



Section 1: Product and Company Identification

Product Name: VeriPlex™ Human Multiplex ELISA Kits

Document No: MSDS5000 Rev.01
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Manufacturers: 1. Quansys Biosciences
365 North 600 West
Logan, Utah 84321
Telephone: 888-782-6797
Facsimile: 435-750-6869
www.quansysbio.com

2. PBL Assay Science
131 Ethel Road West, Suite 6
Piscataway, NJ 08854 USA
Telephone: 732-777-9123
Facsimile: 732-777-9141
www.pblassaysci.com

This MSDS is applicable to the following products:

Catalog No.	Product Name
51500	VeriPlex™ Human Interferon 9-Plex ELISA Kit
51510	VeriPlex™ Human Cytokine 16-Plex ELISA Kit

Section 2: Composition / Information on Ingredient

Solutions in the ELISA kit are multi-component mixtures in water. To the best of our knowledge, at the supplied concentrations stated below, the components do not pose a hazard equivalent to the hazard posed by the individual ingredients in their pure form and we have thereby classified the product(s) in its entirety as non-hazardous.

In compliance with CFR 29 1910.1200(g) 2(i) (C) (3), all ingredients that may present minor physical hazards while in the mixture have been listed.

It is recommended to the user to follow Sections 4 to 7 in event of an emergency and for proper handling and storage instructions. The user should refer to Section 8 with regard to appropriate protective equipment.

- 1) Kathon GC/ICP, Mixture, Concentration: 0.1% v/v
- 2) Bronidox L, CAS# 30007-47-7 Concentration: <0.001% v/v
- 3) Trehalose, CAS# 6138-23-4, Concentration: < 4% w/v
- 4) Pluronic F-68, CAS#9003-11-6, Concentration: ≤ 0.05% w/v
- 5) EGTA, Concentration: <0.04% w/v
- 6) Tween-20, CAS# 9003-11-6, Concentration: 0.05% v/v
- 7) Animal protein products, Concentration: <20% w/v or v/v
- 8) Ethyl Alcohol : ≤3.5% v/v

Section 3: Hazards Identification

- 1) Kathon CG/ICP
 - Chemical Name: 5-Chloro-2-Methyl-4-Isothiazolin-3-One, 2-Methyl-4-Isothiazolin-3-One, Magnesium Chloride anhydrous, Magnesium Nitrate, Copper Nitrate Trihydrate, water
 - CAS Number: 26172-55-4, 2682-20-4, 7786-30-3, 10377-60-3, 10031-43-3
 - EC Number: 247-761-7 (Kathon CG/ICP)
 - Symbol: C
 - R-Phrases: R 34, 43

2) Bronidox L

- Chemical Name: 5-bromo-5-nitro-1,3-dioxane 10 % in propylene glycol
- CAS Number: 30007-47-7
- EC Number : 250-001-7
- Symbol: Xn
- R-phrases : R22, 38

3) Trehalose

- Chemical Name: alpha-D-Glucopyranosyl-alpha-D-glucopyranoside
- CAS Number: 6138-23-4
- EC Number: 202-739-6
- Symbol: XI
- R-phrases: R38

4) Pluronic F-68

- Chemical Name: Polyoxyethylene-polyoxypropylene
- CAS Number: 9003-11-6
- EC Number : Not available
- Symbol: None
- R-phrase: None

5) EGTA

- Chemical Name: Ethyleneglycol-bis(beta-aminoethyl)-N,N,N',N'-tetraacetic Acid
- CAS Number: 67-42-5
- EC Number: 200-651-2
- Symbol: None
- R-phrases: None

6) Tween-20

- Chemical Name: Polyoxyethylene(20) sorbitan monolaurate
- CAS Number: 9005-64-5
- EC Number: Not available
- Symbol: None
- R-phrase: None

7) Animal Protein products

- Bovine Serum Albumin and other animal products
- CAS Number: 1. 9048-46-8, not available
- EC Number: 1. 232-936-2, not available
- R-phrase: No information required

8) Ethyl Alcohol

- CAS Number: 64-17-5
- EC Number: 200-578-6
- R-phrase: R11

Section 4: Symptoms and First Aid Measures

Symptoms:

- *Inhalation:* Shortness of breath, nausea, weakness, bluish skin color, irregular heartbeat.



- *Skin Contact:* Redness, itching and pain.
- *Eye Contact:* Redness and pain.
- *Ingestion:* Nausea, vomiting, diarrhea, weakness, behavioral imbalances.

First Aid Measures:

- *Inhalation:* Remove to fresh air. If difficulty breathing, seek medical attention. Give artificial respiration if breathing stops.
- *Ingestion:* Seek medical attention. Do not induce vomiting unless directed by a medical professional.
- *Skin Exposure:* Flush site of exposure with water. Cold water may be used. Wash site of injury with non-abrasive soap. Remove contaminated clothing and wash prior to re-wearing. Seek medical attention if irritation persists.
- *Eye Exposure:* Remove contact lenses (if applicable) and immediately flush with water for a minimum of 15 minutes. Seek medical attention if irritation persists.

Section 5: Fire Fighting Measures

- *Flash Points:* Unknown.
- *Explosion Limits:* Unknown
- *Extinguishing Media:* Small Fire: Use media appropriate to surrounding fire.
- *Specific Hazard to Fire Fighting:* Unknown

Section 6: Accidental Release Measures

- *Procedures of Personal Precautions:* Wear safety glasses, lab coat and use an approved certified respirator or equivalent. Must wear Gloves.
- *Small Spill and Leak:* Using appropriate tools and protective equipment, dispose of spilled solid or liquids in a waste disposal container according to applicable regulations. Clean contaminated surface with water.

Section 7: Handling and Storage

- *Handling:* Avoid contact with skin and eyes. Avoid ingestion. Avoid contact with flame.
- *Storage:* See inert for storage conditions. Do not store near food or feed.
- *Intended Use:* Refer to the protocol supplied for proper use. If questions arise please contact technical support techservice@pbl assaysci.com.
- *Packaging materials:* Use original containers.

Section 8: Exposure Controls/Personal Protection

- Engineering Controls
 - Safety Shower
 - Eye Wash
- Personal Protective Equipment
 - Lab Coat (strongly recommended)
 - Gloves (strongly recommended)
 - Safety Glasses
- Exposure Limits at the supplied concentrations:
 - OSHA PEL – Not Established



ACGIH TLV – Not Established

NIOSH – Not established

Section 9: Physical and Chemical Properties

- Physical State and Appearance: Solid (plate), liquid (Sample Diluent, Diluent Additive, HRP-Conjugate, Substrate A and Substrate B) or lyophilized pellets (Human Interferon Antigen Mix, Human Interferon Detection Mix and Assay Diluent).
- Dispersion properties: Not applicable
- Solubility: Liquids are water soluble.
- Odor: No readily apparent odor.
- Taste: Not tested.
- Color: Liquids are clear to brownish in appearance.

Section 10: Stability and Reactivity

- Stability and Hazardous Reaction: Product is stable at recommended storage conditions.
- Materials to Avoid: Strong oxidizing agents. Flame.
- Conditions to Avoid: Heat over 600°F (316°C)
- Hazardous Decomposition Products: Dense smoke, carbon monoxide, carbon dioxide, styrene, benzene and other hydrocarbons can be released at temperatures above 600°F (316°C)
- Polymerization: Kits will not polymerize.

Section 11: Toxicological Information

1) Kathon CG/ICP

This information is based on data on pure Kathon CG/ICP. The toxicological information has not been established for the supplied concentration of 0.1% v/v.

LD50: Rat, Oral = 75 mg/kg; Rabbit, Skin > 5000 mg/kg

Chronic effects on Humans: None known

Other toxic effects on Humans: Causes burns in the eye, skin and is extremely destructive to the mucous membrane of the upper respiratory tract.

Special remarks on Chronic Effects on Humans: None

Special remarks on Other Toxic effects on Humans: Inhalation may result in spasm, inflammation and edema.

Symptoms: burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

Special remarks on toxicity to Animals: Not available.

2) Bronidox L

This information is based on data on pure Bronidox L. The toxicological information has not been established for the supplied concentration of 0.001% v/v.

LD50: Rat, Oral = 455 mg/kg

Chronic effects on Humans: Not available

Other toxic effects on Humans: Irritant to skin, mucous membrane and respiratory track. Harmful if swallowed.

Special Remarks on Chronic Effects on Humans: Not available

Special Remarks on other Toxic Effects on Humans: May affect the central nervous system and cause behavioral imbalances. May be an irritant to eyes.

Special remarks on toxicity to Animals: Not available



3) Trehalose

This information is based on data on pure Trehalose. The toxicological information has not been established for the supplied concentration of < 4% w/v.

LD50/LC50: Not available

Chronic effects on Humans: Toxic to mucous membrane, respiratory tract and lungs.

Other toxic effects on Humans: Hazardous if ingested. Mild irritant to skin.

Special Remarks on Chronic Effects on Humans: Not available

Special Remarks on other Toxic Effects on Humans: Not available

Special Remarks on toxicity to Animals: Not available

4) Pluronic F-68

This information is based on data on pure Pluronic F-68. The toxicological information has not been established for the supplied concentration of $\leq 0.05\%$ v/v.

LD50: Rat, Oral = 9380 mg/kg

May contain trace amounts of Ethylene oxide, and 1, 4-Dioxane, which may cause cancer. Trace amounts of Ethylene oxide may cause adverse reproductive effects.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Mild irritant to eyes, mucous membrane and respiratory track.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Special remarks on toxicity to Animals: Not available.

5) EGTA

This information is based on data on pure EGTA. The toxicological information has not been established for the supplied concentration of < 0.04% w/v.

LD50: Rat, Oral = 3587 mg/kg

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant) or inhalation.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Special remarks on toxicity to Animals: Not available.

6) Tween-20

This information is based on data on pure Tween-20. The toxicological information has not been established for the supplied concentration of 0.05% v/v.

LD50: Mouse, Oral = 33 gm/kg; Rat, Oral 36700 μ l/kg

Chronic effects on Humans: None known.

Other toxic effects on Humans: Possible mild irritant to mucous membrane and respiratory track.

Special Remarks on Chronic Effects on Humans: None.

Special Remarks on other Toxic Effects on Humans: None.

Special remarks on toxicity to Animals: Not available.

7) Animal Protein products

LD50: Not available

Chronic effects on Humans: None known

Other toxic effects on Humans: Possible mild irritant to eyes, mucous membrane and respiratory track.

Special Remarks on Chronic Effects on Humans: None

Special remark on other toxic effects on humans: **Users with an allergy to dairy products may be allergic to bovine proteins in components containing animal protein products. Handle the product with appropriate personal protection gear if there is a known allergy to dairy products. To the best of our knowledge, animal protein products have been tested negative for adventitious viral agents by the manufacturers.**



Special remarks on toxicity to Animals: Not available

8) Ethyl Alcohol

This information is based on data on pure Ethyl Alcohol. The toxicological information has not been established for the supplied concentration of $\leq 3.5\%$ v/v.

LD50: Rat, Oral = 7060mg/kg; Mouse, Oral = 3450 mg/kg

Chronic effects on Humans: Carcinogen, mutagen, and teratogen.

Other toxic effects on Humans: Hazardous in case of skin contact. Slightly hazardous in case of skin contact and ingestion.

Special Remarks on Chronic Effects on Humans: None.

Special remark on other toxic effects on humans: Irritant to skin, eyes, GI and respiratory tracts.

Special remarks on toxicity to Animals: Not available

Section 12: Ecological Information

- No information available for the components at the supplied concentrations.

Section 13: Disposal Considerations

- For every component, waste must be disposed according to federal, state and local environment control regulations.

Section 14: Transport Information

- DOT Proper Shipping Name: None
- For the supplied concentrations, volume and weight of the components, the kit is transported as Non-Hazardous. All products and materials are transported at room temperature and stored at 4-8°C.

Section 15: Regulatory Information

Regulatory information on the components at their supplied concentrations is not available. Please refer below for definitions of applicable risk phrases to pure form of hazardous components. Risk phrases at supplied concentrations not available.

Risk Phrases:

- 34 Causes burns
- 43 May cause sensitization by skin contact
- 22 Harmful if swallowed
- 38 Irritating to skin
- 11 Highly flammable

International regulations:

Japan: Bronidox L (not listed); Trehalose (no information found); Pluronic F-68 (not listed); EGTA (not listed); Tween-20 (Chemical Substances Control Law classification: Existing); Animal Protein Products (no information available); Ethyl Alcohol [Chemical Substances Control Law classification: Existing]; Biodegradation and Bioconcentration of Existing



Chemical Substances under the Chemical Substances Control Law: Listed; Industrial Safety and Health Act (MSDS required): Listed]

Note: Product not classified according to EU regulations. For information on Hazard Symbol and EC number of pure form of hazardous constituents, refer to section 2. Japanese regulations pertain to pure forms of components, and not for forms at the concentrations used in the product(s).

Section 16: Other Information

Disclaimer: For R & D use only. Not for drug, household or other uses.

Warranty: The above information is correct to the best of our knowledge. This information is not guaranteed to be all inclusive. The user should handle all materials with care using the MSDS as a guideline only. PBL Biomedical Laboratories shall not be held responsible for any damage resulting from handling or from contact with the above product.