

## Material Safety Data Sheet (MSDS)

### 1. Product and Company Identification

**Product Name:** Bovine Vitamin B12 ELISA Kit (Colorimetric)

**CAS Number:** N/A

**Catalog Number:** NBP2-60195

**Revision Date:** 1/01/2022

**Company Name:** Novus Biological, a Bio-Techne Brand

**Address:** 10771 E Easter Avenue Centennial, CO 80112, USA

**Webpage:** Bio-techne.com

**E-mail:** technical@novusbio.com

**Phone:** 1-888-506-6887

**Fax:** 303-730-1966

### 2. Hazards Identification

**Emergency overview:** NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

No known significant effects or critical hazards.

Avoid prolonged contact with eyes, skin and clothing.

#### **Potential acute health effects**

**Eyes:** No known significant effects or critical hazards.

**Skin:** No known significant effects or critical hazards.

**Inhalation:** No known significant effects or critical hazards.

**Ingestion:** No known significant effects or critical hazards.

#### **Potential chronic health effects**

**Carcinogenicity :** No known significant effects or critical hazards.

**Mutagenicity :** No known significant effects or critical hazards.

**Teratogenicity :** No known significant effects or critical hazards.

**Developmental effects :** No known significant effects or critical hazards.

**Chronic effects :** No known significant effects or critical hazards.

#### **Classification according to Regulation 1272/2008/EC**

Not classified as dangerous.

### 3. Composition/Information on Ingredients

Reagents	Quantity
Assay plate (12 x 8 coated Microwells) Plate coated with antibody	1(96 wells)
Standard (Freeze dried) Recombinant protein, in a buffer with preservatives, lyophilized	2
Biotin-antibody (100 x concentrate) Detection Antibody, 50% glycerol	1 x 120 µl
HRP-avidin (100 x concentrate) HRP- Avidin, 50% glycerol	1 x 120 µl
Biotin-antibody Diluent Buffered solution with preservatives Proclin 300(1:3000)	1 x 15 ml
HRP-avidin Diluent Buffered solution with preservatives Proclin 300(1:3000)	1 x 15ml
Sample Diluent Buffered solution with preservatives Proclin 300(1:3000)	1 x 50 ml
Wash Buffer (25 x concentrate) 25 X TBS	1 x 20 ml
TMB Substrate 3,3',5,5' tetramethylbenzidine	1 x 10 ml
Stop Solution 2N sulfuric acid	1 x 10 ml
Adhesive Strip (For 96 wells)	4
Instruction manual	1

### 4. First Aid Measures

**Ingestion:** If any component of this kit is swallowed, wash out mouth with water provided person is conscious. Call a physician or poison control.

**Skin Contact:** If any component of this contacts the skin, flush with copious amounts of water and wash with soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician if irritation or discomfort develops.

**Inhalation:** If any component of this kit is inhaled, remove to fresh air. If breathing becomes difficult give oxygen. If breathing stops, administer artificial respiration. Call a physician.

**Eye Contact:** If any component of this contacts the eyes, flush with copious amounts of water for at least 15 minutes. Check for and remove contact lenses. Assure adequate flushing by separating the eyelids. Get immediate medical attention.

## 5. Fire and Explosion Hazard Data

None of the components of this kit pose a significant risk in case of fire. Fire fighting media should be selected to suit other materials involved in the fire. It is recommended that firefighters wear protective gear and self-contained breathing apparatus to limit their exposure.

## 6. Fire and Explosion Hazard Data

**Personal precautions :**No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

**Environmental precautions :** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Large spill :** Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

**Small spill :** Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

## 7. Handling and Storage Exposure controls/personal protection

This kit should be stored as recommended on the product label. All components should be kept in tightly closed containers. Refer to the storage section of the kit insert for future information. This kit should only be handled and used by qualified, trained professionals.

## 8. Exposure controls/personal protection

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures:** If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering measures :** No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Hygiene measures :** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### **Personal protection**

**Respiratory:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Eyes:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

**Skin:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Hands :**Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### **Europe**

No exposure limit value known.

## 9. Physical and Chemical Properties

**Physical State:** Liquid except for the coated microwells.

**Color:** Clear for all other liquid reagents.

**Odor:** None detectable.

**pH:** 5 – 10 for all components except Stop Solution.

**Boiling Point:** Not applicable.

**Melting Point:** Not applicable.

**Flash Point:** Not applicable.

**Flammability:** Not Flammable.

**Auto flammability:** Will not occur.

**Vapor Pressure:** Not applicable.

**Relative Density:** 1-10 mg/ml

**Water Solubility:** 100% soluble.

## 10. Stability/Reactivity

Stability and Reactivity: The product is stable

Conditions to avoid: not available

Materials to avoid: not available

Hazardous Decomposition products: not available

## 11. Toxicological information

**Chronic effects :**No known significant effects or critical hazards.

**Carcinogenicity :**No known significant effects or critical hazards.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** No known significant effects or critical hazards.

**Developmental effects :** No known significant effects or critical hazards.

**Fertility effects :** No known significant effects or critical hazards.

## 12. Ecological information

Data not yet available

## 13. Disposal considerations

Observe all federal, state and local environmental regulations.

## 14. Transport Information

**Road / Railway Haulage ADR/RID:** Not restricted.

**Sea Freight IMO (IMDG):** Not restricted.

**Air Freight IATA (ICAO):** Not restricted.

**UN Number:** Not applicable.

## 15. Regulatory information

### Canada

#### Canadian lists :

**CEPA Toxic substances:** None of the components are listed.

**Canadian ARET:** None of the components are listed.

**Canadian NPRI:** None of the components are listed.

**Alberta Designated Substances:** None of the components are listed.

**Ontario Designated Substances:** None of the components are listed.

**Quebec Designated Substances:** None of the components are listed.

**WHMIS (Canada):** Not controlled under WHMIS (Canada)

**Canada inventory : Canada inventory:** All components are listed or exempted.

#### EU regulations

1907/2006/EC Registration, evaluation and authorization of chemicals regulation (REACH)

1272/2008/EC Classification, labelling and packaging regulation (CLP, globally harmonized system GHS)  
replaces 67/548/EWG and 1999/45/EG, amending 1907/2006/EG.

453/2010/EC Compilation of safety data sheets regulation (SDS), amending 1907/2006/EC

This safety data sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not classified according to the EU regulations 1272/2008. No labeling requirement.

**Risk phrases :** This product is not classified according to EU legislation.

#### International regulations

##### International lists :

**Australia inventory (AICS):** All components are listed or exempted.

**China inventory (IECSC):** All components are listed or exempted.

**Korea inventory (KECI):** All components are listed or exempted.

**Philippines inventory (PICCS):** All components are listed or exempted.

**Japan inventory (ENCS):** All components are listed or exempted.

## 16. Other information

Precautions to be taken in handling and storage: This reagent is sold only for research use by personnel familiar with the toxicology of organic chemicals and who are well trained in good laboratory habits, such as avoiding spills, keeping hands clean at all times and not rubbing eyes with hands while working in the laboratory.

This reagent is sold only in milliliter quantities for use in biological research. No other use is intended.

The above information is believed to be correct but does not purport to be all-inclusive and shall be used as a guide. Novus Biologicals shall not be held liable for any damage resulting from handling or contact with the above product. The burden of safe use of these materials rests solely with the user.