤ 20% in the bead set**

Data for Concentrated / 100% chemical used in the product mixture (concentration tested):

CAS#: 56-81-5 (100%)	LD ₅₀ (oral-rat): 12,600 mg/kg (100%)
EC No: 200-289-5 (100%)	LC ₅₀ (inhalation-rat): > 570 mg/m ³ /1H (100%)
RTECS#: MA8050000 (100%)	LD ₅₀ (skin-rabbit): > 10000 mg/kg (100%)
Index No: NA (100%)	LC ₅₀ (96 hr-fish): NE (100%)
Chemical Formula: C ₃ H ₈ O ₃ (100%)	Flash Point: 320 F / 160° C (100%)
Molecular weight: 92.09 g/mol (100%)	Flammable limits: LEL/LFL is 0.9% vv in air.
Synonyms/Trade Names: 1,2,3-Propanetriol; 1,2,3-Trihydroxypropane; 90 Technical glycerine; Citifluor AF 2; lyzerin, wasserfrei, Glycerin; Glycerin mist; Glycerin mist; Glycerin, anhydrous; Glycerin, synthetic; Glycerine; Glyceritol; Glycyl alcohol; Grocolene; MOON; Osmoglyn; Star; Synthetic glycerin; Trihydroxypropane	

Raw Material GHS / US HCS / EC CLP Classification (100%): Not a dangerous substance according to GHS, US HCS, EC CLP and analogous global GHS-based regulatory requirements.

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

Chemical Ingredient Data / Information

Chemical Ingredient: ProClin 300Chemical concentrations found in this product: $\leq 0.3\%$ ($\leq 0.009\%$ active ingredient)**Data for Concentrated / 100% chemical used in the product mixture** (concentration tested):

Hazardous ingredient concentration in raw material:

60-100% Glycols;

1-5% Mixture (3:1) of 5-Chloro-2-methyl-4-isothiazolin-3-one (C₄H₅NOS; CAS# 2682-20-4, EC# 220-239-6)
 and **2-Methyl-2H -isothiazol-3-one** (C₄H₄CINOS; CAS# 26172-55-4, EC# 247-500-7),
 CAS#: 55965-84-9, Index No: 613-167-00-5

Data for chemical used in the product (concentration tested):

RTECS#: NE

LD₅₀ (oral-rat): 862 mg/kg (concentrated solution)LD₅₀ (skin-rabbit): 2,800 mg/kg (concentrated solution)LC₅₀ (inhalation-rat): NELD₅₀ (skin-rabbit): NE

pH value: 4.1 at 100 g/L (concentrated solution)

Flash Point: 244° F / 118° C (concentrated solution)

Synonyms/Trade Names: 5-Chloro-2-methyl-4-isothiazolin-3-one solution; Kathon 300; Isothiazolinone chloride solution

Skin corrosion/irritation - rabbit – Corrosive (concentrated solution)

Serious eye damage/eye irritation - rabbit - Corrosive to eyes (concentrated solution)

Respiratory or skin sensitization - May cause allergic skin reaction (concentrated solution)

OECD TG 429 (LLNA (2000a)): SI ≥ 3 for all concentrations; EC3 value of ≤ 2 (0.003%) – Positive, Skin Sens. Cat. 1AOECD TG 429 (LLNA (2000b)): SI ≥ 3 from 70ppm; EC3 value of ≤ 2 (0.007%) – inconclusive

GPMT (2000a): OECD TG 416, GLP – Negative

GPMT (2000b): OECD TG 416, GLP – Positive

Buehler (1982): GLP 9/15 animals responded to an induction concentration of 0.01% - Positive, Skin Sens. Cat. 1A

Open Epicutaneous Test (2001) - Positive, Skin Sens. Cat. 1

Raw Material GHS / US HCS / EC CLP Classification (100%):**DANGER!**

Acute Tox. – oral Cat. 4, Skin Corr. Cat. 1B, Eye Damage Cat.1, Skin. Sens. Cat.1, Aquatic Acute Cat. 1, Aquatic Chron. Cat. 1

H302, H314, H317, H410

P261, P264, P270, P272, P273, P280, P301 + P312 + P330, P301 + P330 + P331,

P303 + P361 + P353, P305 + P351 + P338, P310, P333 + P313, P363, P391, P405, P501

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]

**Chemical Ingredient: Sodium azide**Chemical concentrations found in this product: $\leq 0.1\%$ w/v in an aqueous solution**Data for Concentrated / 100% chemical used in the product mixture** (concentration tested):

CAS#: 26628-22-8 (100%)

EC No: 247-852-1 (100%)

Index No: 011-004-00-7 (100%)

RTECS#: VY8050000 (100%)

Chemical Formula: NaN₃ (100%)

Synonyms/Trade Names: Azide, sodium; Azoture de sodium; Azydek sodu; NSC 3072; Kazoe; Natriumazid; Natriummazide; NCI-C06462;
 Nemazyd; Sodium azide; Sodium, azoture de; Sodium, azoturo di, Smite; U-3886;

LD₅₀ (oral-rat): 27 mg/kg (100%)LC₅₀ (inhalation-rat): 37 mg/m³ (100%)LD₅₀ (skin-rat): 50 mg/kg (100%)Fish LC₅₀ – Lepomis macrochirus (Bluegill) – 0.68 mg/l – 96 h

Molecular weight: 65.01g/mol (100%)

Raw Material GHS / US HCS / EC CLP Classification (100%):**DANGER!**

Acute Tox. – oral. Cat. 2, Acute Tox. – skn. Cat. 1, Aquatic Acute Cat. 1, Aquatic Chron. Cat. 1

H300 + H310, H410

P264, P273, P280, P302 + P350, P310, P501

[Source: Raw Material vendor SDS, CCOHS databases and regulatory research]



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Biological Ingredient	Data / Information
Animal proteins	This material is of animal origin (bovine and murine) and may be a potential contact irritant. Hazard Unknown. Handle as potentially infectious. The chemical, physical and toxicological properties have not been thoroughly investigated. Handle appropriately with the requisite Good Laboratory Practices, <i>Standard</i> and <i>Universal Precautions</i> . Dispose of this material in accordance with local, regional, national and international regulation.
Human Plasma Derived Antigen [Bead Set component]	Highly purified, human plasma derived antigens may be incorporated onto certain BioPlex 2200 dyed beads. Patient blood samples tested with this kit represent an unknown, heightened hazard. Employ <i>Standard</i> and <i>Universal Precautions</i> when handling these reagents and all human blood or specimens. Handle as if capable of transmitting infectious disease, in a Biosafety Level 2 lab, applying the guidelines from the current CDC/NIH <i>Biosafety in Microbiological and Biomedical Laboratories</i> or WHO <i>Laboratory Biosafety Manual</i> or equivalent. Persons handling blood samples should have the option of receiving hepatitis B vaccination.



NA: Not applicable

NE: Not Established or Unknown (unable to locate data); typically for concentrate form unless otherwise specified.

Related product information:

- ◆ Refer to section 16 for the full text of any *Comprehensive GHS-based Classification* statements, for the list of sources utilized in the assessment and for the key / legend to abbreviations and acronyms.
- ◆ No significant adverse health effects are expected by any route for the miscellaneous salts, buffers, protein-stabilizers, antibodies, conjugates, water, sodium benzoate, catalytic or other non-reactive ingredients, in the kit volumes and/or concentrations present [chemical or dilution is not subject to EC CLP, US HCS or other GHS-based hazard labeling].
- ◆ According to the concept of *Universal Precautions* (29 CFR 1910.1030), all human blood and certain human body fluids must be treated as if known to be infectious for HIV, HBV and other bloodborne pathogens. No known test method can offer complete assurance that products derived from human blood will not transmit infection; thus, they should be handled as though they contain infectious agents. Furthermore, individual patient samples being tested represent a heightened, unknown hazard. Aerosolization/inhalation, contact and mucous membrane exposure should be avoided during sample and kit handling. Consider equipment that potentially comes in contact with human source material as contaminated until appropriately decontaminated.
- ◆ 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 overexposure may include headache, dizziness and congestion. May cause allergic skin reaction upon repeated exposure, generally at concentrations and volumes that greatly exceed that of this kit.
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. 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.

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SECTION 5: FIREFIGHTING MEASURES

Fire Hazard Summary:	This product is aqueous based so is not considered flammable or combustible.
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.

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. Ensure that appropriate spill cleanup materials and PPE are available and used.
- ◆ Prevent material from entering sewers, waterways or confined spaces.
- ◆ Follow established laboratory policy and applicable WHO/CDC/NIH biosafety and/or WHO/OSHA hazardous material and/or equivalent 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: Decontaminate Biohazard/Human Source Material spills, which should always be treated as potentially infectious, including the area, spill materials and any contaminated surfaces or equipment. Utilize an appropriate chemical decon agent or disinfectant that is effective for the known or potential pathogens relative to the samples involved (commonly a 1:10 dilution of bleach, 70-80% Ethanol or Isopropanol, an iodophor (such as Wescodyne Plus), or a phenolic, etc.).
- ◆ 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:	<p>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.</p> <p>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.</p> <p>Keep containers tightly closed; avoid splashing, spills and the generation of aerosols.</p> <p>Handle all human source specimens, materials and equipment used to perform the operations as though they were capable of transmitting infectious disease, as per Standard and Universal Precautions.</p> <p>All personal protective equipment should be removed before leaving the work area. Refer to Section 8 for more specifics.</p> <p>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.</p> <p>Consult with your Environmental Health & Safety Office for assistance.</p>
Storage:	Store the kit components as specified on the product label and/or in the product instructions provided with the test kit.
Caution, read accompanying documents. Read and follow all the precautions and warnings in the kit product instructions for use. Read and follow <i>BioPlex 2200 System Instrument Manual</i> instructions.	
For <i>in vitro</i> diagnostic use. 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: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Concentrated Active Ingredient ratio in ProClin 300 [CAS# 55965-84-9] - OEL:

GERMANY:	MAK	0.2 mg/m ³ , inhal	2011
THE NETHERLANDS:	MAC-TGG	0.2 mg/m ³	2003
SWITZERLAND:	MAK-W KZG-W	0.2 mg/m ³ 0.4 mg/m ³ , inhal, sen	2011

[Source: CCOHS CHEMINFO 2013, RTECS September 2013 Update and Raw Material Vendor Safety Data Sheet]

100% Sodium Azide [CAS# 26628-22-8] - OEL:

AUSTRALIA:	CL	0.11 ppm (0.3 mg/m ³)	2008
AUSTRIA:	MAK-TMW KZW	0.1 mg/m ³ 0.3 mg/m ³ , skin	2007
BELGIUM:	TWA STEL	0.1 mg/m ³ , 0.3 mg/m ³ , skin	2002
DENMARK:	TWA	0.1 mg/m ³ , skin	2011
EC (European Union):	TWA STEL	0.1 mg/m ³ 0.3 mg/m ³ , skin	2000
FINLAND:	TWA STEL	0.1 mg/m ³ 0.3 mg/m ³ , skin	2011
FRANCE:	VME VLE	0.1 mg/m ³ 0.3 mg/m ³ , Skin	2006
GERMANY:	MAK	0.2 mg/m ³ , inhal	2011
HUNGARY:	TWA STEL	0.1 mg/m ³ 0.3 mg/m ³	2000
ICELAND:	TWA STEL	0.1 mg/m ³ 0.3 mg/m ³ , skin	2011
ITALY	TWA	C 0.29 mg/m ³ , C 0.11* ppm	*sodium azide, vapor
KOREA:	CL	0.1 ppm (0.3 mg/m ³)	2006
THE NETHERLANDS:	MAC-TGG	0.1 mg/m ³ , skin	2003
NEW ZEALAND:	CL	0.11 ppm (0.29 mg/m ³)	2002
PERU:	TWA STEL	0.1 mg/m ³ 0.29 mg/m ³	2005
SWEDEN:	TWA STEL	0.1 mg/m ³ 0.3 mg/m ³ , Skin	2005
SWITZERLAND:	MAK-W KZG-W	0.2 mg/m ³ 0.4 mg/m ³ , inhal	2011
UNITED KINGDOM:	TWA STEL	0.1 mg/m ³ 0.3 mg/m ³ , skin	2007
ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM		check ACGIH TLV	
UNITED STATES:	TLV-TWA-Ceiling REL-Ceiling	0.11* ppm / 0.29** mg/m ³ 0.1* ppm / 0.3** mg/m ³	ACGIH, 1996, 2013 NIOSH Recommended Exposure Limits *as HN ₃ vapor; **as NaN ₃ ; Skin

[Source: CCOHS CHEMINFO 2013, RTECS September 2013 Update and Raw Material Vendor Safety Data Sheet]

100% Glycerol [CAS# 56-81-5] - OEL:

BELGIUM:	TWA	10 mg/m ³	2002
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BioPlex 2200 System MMRV IgG Reagent Pack

[Catalog 665-2450]

100% Glycerol [CAS# 56-81-5] - OEL:			
FINLAND:	TWA	20 mg/m ³	2011
FRANCE:	VME	10 mg/m ³	2006
GERMANY:	MAK	50 mg/m ³ , inhal	2011
ITALY:	TWA	10 mg/m ³	
KOREA:	TWA	10 mg/m ³ (mist)	2006
MEXICO:	TWA	10 mg/m ³ (inhalable)	2004
THE NETHERLANDS:	MAC-TGG	10 mg/m ³	2003
NEW ZEALAND:	TWA	10 mg/m ³ (mist)	2002
PERU:	TWA	10 mg/m ³	2005
SWITZERLAND:	MAK-W KZG-W	50 mg/m ³ 100 mg/m ³ , inhal	2011
UNITED KINGDOM:	TWA	10 mg/m ³	2007
ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM		check ACGIH TLV	
UNITED STATES:	TLV-TWA PEL-T-TWA	10* ppm (*total mist) 15* 5** mg/m ³ (*total dust **respirable fraction)	ACGIH Threshold Limit Values (TLV) OSHA 29,1910.1000 Z-1, 1989
Remarks: Upper Respiratory Tract irritation			
[Source: CCOHS CHEMINFO 2013, RTECS September 2013 Update and Raw Material Vendor Safety Data Sheet]			

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. It is recommended that users handle potentially infectious human source material / patient samples in a biological safety cabinet (BSC), expressly if aerosols might be generated.
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. If reusable clothing is used, procedures for handling potentially infectious laundry under the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030) are required.
Respiratory Protection:	Do not breathe mist / vapors/vapours / spray.
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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Plastic cartridge containing various bottles with aqueous solutions or bead slurry.		
Odor/odour:	No applicable information was found.	Odor/odour threshold:	Not established.
pH:	Neutral, pH between 6 and 8.		
Boiling point:	Undetermined.	Melting point:	Undetermined.
Flash point:	Not Applicable. Flammable limits: LEL/LFL is <u>Not applicable</u> ; UEL/UFL is <u>Not applicable</u> .		

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Evaporation rate:	No applicable information was found.
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/vapour pressure:	No applicable information was found.
Vapor/vapour density:	No applicable information was found.
Relative density:	Undetermined.
Solubility:	The liquid chemical components are soluble in water. The bead set is not miscible or is difficult to mix.
Partition coefficient (n-octanol/water):	No applicable information was found..
Auto igniting:	Product is not known to be self-igniting.
Decomposition temperature:	No applicable information was found.
Viscosity:	No applicable information was found.
Danger of explosion:	<i>Sodium azide</i> may react with lead or copper plumbing to form highly explosive metal azides; build-up in metal plumbing has led to laboratory explosions, so flush with copious water when pouring dilute solutions down the drain to prevent such explosive build-up. Keep <i>Glycerol</i> solutions away from strong oxidizing agents, including sodium hypochlorite (bleach) and potassium permanganate, as could potentially form explosive mixtures.
Molecular mass:	Mixture.
No Other Standard Characteristics applicable to the identification or hazards of the product are known.	
Source: Raw Material vendor SDS, CCOHS databases and/or regulatory research	

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. 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:	Components are stable with no known inherent significant reactivity.
Conditions to Avoid:	Avoid contact with metals. <i>Sodium azide</i> may react with lead or copper plumbing to form highly explosive metal azides; build-up in metal plumbing has led to laboratory explosions, so flush with copious water when pouring dilute solutions down the drain to prevent such explosive build-up.
Materials to Avoid:	Keep <i>Glycerol</i> solutions away from strong oxidizing agents, including sodium hypochlorite (bleach) and potassium permanganate, as could potentially form explosive mixtures.
Hazardous Decomposition Products:	Oxides of carbon or nitrogen may form when heated to decomposition.
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

Acute Toxicity:	May be detrimental if enough is ingested (typically in quantities above those found in the kit).
Primary Irritant Effect:	Not generally considered an irritant. May slightly irritate eyes or skin, depending on amount and contact time.

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Serious Eye Damage / Irritation:	Not generally considered an irritant. May slightly irritate eyes, depending on amount and contact time.
STOT-Single Exposure:	No applicable information was found.
Aspiration Hazard:	No applicable information was found.
Other Acute Health Effects:	No significant other acute health effect known.

Biohazard Potential:

Bead Set component contains highly purified, human plasma derived **antigens**. This product may also contain other human agents capable of transmitting infectious disease. In accordance with good laboratory practice, all human source material should be considered potentially infectious and handled with the same precautions used with patient specimens. Patient blood samples tested with this kit represent an unknown, heightened hazard. Employ *Standard* and *Universal Precautions*; handle these reagents, all human blood and specimens as if capable of transmitting infectious disease, in a Biosafety Level 2 laboratory, applying the guidelines from the current CDC/NIH *Biosafety in Microbiological and Biomedical Laboratories*, the WHO *Laboratory Biosafety Manual* or equivalent. Persons handling blood samples should have the option of receiving hepatitis B vaccination.

Chronic Toxicity

Respiratory or Skin Sensitization:	Skin Sensitizer Category 1. Contains a small volume of a very dilute, sensitizing preservative (<i>ProClin 300</i>); sensitization possible through skin contact. Prolonged or repeated exposure may cause allergic reaction in certain sensitive individuals.
Carcinogenicity:	No carcinogenic effect known. No component, mixture or constituent has been classified as a carcinogen by NTP, IARC, 2008/1272/EC (EC CLP) or OSHA.
Germ Cell Mutagenicity:	No applicable information was found.
Reproductive hazard:	No reproductive toxic effect known.
STOT-Repeated Exposure:	No applicable information was found.

Additional Toxicological Information: To the best of our knowledge, the chemical, physical and toxicological properties have NOT been thoroughly investigated for some of the component chemicals and/or mixtures.

SECTION 12: ECOLOGICAL INFORMATION

This product was not tested. The following assessment is based on information for the ingredients.	
Ecotoxicity:	<p>100% Sodium Azide [CAS#26628-22-8]*: Fish LC₅₀ - <i>Lepomis macrochirus</i> - 0.68 mg/l - 96 h Daphnia EC₅₀ - <i>Daphnia pulex</i> (Water flea) - 4.2 mg/l - 48 h</p> <p>Concentrated ProClin 300 (reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one (CAS# 26172-55-4, EC No 247-500-7) and 2-methyl-2H -isothiazol-3-one (CAS# 2682-20-4, EC No 220-239-6) (3:1), EC Index No 613-167-00-5 with CAS# 55965-84-9)**: Fish LC₅₀ – <i>Lepomis macrochirus</i> (US EPA FIFRA 72-1, flow-through mm) – 0.28 mg a.s. /L – 96 h Fish LC₅₀ – <i>Oncorhynchus mykiss</i> (OECD TG 203, static) – 0.22 mg a.s. /L – 96 h Fish LC₅₀ – <i>Oncorhynchus mykiss</i> (OECD TG 204, flow-through mm) – 0.09 mg a.s. /L – 14 d Fish 36-d NOEC – <i>Pimephales promelas</i> (US EPA FIFRA 72-4, flow-through mm) – 0.02-0.12 mg a.s. /L Fish 28-d NOEC – <i>Oncorhynchus mykiss</i> (OECD TG 215, semi-static nom) – 0.098 mg a.s. /L Daphnia EC₅₀ – <i>Daphnia magna</i> (US EPA 72-2, flow-through mm) – 0.16 mg a.s. /L – 48 h Daphnia EC₅₀ – <i>Daphnia magna</i> (US EPA 72-4, semi-static mm) – 0.10 mg a.s. /L – 21 d</p> <p>*Source: Raw Material vendor SDS, RTECS, CCOHS databases and/or regulatory research ** Source: ECHA RAC report for CAS#55965-84-9 [10 March 2016]</p>
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 effects:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Avoid release to the environment.

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General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water.

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:

- **Sodium azide** may react with lead or copper plumbing to form highly explosive metal azides; build-up in metal plumbing has led to laboratory explosions, so flush with copious water when pouring dilute solutions down the drain to prevent such explosive build-up; check your international, national, regional and local ordinances accordingly.
- All **human source** and other potentially infectious material must be appropriately decontaminated or disposed of as infectious material; 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 Unused Product Multi-Modal Transportation: According to IATA, ADG, ADN, ADR, DOT, IMDG, TDG 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.

SECTION 15: REGULATORY INFORMATION

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

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), OSHA (Occupational Health and Safety Administration, U.S. Department of Labor) or 2008/1272/EC (EC CLP).

National Regulations – Other Domestic / Foreign Laws:

Hazard communication compliance – This SDS contains the required information for preparation in accordance with the following GHS-based global regulations:

1. **United States** – Occupational Safety Health Administration *Hazard Communication Standard 29 CFR 1910.1200 (US HCS)*
2. **Taiwan** – OSHA Published National Standard **CNS 15030 Classification and Labelling of Chemicals**
3. **Singapore** – SS 586 - 2 : 2014
4. **Russia** – GOST 31340-2013, GOST 32419-2013, GOST 32423-2013, GOST 32424-2013, GOST 32425-2013, R 50.1.102-2014, R 50.1.101-2014
5. **People's Republic of China** – National Standard **GB/T 17519-2013, GB 30000-2013**
6. **New Zealand** – *Hazardous Substances and New Organisms Act (HSNO)*
Composite HSNO Hazard Class: Subclass 6.5 Category B (contact sensitizers)
7. **Mexico** – Standard **NOM-018-STPS-2015, NMX-R-019-SCFI-2011**
8. **Korea** – *MoEL-Public Notice 2016-19, 2013-37 Standard for classification and labeling of chemical substances and MSDS*
9. **Japan** – Industrial Safety and Health Law (ISHL) National Standard **JIS Z7252, JIS Z7253**
10. **European Commission (EC)** – applicable **CLP** related regulations (**2010/453/EC, 2008/1272/EC, 2006/1907/EC** etc.)

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11. **Canada** – Hazardous Products Regulations (HPR) / Standard *Workplace Hazardous Materials Information System* (WHMIS-GHS) **Canadian Standard** for the hazard classification criteria for this product.
Composite WHMIS Hazards: Skin Sensitization
12. **Brazil** – Regulation **ABNT NRB 14725**
13. **Australia** – Code of Practice *Preparation of Safety Data Sheets for Hazardous Chemicals* under Section 274 of the **Work Health and Safety** (WHS) Act.
14. Analogous GHS-based global regulations

Inventory status

Country(s) or region Inventory name	In Compliance (yes/no)*
Australia – Australian Inventory of Chemical Substances (AICS)	Yes
Canada – Domestic Substances List (DSL)	Yes
Canada – Non-Domestic Substances List (NDSL)	Yes
China – Inventory of Existing Chemical Substances in China (IECSC)	Yes
European Union – European Inventory of Existing Commercial Chemical Substances (EINECS) or European List of Notified Chemical Substances (ELINCS)	Yes
Japan – Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea – Existing Chemicals List (ECL)	Yes
New Zealand – New Zealand Inventory	Yes
Philippines – Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan – inventory CSNN	Yes
United States & Puerto Rico – Toxic Substances Control Act (TSCA) Inventory	Yes

* A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

Regulation (EC) No. 1907/2006 (REACH):

Chemicals included in the Candidate List of Substances of Very High Concern (SVHC): **None**

REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

United States SARA (Superfund Amendments and Reauthorization Act of 1986):

SARA 302 (extremely hazardous substance) components: The following components are subject to reporting levels established by SARA Title III, Section 302 in greater quantities than found in this product:

Sodium Azide, CAS# 26628-22-8; Revision Date: 2007-07-01

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

Japan – Industrial Safety and Health Law (ISHL) National Standard JIS Z7252, JIS Z7253

Classification JIS – listed in Class 1 - Listed substances: **Sodium Azide**, CAS# 26628-22-8 [No. PRTR Law: 11], product concentration: **≤ 0.1%**.

Classification JIS – listed in Class 2 - Listed substances: None

Water hazard class: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986):

The Product does not contain listed substances.

SECTION 16: OTHER INFORMATION

Hazard statement abbreviation(s):

Acute Tox. – oral.	Acute toxicity – ingested (swallowed)
Acute Tox. – skn.	Acute toxicity – skin contact (dermal)
Skin Corr.	Skin corrosion
Eye Damage.	Serious eye damage
Skin Sens.	Skin sensitisation
Aquatic Acute	Acute aquatic toxicity
Aquatic Chron.	Chronic aquatic toxicity
Cat.	Category
H300 + H310	Fatal if swallowed or in contact with skin.

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H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
P261	Avoid breathing mist / vapors/vapours / spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ 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.
P310	Immediately call a POISON CENTER or doctor/ physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents and container in accordance to local, regional, national and international regulations.
P501	This material and its container must be disposed of as hazardous waste.
Caution	Contains human source material. Handle as if capable of transmitting potentially infectious agents (<i>Standard and Universal Precautions</i>).

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.

For *in vitro* diagnostic use.

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

Chemical safety assessment: Mixtures covered in this SDS were classified using the US HCS, EC CLP and/or UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Fifth edition unless otherwise specified.

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)
 Mexican Standard (NOM-018-STPS-2015, NMX-R-019-SCFI-2011) [regulatory translation and summaries]
 European Commission (EC) Regulations 2008/1272/EC, 2010/453/EC, 2006/1907/EC (EC CLP)
 Australian Code of Practice – Preparation of Safety Data Sheets for Hazardous Chemicals (Section 274 of the *Work Health and Safety Act*)
 New Zealand – Hazardous Substances and New Organisms Act (HSNO)
 The People's Republic of China National Standard GB/T 17519-2013, GB/T 16483-2008, GB 30000-2013 [regulatory translation if available and summaries]
 Taiwan OSHA Published National Standard CNS 15030 [regulatory translation if available / summaries]
 Korean MoEL-Public Notice 2016-19, 2013-37 [regulatory translation if available and summaries]
 Japanese Industrial Standard JIS Z7252, JIS Z7253 [regulatory translation if available and summaries]
 Registry of Toxic Effects of Chemical Substances (RTECS)
 Canadian Centre for Occupational Health and Safety (CCOHS) *CHEMINFO* databases, etc.
 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*
 PAN Pesticides Database – *Chemical Studies on Aquatic Organisms*
 California Proposition 65

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

ACGIH – American Conference of Governmental Industrial Hygienists
 AICS – Australian Inventory of Chemical Substances
 ANSI – American National Standards Institute
 CAS – Chemical Abstracts Service
 CCOHS – Canadian Centre for Occupational Health and Safety

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CDC – Centers for Disease Control, USA
 CNS – Central Nervous System
 DGSMA – Dangerous Goods Safety Management Act
 DOT – Department of Transportation, USA
 EC₅₀ – half maximal effective concentration
 EC CLP – European Commission regulation for the Classification, Labeling and Packaging of chemical substances and mixtures
 EU – European Union
 GHS – Globally Harmonized System
 HNOG – Hazard Not Otherwise Classified
 HSNO – Hazardous Substances and New Organisms Act 1996 (New Zealand)
 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
 ISHA – Industrial Safety and Health Act
 LC₅₀ – median lethal concentration, 50%
 LD₅₀ – median lethal dose, 50%
 MSDS – Material Safety Data Sheet
 NIH – National Institute of Health
 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
 STOT – Specific Target Organ Toxicity
 TCCA – Toxic Chemical Control Act
 TLV/TWA – Threshold Limit Value / Time-Weighted Average
 UN – United Nations
 US EPA – United States Environmental Protection Agency, USA
 US HCS – Hazard Communication Standard, USA
 US OSHA – Occupational Safety and Health Administration, U.S. Department of Labor
 WHMIS – Workplace Hazardous Materials Information System, Canada
 WHO – World Health Organization (United Nations)

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

This Revision: Added H412 and P273 to ProClin 300 data (sections 1 & 2). Update to emergency contact numbers (section 16)

Preparation date: Refer to the date in the footer.

Bio-Rad Laboratories:

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, www.bio-rad.com/diagnostics

Emergency Contact (24/7/365) – Chemtrec: 1-800-424-9300 or 1-703-527-3887 (USA/CAN) / +1-703-741-5970 (international – can be called collect). Refer below for in-country Chemtrec emergency contacts.

Contact Local Bio-Rad Agents for general information:

Australia, Bio-Rad Laboratories Pty. Ltd., Level 5, 446 Victoria Road, Gladesville NSW 2111 • Phone 61-2-9914-2800 • Fax 61-2-9914-2888 •
 Poison Information Centre: 13 11 26 (24 hours a day, anywhere in Australia); +61 13 11 26 • **24h/365d**: 1800 039 008 • Chemtrec (**24h/365d**): +(61)-290372994
Austria, Bio-Rad Laboratories Ges.m.b.H., Hummelgasse 88/3-6, A-1130 Vienna • Phone 43-1-877-8901 • Fax 43-1-876-5629 •
 Poison Information Centre: +43 1 406 43 43 • Chemtrec (**24h/365d**): +(43)-13649237
Belgium, Bio-Rad S.A.-N.V. Winninglaan 3, BE-9140 Temse • Phone +32 (3)710-53-00 • Fax +32 (3)710-53-01 • Poison Information Centre / Belgisch Antigifcentrum:
 Brusselles: +32 70 245 245; Luxembourg: 070 245 245 / 8002 5500 (every day, 24 to 24 hours) • Chemtrec (**24h/365d**): +(32)-28083237
Brazil, Bio-Rad Laboratórios Brasil Ltda, Rua Alfredo Albano da Costa, 100 / Distrito Industrial, Lagoa Santa - MG, CEP: 33400-000 • Phone +55 (31)3689-6600 •
 Fax +55 (31)3689-6611 • Contatos com a área de Suporte Técnico ao Cliente (CTS - Customer Technical Support): Telefones: 4003-0399 (Capital e Regiões
 Metropolitanas) e 0800 880 0092 (Outras Localidades) • Centro de Informações Toxicológicas: 0800 643 5252 •
 Telefone para emergências / Chemtrec (**24h/365d**): +(55)-2139581449

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- Canada**, Bio-Rad Laboratories, Ltd., 2403 Guénette Street, Montréal, Québec H4R 2E9 • Phone 1-514-334-4372 • Fax 1-514-334-4415 •
Poison Information Centre: Alberta: 1 800 332 1414; British Columbia: 1 800 567 8911; Manitoba: 1 855 776 4766; New Brunswick: 911;
Newfoundland: 709 722 110; Northwest Territories: 1 800 332 1414; Nunavut: 867 979 7350 (Iqaluit), 867 983 2531 (Cambridge Bay),
867 645 2816 (Rankin Inlet); Ontario: 1 800 268 9017; Prince Edward Island: 1 800 565 8161; Québec: 1 800 463 5060; Saskatchewan: 1 866 454 1212;
Yukon: 867 393 8700 • Chemtrec (24h/365d): 1-800-424-9300 / 1-703-527-3887
- China**, Bio-Rad Laboratories Shanghai Ltd. 3rd Floor, #18 Dong Fang Road, Bldg E, Poly Plaza, Pudong, Shanghai, PRC 200120 • Phone 86-21-61698500 •
Fax 86-21-61698599 • National Poison Control Center: +86 10 831 323 45 • Chemtrec (24h/365d): 4001-204937
- Czech Republic**, Bio-Rad spol. s r.o., Nad ostrovem 1119/7, 147 00 Prague 4 • Phone 420-241-430-532 • Fax 420-241-431-642 •
Toxikologické informační středisko: +420 224 919 293, +420 224 915 402 • Chemtrec (24h/365d): +(420)-228880039
- Denmark**, Bio-Rad Laboratories, Symbion Science Park, Fruebjergvej 3, DK-2100 Copenhagen East • Phone +45-4452-1000 • Fax +45-4452-1001 •
Poison Information Center / Giftlinjen Ring: +45 82 12 12 12 • Chemtrec (24h/365d): +(45)-69918573
- Finland**, Bio-Rad Laboratories, Linnanherankuja 16, FIN-00950 Helsinki • Phone 358-9-804-22-00 • Fax 358-9-7597-5010 • Poison Information Centre:
Myrkytystietokeskus: +358 9 471977 Avoimaa 24 t / vrk • Chemtrec (24h/365d): +(358)-942419014
- France**, Bio-Rad, 3 boulevard Raymond Poincaré, 92430 Marnes-la-Coquette • Phone 33-1-47-95-60-00 • Fax 33-1-47-41-91-33 • Numéro ORFILA + 33 (0)1 45 42 59 59
(24 heures sur 24 - 7 jours sur 7) • Chemtrec (24h/365d): +(33)-975181407
- Germany**, Bio-Rad Laboratories GmbH, Heidemannstrasse 164, D-80939 Munich • Phone +49-(0)89-318-840 • Fax +49-(0)89-318-84100 •
Giftinformationszentren: Berlin: 030/19240 (Notruf); Bonn: 0228/19240 (Notruf); Erfurt: 0361/730 730; Freiburg: 0761/19240 (Notruf); Göttingen: 0551/19 240
(Notruf); Homburg: 06841/19240 (Notruf) 06841/1628436 (Sekretariat); Mainz: 06131/19240 (Notruf); 06131-23 24 66 (Infoline);
München: 089/19240 (Notruf) • Chemtrec (24h/365d): 0800-181-7059 oder +(49)- 69643508409
- Greece**, Bio-Rad Laboratories M.E.P.E, 2-4 Mesogeion Street, Fourth Floor 115 27 Athens • Phone 30-210-7774396 • Fax 30-210-7774376 •
Poison Information Centre: (0030) 2107793777 (24 h/365d) • Chemtrec (24h/365d): +(30)-2111768478
- Hong Kong**, Bio-Rad Pacific Ltd., Unit 1101, 11/F DCH Commercial Centre, 25 Westlands Road, Quarry Bay • Phone 852-2789-3300 • Fax 852-2789-1290 •
Poison Information Centre: +852 2772 2211 • Chemtrec (24h/365d): 800-968-793
- Hungary**, Bio-Rad Hungary Ltd., H-1082 Budapest, Futo Street 47-53, Hungary • Phone +36-1-459-6100 • Fax +36-1-459-6101 • Poison Information Centre:
Információs szolgálat akut mérgezés esetén (+36 80) 201-199 (0-24 h, díjmentesen hívható) • Chemtrec (24h/365d): +(36)-18088425
- India**, Bio-Rad Laboratories (India) Pvt. Ltd., Bio-Rad House, 86-87, Udyog Vihar, Phase IV, Gurgaon, Haryana 122 015 • Phone 1-800-180-1224 •
Fax 91-124-2398115 • National Poison Information Centre: Toll Free No. - 1 800 116 117 (24h/365d) • Chemtrec (24h/365d): 000-800-100-7141
- Israel**, Bio-Rad Laboratories Ltd., 14 Homa Street, New Industrial Area, Rishon Le Zion 75655 • Phone 972-3-9636050 • Fax 972-3-9514129 •
Poison Information Center: 04-7771900 (24/7) or 4 854 1900 • Chemtrec (24h/365d): +(972)-37630639
- Italy**, Bio-Rad Laboratories S.r.l., Via Cellini 18/A, 20090 Segrate, Milan • Phone +39-02-216091 • Fax +39-02-21609553 • Poison Information Centro / Centro
Antiveneni: Bergamo: +39 800 883 300; Firenze: +39 55 794 7819; Foggia: +39 881 732 326; Milan: +39 02 6610 1029; Pavia: +39 38 224 444;
Rome: +39 06 305 43 43; Turin: +39 011 663 7637 • Chemtrec (24h/365d): 800-789-767 o +(39)-0245557031
- Japan**, Bio-Rad Laboratories K.K., Tennoz Central Tower 20F, 2-2-24 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140 0002 • Phone 81-3-6361-7070 •
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- Korea**, Bio-Rad Korea Ltd., 10th Floor, Hyunjuk Building, 832-41, Gangnam-gu, Seoul 135-080 • Phone 82-2-3473-4460 • Fax 82-2-3472-7003 •
Poison Control Information: Yongsan Army Base: 7917-5545/6001; Seoul Poison Center: 129 • Chemtrec (24h/365d): +(82) 070-7686-0086 또는 00-308-13-2549
- México**, Bio-Rad, S.A., Avenida Eugenia 197, Piso 10-A, Colonia Narvarte, Delegación Benito Juárez, C.P. 03020 División de Diagnóstico Clínico "CDG" •
Tel: 54887690 ó 54887670 Ext. 1031 • Correo: cts_cdg_mexico@bio-rad.com • Línea gratuita desde el interior de la república: 01 800 712 0190 •
Centro de Información Toxicológica: 1 800 009 2800 • Teléfono de emergencia: Chemtrec (24h/365d): 01-800-681-9531
- The Netherlands**, Bio-Rad Laboratories B.V., Postbus 222, 3900 AE Veenendaal • Phone +31-318-542216 • Fax +31-318-542216 • Poison Information Centre: NVIC
(030 274 88 88), Only for the purpose of informing medical personnel in cases of acute intoxications. Uitsluitend bestemd om professionele hulpverleners te informeren
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- New Zealand**, Bio-Rad New Zealand, 189 Bush Road Unit B, Albany, Auckland • Phone 64-9-415-2280 • Fax 64-9-415-2284 •
National Poisons Centre: +0800 764 766 • 24h/365d: 800 2436 2255 • Chemtrec (24h/365d): +(64)-98010034
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bjorad@bjorad.com.pl • Poisons Information Centre: Gdansk: +48 58 682 04 04; Krakow: +48 12 411 99 99; Łódź: +48 42 63 14 724;
Sosnowiec: +48 32 266 11 45; Warszawa: +48 22 619 66 54; Wrocław: +48 71 343 30 08 • Chemtrec (24h/365d): +(48)-223988029
- Portugal**, Bio-Rad Laboratories, Lda., Edifício Prime, Ave. Quinta Grande, 53 – Fracção 3B Alfragide 26114-521 Amadora • Phone 351-21-472-7700 •
Fax 351-21-472-7777 • CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre): 808 250 143 • Chemtrec (24h/365d): +(351)-308801773
- Russian Federation**, Bio-Rad Laboratorii, Russian Federation, Moscow, Varshavskoe sh., 9, Bldg., 1B • Phone: +7-495-721-1404 • Fax +7-495-721-1412 •
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- Singapore**, Bio-Rad Laboratories (Singapore) Pte. Ltd., 27 International Business Park, #01-02 iQuest @IBP, Singapore 609924 • Phone 65-6415-3170 •
Fax 65-6415-3189 • 24/7/365: 65-6415-3188 • Poison Information Centre: 6423 9119 (24h/365d); +61 13 11 26 (Australian hotline) •
Chemtrec (24h/365d): 800-101-2201 或 (65)-31581349
- South Africa**, Bio-Rad Laboratories (Pty) Ltd., 34 Bolton Road, Parkwood, Johannesburg 2193 • Phone 27-11-442-85-08 • Fax 27-11-442-85-25 •
Poison Information Centre: +27 824 910 160; Rondebosch: +27 (0) 861 555 777; Tygerberg: +27 (0) 861 555 777 • Chemtrec (24h/365d): 0-800-983-611
- Spain**, Bio-Rad Laboratories, S.A., C/ Caléndula, 95, Edificio M. Miniparc II, El Soto de la Moraleja, 28109 Madrid • Phone 34-91-590-5200 • Fax 34-91-590-5211 •
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- Sweden**, Bio-Rad Laboratories A.B., Box 1097, Solna Strandväg 3, SE-171 54, Solna • Phone +46-8-555-127-00 • Fax +46-8-555-127-80 •
Poison Information Centre / Giftinformationscentralen: När det är akut (urgent): 112 Begär giftinformation; I mindre akuta fall (less urgent): +46 (0) 10 456 6700
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Toxicological Information Centre: 145 (24-h-Notfallnummer) • Chemtrec (24h/365d): +(41)- 435082011
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- United Kingdom**, Bio-Rad Laboratories Ltd., 3rd & 4th Floor, The Junction, Station Road, Watford, Hertfordshire, WD17 1ET • Phone +44 01 923 47 1301 •
Fax +44 (0) 208 328 2550 • Freephone: 00 800 00 BIORAD (00 800 00 24 67 23) • Emergency number: + 44 111 (NHS Emergency support) 9am-5pm Mon-Fri: •
Email: techsupport.uk@bio-rad.com • Poisons Information Centre: NHS 111 / 844 892 0111 • Chemtrec (24h/365d): +(44)-870-8200418
- United States**: American Association of Poison Control Centers call (800) 222-1222 (24h/365d) • Chemtrec (24h/365d): 1-800-424-9300 / 1-703-527-3887

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