



PBL InterferonSource

Section 1: Product and Company Identification

Product Name: Human Interferon Omega ELISA Kit

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Manufacturer: PBL InterferonSource
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This MSDS is applicable to the following product:

Product No.: 41395

Name: Human IFN Omega ELISA Kit

Note: To the best of our knowledge, at the supplied concentrations stated below, the products do not pose a hazard equivalent to the hazard posed by the individual ingredients in their pure form and have thereby classified each 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.

Section 2: Composition / Information on Ingredient

Component	Composition
Plates	None
Biotin-Conjugate	<0.01 % Proclin 300
Streptavidin-HRP	None
IFN ω Standard Concentrate	<0.01 % Proclin 300
Wash Buffer Concentrate	<0.01 % Proclin 300
Assay Buffer Concentrate	<0.01 % Proclin 300
Sample Diluent	<0.01 % Proclin 300
Substrate Solution I	26 % N,N-Dimethylformamide
Substrate Solution II	0.02 % Hydrogen Peroxide
STOP Solution	9 % Ortho-Phosphoric Acid
Blue-Dye	<0.01 % Proclin 300
Green-Dye	<0.01 % Proclin 300
Red-Dye	<0.01 % Proclin 300



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Section 2: Composition / Information on Ingredient continued

1) Proclin 300

- Ingredients: (a) Mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (b) dipropylene glycol
- Synonyms: Slaoff 300, MBC 215, Kathon CG/ICP II
- CAS Number: (a) 55965-84-9 (b) 110-98-5
- EC Number: (a) N/A (b) 203-821-4
- Symbol: C, (Corrosive), N (environmentally dangerous)
- R-Phrases: R20/21/22, R34, R43, R51/533

2) N.N-Dimethylformamide

- Molecular Formula: $\text{HCON}(\text{CH}_3)_2$
- Synonyms: DMF, Dimethylformamide
- CAS Number: 62-12-2
- EC Number: 200-679-5
- Symbol: T (Toxic)
- R-Phrases: R61-20/21-36

3) Hydrogen Peroxide

- Molecular formula: H_2O_2
- Synonym: Hydrogen dioxide
- CAS Number: 7722-84-1
- EC Number: 231-765-0
- Symbol: O (oxidizing), C (corrosive), Xn (Harmful)
- R-Phrases: R5, R8, R34/R35, R20, R22

4) Ortho-phosphoric acid

- Molecular formula: H_3PO_4
- Synonym: Phosphoric acid
- CAS Number: 7664-38-2
- EC Number: 231-633-2
- Symbol: C (corrosive)
- R-Phrases: R34

Section 3: Hazards Identification

Emergency Overview

1) Proclin 300

Note: Information on toxicity at the supplied concentration - 0.01% v/v Proclin 300 is unavailable. The following information pertains to pure Proclin 300.

- Corrosive
- Combustible Liquid



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Section 3: Hazards Identification continued

- Causes skin and eye burns
- Harmful if swallowed or inhaled. Pure Proclin 300 is destructive to the soft tissues of the mucous membrane and upper respiratory tract.

Refer to **Section 11** for further toxicological information.

2) N.N-Dimethylformamide

Note: Information on toxicity at the supplied concentration- 26 % N.N-Dimethylformamide is unavailable. The following information pertains to pure N.N-Dimethylformamide.

- Harmful by inhalation and in contact with skin
- Irritating to the eyes and skin
- Target organ: Kidneys

Refer to **Section 11** for further toxicological information.

3) Hydrogen Peroxide

Note: Information on toxicity at the supplied concentration- 0.02 % Hydrogen Peroxide is unavailable. The following information pertains to pure Hydrogen Peroxide.

- Corrosive
- Contact with combustible material may cause fire
- Causes burns to the skin and eyes

Refer to **Section 11** for further toxicological information.

4) Ortho-phosphoric acid

Note: Information on toxicity at the supplied concentration- 9 % Ortho-phosphoric acid is unavailable. The following information pertains to pure Ortho-phosphoric acid.

- Corrosive
- Harmful if swallowed
- Affects the Liver and Blood

Refer to **Section 11** for further toxicological information.

Section 4: Symptoms and First Aid Measures

Symptoms:

- *Inhalation:* Cyanosis, Lung irritation, shortness of breath, headache
- *Skin Contact:* Irritation of skin. Skin inflammation is characterized by itching, reddening, and occasional blistering.
- *Eye Contact:* Eye irritation.
- *Ingestion:* Can cause nausea and vomiting.

First Aid Measures:

- *Ingestion / Oral exposure:* If the person is conscious wash mouth with water. If large quantity of any component is swallowed call a physician immediately. Loosen any tight clothing.
- *Inhalation:* If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms persist or reappear.
- *Skin Contact:* If large quantity of any component is in contact with the skin, wash with ample amounts of soap and water for at least 15 minutes. Cover the skin with an emollient. Get medical attention if irritation develops. Cold water may be used.



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Section 4: Symptoms and First Aid Measures continued

- **Eye Contact:** Check for and remove any contact lenses. Immediately flush eyes with ample amounts of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Section 5: Fire Fighting Measures

- **Flammability of Product:** Combustible at extreme temperatures.
- **Flash Points:** Not available for the provided concentrations.
- **Fire Hazards in presence of Various Substances:** Not available
- **Fire Fighting Media:**
 - Small Fire: Use DRY chemical powder.
 - Large fire: Use water spray, fog or foam. Do not use water jet. In case of fires due to N, N-Dimethylformamide use very large quantities of water.
- **Protective Clothing (Fire):** Use an approved/certified respirator or equivalent. Use protective clothing to avoid contact with skin and eyes.
- **Special Remarks on Fire Hazards:** Not available
- **Hazardous thermal decomposition products:**
 - Ortho-phosphoric acid: Toxic fumes of phosphorous oxides and phosphorus hydride.
 - N, N-Dimethylformamide: Carbon Monoxide, Carbon Dioxide, and Nitrogen Oxides.
 - Hydrogen Peroxide: Oxygen
 - There are no hazardous decomposition products for the remaining components of the kit.

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:** Use appropriate tools to put the spilled solid in a waste disposal container. Finish cleaning by water on the contaminated surface and dispose of according to local and regional authority requirements.
- **Environmental Precautions and Clean-up Methods:** Use a shovel to put the material into a waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow the water to evacuate through the sanitary system.

Section 7: Handling and Storage

- **Handling:** Avoid breathing vapors, contact with skin or ingestion. Wear a fully-buttoned lab coat, gloves and safety glasses while working with the product.
- **Storage:** Keep all containers tightly closed in a cool and well-ventilated area. Refer to the storage temperatures indicated in the protocol. It is recommended to use original containers for storage. Do not wash out container and use it for other purposes.
- **Intended Use:** Refer to the protocol supplied for proper use. If questions arise please contact technical support techservice@interferonsource.com
- **Packaging materials:** Use original containers.

Section 8: Exposure Controls/Personal Protection

- Engineering Controls
 - Safety Shower
 - Eye Wash



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Section 8: Exposure Controls/Personal Protection continued

- Personal Protective Equipment
 - Lab Coat
 - Gloves
 - Safety Glasses (recommended)
- Exposure Limits:
 - 1) Proclin 300
 - OSHA PEL-Not Established
 - ACGIH TLV: Not Established
 - 2) N, N-Dimethylformamide
 - OSHA PEL-30 mg/m³ TWA for 8 H
 - ACGIH TLV- 10 PPM TWA
 - 3) Hydrogen Peroxide
 - OSHA PEL- 1PPM TWA
 - ACGIH TLV-1 PPM
 - 4) Ortho-phosphoric acid
 - OSHA PEL-1 mg/m³ TWA for 8 H
 - ACGIH TLV- 1 mg/m³ TWA

Section 9: Physical and Chemical Properties

- Physical State and Appearance: All components besides the plates are in liquid state.
- Dispersion properties: Not available
- Solubility: Not applicable
- Odor: Odorless
- Taste: Not available
- Color: Components besides the blue, green and red dye are colorless.

Section 10: Stability and Reactivity

- Stability and Reactivity: All components are stable at recommended storage conditions. Stop buffer can react with metals and strong bases.
- Conditions to Avoid: Extreme temperatures, Hydrogen Peroxide (Substrate Solution II): Light
- Materials to Avoid:
 - Avoid contact of powdered metals and strong bases with Ortho-phosphoric acid (STOP Solution).
 - Avoid contact of strong oxidizing agents with N, N-Dimethylformamide (Substrate Solution I).
 - Avoid contact of metals like brass Copper, Iron, Iron salts and Copper alloys with Hydrogen Peroxide (Substrate Solution II).
- Hazardous Decomposition Products:
 - Ortho-phosphoric acid: Toxic fumes of phosphorous oxides and phosphorus hydride.
 - N, N-Dimethylformamide: Carbon Monoxide, Carbon Dioxide, and Nitrogen Oxides.
 - Hydrogen Peroxide: Oxygen
 - There are no hazardous decomposition products for the remaining components of the kit.
- Hazardous Polymerization: Will not occur



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Section 11: Toxicological Information

1) Proclin 300

This information is based on data on pure Proclin 300. At the supplied concentration- 0.01 % v/v Proclin 300, the toxicological information has not been established.

LD50	Rat (male)	Rabbit (male)
Oral:	3600 mg/kg	-----
Dermal:	-----	> 3500 mg/kg

Chronic effects on Humans: Pure Proclin 300 is destructive to the tissues of the mucous membrane and upper respiratory tract.

Other toxic effects on Humans: Eye irritant, Lung irritant, Skin irritant.

Special remarks on Chronic Effects on Humans: Causes sensitization

Special remarks on Other Toxic effects on Humans: Not available

Special remarks on toxicity to Animals: Not available

2) N,N-Dimethylformamide

This information is based on data on pure N, N-Dimethylformamide. At the supplied concentration- 26 % v/v N, N-Dimethylformamide the toxicological information has not been established.

LD50:	Rat	Mouse	Rabbit
Oral	2800 mg/kg	2900 mg/kg	-----
Skin	5000 mg/kg	-----	4720 mg/kg

Chronic effects on Humans: Mutagen and Tetrogen: May cause congenital defects in the fetus

Other toxic effects on Humans: Cause skin and eye burns. Causes burns of the GI tract on ingestion. Harmful by 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: Can cause change in cell count. Affects Kidney, Ureter, Urinary Bladder and Liver.

3) Hydrogen Peroxide

This information is based on data on pure Hydrogen peroxide. At the supplied concentration - < 0.02 % v/v Hydrogen Peroxide, the toxicological information has not been established.

LD50	Rat
Oral:	910 mg/kg

Chronic effects on Humans: Classified A3 (proven for animal) by ACGIH, Classified 3 (not classifiable for human) by IARC

Other toxic effects on Humans: Causes severe burns to eyes, mucous membrane and respiratory track. Toxic if swallowed. Causes skin burns on contact.

Special Remarks on Chronic Effects on Humans: Affects the brain and peripheral nerve system which may lead to paralysis. Affects the Lungs, and Thorax.

Special Remarks on other Toxic Effects on Humans: Not available

Special Remarks on toxicity to Animals: Can cause reduction in leukocyte count, pigmentation and nucleation of RBCs and Peritonitis.

4) Ortho-phosphoric acid

This information is based on data on pure Ortho-phosphoric acid. At the supplied concentration - 9 % v/v Ortho-phosphoric acid, the toxicological information has not been established.

LD50	Rat	Rabbit
Oral:	1530 mg/kg	-----
Skin:	-----	2740 mg/kg



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Section 11: Toxicological Information continued

Chronic effects on Humans: Not available

Other toxic effects on Humans: Causes skin and eye burns. Ortho-phosphoric acid if ingested is very destructive to the tissue of the upper respiratory tract.

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: Causes severe irritation to the skin and in certain cases can cause depressed behavior.

Section 12: Ecological Information

- No information available 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. At the supplied volumes of the components the kit can be shipped as non-hazardous.
- The kit is transported as Non-Hazardous. All products and materials are transported at storage conditions mentioned in the protocol.

Section 15: Regulatory Information

Label Requirements

EUROPE: Product not classified according to EU regulations.

USA:

HCS Classification: None.

US Federal Regulations

SARA 302/304/311/312 extremely hazardous substances: No components

SARA 302/304 emergency planning and notification: No components

SARA 302/304/311/312 hazardous chemicals: N, N- Dimethylformamide, Hydrogen Peroxide

SARA 311/312 MSDS distribution-chemical inventory-hazard identification:

Proclin 300: Fire hazard

N, N-Dimethylformamide: Toxic

TSCA 8 (b) inventory: N, N- Dimethylformamide, Hydrogen Peroxide, Ortho-phosphoric acid

Clean Water Act (CWA) 307: No products found

Clean Water Act (CWA) 311: No products found

Clean Air Act (CAA) 112 accidental release prevention: No components

Clean Air Act (CAA) 112 regulated flammable substances: No components

Clean Air Act (CAA) 112 regulated toxic substances: No components

The product is not controlled under WHIMS (Canada)



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Section 15: Regulatory Information continued

International Regulations

CEPA DSL: N, N-Dimethylformamide, Hydrogen Peroxide, Ortho-phosphoric acid

EINECS: Not available

DSCL (EEC): N, N-Dimethylformamide, Hydrogen Peroxide, Ortho-phosphoric acid

Germany Water class: N, N-Dimethylformamide, Hydrogen Peroxide, Ortho-phosphoric acid

VCI WGK: Not classified

Korea (TCCCL): N, N-Dimethylformamide, Hydrogen Peroxide, Ortho-phosphoric acid

State Regulations

New Jersey Right to Know Components: Proclin300, N, N-Dimethylformamide, Hydrogen Peroxide, Ortho-phosphoric acid

Pennsylvania Right to Know Components: Proclin 300, N, N-Dimethylformamide, Hydrogen Peroxide, Ortho-phosphoric acid

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: No Components

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.