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## 1-Product and Company Identification

**Product Name:** Cas9 ELISA Assay  
Low Range Cas9 ELISA Assay

**Company Name:** Express Biotech International (XpressBio)

**Address:** 4650 Wedgewood Blvd, Suite 103  
Frederick, MD 21703, USA

**Phone number:** (301) 228-2444

**Fax number:** (301) 560-6570

**Emergency phone number:** Contact national poison control in your state or country.

**Recommended Use:** For research use only. Not for diagnostic use.

## 2-Hazard(s) Identification

### MOST IMPORTANT HAZARDS:

#### Stop Solution

#### Hazard Classification:

Xi Irritant

#### Signal Word:

Warning

#### Hazard Statements:

Skin Irrit. 2: H315 – Causes skin irritation.

Eye Irrit. 2: H319 – Causes serious eye irritation.

#### Pictogram:



#### Precautionary Statements:

P264 - Wash thoroughly after handling.

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

P302+P352 - IF ON SKIN: Wash with plenty of water. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 - Specific treatment (see on this label).

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

#### Other Hazards:

None



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### 3-Composition/Information on Ingredients

#### Components with materials contributing to the hazard:

Stop Solution

Chemical	Concentration	CAS Number	EC Number
Sulfuric Acid	1 N	7664-93-9	231-639-5

#### Components presenting a danger, but with concentrations under the hazard threshold:

TMB Substrate

Chemical	Concentration	CAS Number	EC Number
Hydrogen Peroxide	≤ 0.03 %	7722-84-1	231-765-0

Lysis Buffer

Chemical	Concentration	CAS Number	EC Number
NP-Alternative	1%	9016-45-9	931-755-2
Na-Deoxycholate	0.5%	302-95-4	206-132-7

#### Components presenting harmful materials, but with concentrations under the harmful threshold:

Positive Control  
Detector Antibody

Streptavidin HRP Conjugate

Chemical	Concentration	CAS Number	EC Number
Bromonitrodioxane	≤ 0.01 %	7722-84-1	250-001-7

Wash Buffer

Chemical	Concentration	CAS Number	EC Number
Tween 20	1.0%	9005-65-6	500-019-9


### 4-First-Aid Measures

The following general first aid measures apply to this product:

#### Inhalation:

Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system. Irritating to respiratory system. Move the exposed person to fresh air. Seek medical attention.

#### Skin contact:

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Irritating to skin. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.

**Eye contact:**

Irritating to eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

**Ingestion:**

DO NOT INDUCE VOMITING. Ingestion may cause nausea and vomiting. Seek medical attention if irritation or symptoms persist.

**Most important symptoms:**

The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

**Immediate medical attention and special treatment:**

No data available.

## 5-Fire-fighting measures

**Extinguishing media:**

**Suitable extinguishing media:** Dry chemical. Foam. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media:** Water may not be effective.

**Specific hazards:**

For sulphuric acid, contact with most metals causes formation of flammable and explosive hydrogen gas.

**Specific methods of firefighting:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode. Structural fire-fighter's protective clothing is ineffective for fires involving sulphuric acid. Stay away from sealed containers.

## 6-Accidental Release Measures

**Personal precautions and protective equipment:**

Ensure adequate ventilation. Use recommended Personal Protective Equipment. See section 8 for additional information.

**Emergency procedures:**


Use protective equipment.

**Methods and materials for containment and cleanup:**

Contain liquid when possible. Use non sparking tools and equipment. Absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Ventilate area and wash spill site after material pickup is complete.

**Environmental precautions:**

Collect absorbent and place into suitable containers for proper disposal in accordance with applicable waste disposal regulation. Do not flush to sewers, storm drains, surface waters, and soil.

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## 7-Handling and Storage

**Precautions for safe handling:**

Use Personal Protective Equipment as required.

**Conditions for safe storage, including incompatibilities:**

Keep in a dry, cool, well ventilated area. Ensure containers are properly labeled.

## 8-Exposure Control / Personal Protection

**Occupational exposure limits:**

There are no established exposure limits for this product. However, the following exposure limits exist for the following hazardous ingredients:

<b>Ingredients:</b>	<b>OSHA PEL</b>	<b>ACGIH TLV</b>	<b>Other</b>
Sulfuric Acid:	1 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup> (STEL)

**Engineering controls:**

Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment:**

**Eye and Face Protection:**

Wear safety glasses with side shield, or full-face shield if eye contact is likely. The choice of protection should be based on the job activity and potential for exposure to eyes and face.

**Respiratory protection:**

In case of insufficient ventilation, wear appropriate respirators and components approved by government.

**Skin and body protection:**

Wear appropriate clothing. The choice of skin protection should be based on the job activity and potential for exposure to the skin.

**Hygiene measures:**

Wash hands immediately after handling materials (especially before eating, drinking or smoking). Decontaminate or discard protective equipment after each use.

**Remove personal protective equipment when leaving work area.**

## 9-Physical and Chemical Properties

Information for physical and chemical properties –

**Appearance:** Liquid

**Upper/lower flammability or explosive limits:** No data available

**Odor:** No data available

**Vapor pressure:** No data available

**Odor threshold:** No data available



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**Vapor density:** No data available  
**pH:** No data available  
**Relative density:** No data available  
**Melting point/freezing point:** No data available  
**Solubility(ies):** No data available  
**Initial boiling point and boiling range:** No data available  
**Flash point:** No data available  
**Evaporation rate:** No data available  
**Flammability:** No data available  
**Partition coefficient: n-octanol/water:** No data available  
**Auto-ignition temperature:** No data available  
**Decomposition temperature:** No data available  
**Viscosity:** No data available

## 10-Stability and Reactivity

**Reactivity:**

No known reactivity.

**Chemical stability:**

Stable under normal use and conditions.

**Hazardous reactions:**

No known hazardous reactions.

**Conditions to avoid:**

No information available.

**Incompatible materials:**

None known under normal use and conditions.

**Hazardous decomposition:**

No information available.

## 11-Toxicological information

Toxicological information is supplied for Sulfuric Acid only. Other components of the preparation are not supplied at levels or quantities currently thought to have toxicological effects. Sulfuric Acid is present at 5 % in the Stop Solution.

**Inhalation:**

Sulfuric Acid: LD50 = 510 mg/m<sup>3</sup>/2H (rat)

**Skin (Irritancy and Acute Toxicity):**

Sulfuric Acid: No info.

**Eye (Irritancy and Acute Toxicity):**

Sulfuric Acid: Standard Draize, eye, rabbit, 250 µg (severe)

**Ingestion:**

Sulfuric Acid: LD50 =2140 mg/kg (rat)

**Sensitization:**

Sulfuric Acid: No data



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### Chronic toxicity or long-term toxicity:

Sulfuric Acid: Long term exposure to mist or vapors may cause damage to teeth. Chronic exposure to mists containing sulphuric acid is a cancer hazard.

### Specific effects:

#### Carcinogenicity

Sulfuric Acid: None identified

#### Mutagenicity

Sulfuric Acid: None identified

#### Reproduction toxicity

Sulfuric Acid: None identified

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## 12-Ecological information

Sulfuric Acid:

May leach into ground water.

In air, removed to moderate extent by wet deposition. Removed to moderate extent by dry deposition.

Environmental toxicity-

LD50 Flounder 100 to 330 ng/l/48 hr aerated water/ Conditions of bioassay not specified.

LD50 Shrimp 80-90 mg/l/48 hr aerated water / Conditions of bioassay not specified.

LD50 prawn 42.5 ppm/48 hr salt water / conditions of bioassay not specified. May be toxic to aquatic life.

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## 13-Disposal Considerations

Dispose of materials in this kit according to Federal, State and Local Requirements. Use proper technique and PPE (refer to Section 8) for disposal.

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## 14-Transport information

Classifications for land, air, and sea transport:

**UN number:** Not regulated.

**UN shipping name:** Not regulated.


**Transport hazard class:** Not regulated.

**Packing group:** Not regulated.

**Environmental hazards:** Not regulated.

**Bulk transport in accordance with Annex II of MARPOL 73/78:** Not regulated.

**Special user precautions:** Not regulated, no information available.

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## 15-Regulatory Information

**United States Regulatory Information**  
SARA 313: Not listed.

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## 16-Other Information

**Recommended use:**

This product is for **Research Use Only**, not for diagnostic use.

**SDS Revision date:** June 2<sup>nd</sup>, 2021

**Reason for revision:** Update sections format and information.

**Others:**

The above information is based on data available to XpressBio and is believed to be correct. Since the information may be applied under conditions beyond the control of XpressBio and with which the company may be unfamiliar, XpressBio does not assume any responsibility for the results of its use and all persons receiving it shall make their own determination of the effects, properties, and protections, which pertain to their particular conditions.

No representation, warranty, or guarantee, express or implied (including a warranty of fitness or merchantability for a particular purpose), is made with respect to the material, the accuracy of this information, the results to be obtained from the use thereof, or the hazards connected with the use of the material. Caution should be used in the handling and use of the material.

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**End of Safety Data Sheet**