



Safety Data Sheet

VeriKine-HS™ Human Interleukin-22 ELISA Kit 41701

SDS Revision Date: 5/19/2020

Version No. 00

1. Identification

1.1. Product identifier

Product Identity	VeriKine-HS™ Human Interleukin-22 ELISA Kit
Alternate Names	Product No. 41701, VeriKine-HS™ Human IL-22 ELISA Components

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	See Technical Data Sheet.
Application Method	See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name	PBL Assay Science 131 W Ethel Road Suite 6 Piscataway, NJ 08854 USA
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Emergency

CHEMTREC (USA)	(800) 424-9300
Customer Service: PBL Assay Science	Phone: 1 (732) 777 9123 Fax: 1 (732) 777 9141

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Note: This product is a kit, shipped with individual containers. The hazards in section 2 and ingredients in section 3 are for the individual components.

Component 1 SMP326 (Coated Plates): No applicable GHS categories

Component 2 SMP022 (Wash Solution Concentrate): No applicable GHS categories

Component 3 SMP328 (Human IL-22 Standard): No applicable GHS categories

Component 4 SMP024 (Concentrate Diluent): No applicable GHS categories

Component 5 SMP331 (Antibody Concentrate): No applicable GHS categories

Component 6 SMP056 (HRP Conjugate Concentrate): No applicable GHS categories

Component 7 ASDHRP (HRP Diluent): No applicable GHS categories

Component 8 KET (TMB Substrate Solution): No applicable GHS categories



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Component 9 SCY (Stop Solution):

2.1. Classification of the substance or mixture

Skin Corr. 1B;H314 Causes severe skin burns and eye damage.

Eye Dam. 1;H318 Causes serious eye damage.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Danger

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

[Prevention]:

P260 Do not breathe mist / vapors / spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338 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.

P363 Wash contaminated clothing before reuse.

[Storage]:

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

Component 10 SMP329 (Assay Buffer)

2.1. Classification of the substance or mixture

Acute Tox. 5;H303 May be harmful if swallowed. (Not adopted by US OSHA)

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



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Warning

H303 May be harmful if swallowed.

[Prevention]:

No GHS prevention statements

[Response]:

P312 Call a POISON CENTER or doctor / physician if you feel unwell.

[Storage]:

No GHS storage statements

[Disposal]:

No GHS disposal statements

Component 11 SMP330 (Standard Diluent):

2.1. Classification of the substance or mixture

Acute Tox. 5;H303 May be harmful if swallowed. (Not adopted by US OSHA)

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Warning

H303 May be harmful if swallowed.

[Prevention]:

No GHS prevention statements

[Response]:

P312 Call a POISON CENTER or doctor / physician if you feel unwell.

[Storage]:

No GHS storage statements

[Disposal]:

No GHS disposal statements

3. Composition/information on ingredients

There are no ingredients in this kit from Components 1 to 11 except 9, 10 and 11 which are classified as hazardous, and/or no hazardous ingredients above the GHS cut off percentage. The hazardous ingredients for Component 9 "Stop Solution", Component 10 "Assay Buffer," and Component 11 "Standard Diluent" are listed here.

Component 9 SCY (Stop Solution)

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.



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Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Hydrochloric acid CAS Number: 0007647-01-0	1 - 5	Skin Corr. 1B;H314 STOT SE 3;H335	[1][2]
Sulfuric acid CAS Number: 0007664-93-9	1 - 5	Skin Corr. 1A;H314 (> 15%)	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

Component 10 SMP329 (Assay Buffer)

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Albumins, blood serum CAS Number: 0009048-46-8	1 - 5	Acute Tox. 4;H302	[1]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

Component 11 SMP330 (Standard Diluent)

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Albumins, blood serum CAS Number: 0009048-46-8	10 - 25	Acute Tox. 4;H302	[1]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General

In all cases of doubt, or when symptoms persist, seek medical attention.
Never give anything by mouth to an unconscious person.

Inhalation

If inhaled remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Eyes

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.



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Skin 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.

Ingestion 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.

4.2. Most important symptoms and effects, both acute and delayed

Overview **IMMEDIATE CONCERNS:** CAUTION: May cause eye or skin burns. Avoid vapor.
POTENTIAL SIDE EFFECTS
EYES: Tissue destruction and permanent eye damage may occur if not treated immediately.
SKIN: May be corrosive and cause severe burns.
INGESTION: Corrosive to mucous membranes of the mouth, esophagus, stomach & throat.
INHALATION: Avoid mist, can be a severe irritant.
ACUTE TOXICITY: Eye, skin, lung burning may be caused with exposure to mist. Avoid mist.
TARGET ORGAN STATEMENT: Contains material which may cause damage to gastrointestinal tract and respiratory tract. See section 2 for further details.

Eyes Causes serious eye damage.

Skin Causes severe skin burns and eye damage.

5. Fire-fighting measures

5.1. Extinguishing media

Small Fire: Use DRY chemical powder. Large fire: Use water spray, fog or foam. Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Reaction of TMB Stop Buffer with metals and strong bases: Hydrogen chloride, Chlorine, Hydrogen Gas and Oxides of Sulfur.

Combustion of Animal Protein Products may emit toxic fumes.

Pure Sodium Azide explodes on decomposition producing Nitrogen gas and Sodium

There are no hazardous decomposition products for the remaining components of the Component.

Do not breathe mist / vapors / spray.

5.3. Advice for fire-fighters

Use an approved/certified respirator or equivalent. Use protective clothing to avoid contact with skin and eyes.

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.



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Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Wear safety glasses, lab coat and use an approved certified respirator or equivalent. Must wear safety gloves. Avoid breathing vapors, mist or gas.

7. Handling and storage

7.1. Precautions for safe handling

Avoid breathing vapors, contact with skin or ingestion. Wear a fully-buttoned lab coat and safety gloves while working with the product.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Store between -5C and 40C.

Incompatible materials: Avoid contact of metals and strong bases with the TMB Stop Buffer.

Refer to the protocol supplied for proper use. If questions arise please contact technical support at info@pblassaysci.com.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0007647-01-0	Hydrochloric acid	OSHA	C 5 ppm (7 mg/m3)
		ACGIH	Ceiling: 2 ppm Revised 2003,
		NIOSH	C 5 ppm (7 mg/m3)
		Supplier	No Established Limit
0007664-93-9	Sulfuric acid	OSHA	TWA 1 mg/m3
		ACGIH	TWA: 0.2 mg/m3A1, 1, Revised 2004,
		NIOSH	TWA 1 mg/m3
		Supplier	No Established Limit
0009048-46-8	Albumins, blood serum	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit



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Carcinogen Data

CAS No.	Ingredient	Source	Value
0007647-01-0	Hydrochloric acid	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;
0007664-93-9	Sulfuric acid	OSHA	Select Carcinogen: No
		NTP	Known: Yes; Suspected: No
		IARC	Group 1: Yes; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0009048-46-8	Albumins, blood serum	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

- Respiratory** NIOSH approved respirator for pure Sodium Azide in powder form. Respirator not required for handling Sample Buffer in product 41415.
- Eyes** Protective safety glasses recommended
- Skin** Lab coat, safety gloves
- Engineering Controls** Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
- Other Work Practices** Safety showers and eye wash stations should be provided in areas where this product is used. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Physical State and Appearance	All components besides the plates are in liquid state. HRP Conjugate Concentrate, Assay Buffer and Standard Diluent in product 41701 are light brown in color. All remaining components are Colorless. The color of the liquid components may vary with time or change in pH. Liquid
Odor	Odorless
Odor threshold	Not determined
pH	Not Measured
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	Not Measured
Flash Point	Not Measured
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Available
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured



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Vapor Density	Not Measured
Specific Gravity	Not Measured
Solubility in Water	Not Available
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

All components are stable at recommended storage conditions. At the supplied concentration, TMB Stop buffer can react with metals and strong bases.

10.3. Possibility of hazardous reactions

Reacts with some bases.

10.4. Conditions to avoid

Extreme temperatures

10.5. Incompatible materials

Avoid contact of metals and strong bases with the TMB Stop Buffer.

10.6. Hazardous decomposition products

Reaction of TMB Stop Buffer with metals and strong bases: Hydrogen chloride, Chlorine, Hydrogen Gas and Oxides of Sulfur.

Combustion of Animal Protein Products may emit toxic fumes.

Pure Sodium Azide explodes on decomposition producing Nitrogen gas and Sodium

There are no hazardous decomposition products for the remaining components of the Component.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Hydrochloric acid - (7647-01-0)	900.00, Rabbit - Category: 4	5,010.00, Rabbit - Category: NA	781.00, Mouse - Category: NA	No data available	3,124.00, Rat - Category: 4
Sulfuric acid - (7664-93-9)	2,140.00, Rat - Category: 5	No data available	No data available	No data available	No data available
Albumins, blood serum - (9048-46-8)	No data available	No data available	No data available	No data available	No data available



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Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Available
Acute toxicity (dermal)	---	Not Available
Acute toxicity (inhalation)	---	Not Available
Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	Not Available
Skin sensitization	---	Not Available
Germ cell mutagenicity	---	Not Available
Carcinogenicity	---	Not Available
Reproductive toxicity	---	Not Available
STOT-single exposure	---	Not Available
STOT-repeated exposure	---	Not Available
Aspiration hazard	---	Not Available

12. Ecological information

12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Hydrochloric acid - (7647-01-0)	282.00, Gambusia affinis	260.00, Crangon crangon	Not Available
Sulfuric acid - (7664-93-9)	42.00, Gambusia affinis	42.50, Pandalus montagui	Not Available
Albumins, blood serum - (9048-46-8)	Not Available	Not Available	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.



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13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Applicable	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	DOT Hazard Class: Not Applicable	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable
14.4. Packing group	Not Applicable	Not Applicable	Not Applicable
14.5. Environmental hazards			
IMDG	Marine Pollutant: No		
14.6. Special precautions for user	No further information		

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.
WHMIS Classification	D2B E
US EPA Tier II Hazards	Fire: No Sudden Release of Pressure: No Reactive: Yes Immediate (Acute): Yes Delayed (Chronic): No

Note: Strong inorganic acid mists containing sulfuric acid are listed on the California Proposition 65 Carcinogen List. [Sulfuric acid, in and of itself, is not listed under Proposition 65. However, if one has sulfuric acid, which through its intended use generates an acid mist that in turn contains sulfuric acid that would meet the listing. The term "strong" does not refer to the concentration of the acid, but rather the strength of the acid. The basis for the listing of strong inorganic acid mists containing sulfuric acid was the formal identification by the National Toxicology Program (NTP), in its Ninth Report on Carcinogens, that this chemical mixture is "known to be a human carcinogen." (Public notice available at http://www.oehha.ca.gov/prop65/CRNR_notices/admin_listing/intent_to_list/noil19b4.html.)]



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EPCRA 311/312 Chemicals and RQs (lbs):

Hydrochloric acid (5,000.00)

Sulfuric acid (1,000.00)

EPCRA 302 Extremely Hazardous:

Hydrochloric acid

Sulfuric acid

EPCRA 313 Toxic Chemicals:

Hydrochloric acid

Magnesium nitrate

Sulfuric acid

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Hydrochloric acid

Sulfuric acid

Pennsylvania RTK Substances (>1%):

Hydrochloric acid

Sulfuric acid

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

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 SDS 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.

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