Section 1: PURODUCT AND COMPANY IDENTIFICATION

Product name	27790 Bradykinin Assay Kit-IBL
Product detail	Deproteinizer

Supplier

Immuno-Biological Laboratories Co., Ltd.
1091-1 Naka Aza-Higashida, Fujioka-Shi, Gunma 375-0005, JAPAN
TEL: +81-274-50-8666
FAX: +81-274-23-6055
URL: https://www.ibl-japan.co.jp/en/

Emergency telephone number

TEL: +81-274-22-2889

Dangerous components	CAS Number	Percent (w/v) %
Trichloroacetic Acid	76-03-9	19.8%

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Skin corrosion/irritation	Category1
Serious eye damage/eye irritation	Category1
Germ cell mutagenicity	Category2
Reproductive Toxicity	Category2
Specific target organ toxicity (single exposure)	Category3(Narcotic)

Pictograms

Signal word Danger

Hazard statements

H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H341 Suspected of causing genetic defects
H361 Suspected of damaging fertility or the unborn child
H336 May cause drowsiness or dizziness
H351 Suspected of causing cancer

Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required.
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handing
- Use only outdoors or in a well-ventilated area

Precautionary statements-(Response)

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER or doctor/physician.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.
- IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

Precautionary statements-(Storage)

- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant.

Others

Other hazards Not available

Section 3: COMPOSITION//INFORMATION ON INGREDIENTS

Single Substance or Mixture	Substance
Formula	CCl_3COOH
Chemical Name	Trichloroacetic Acid
Weight-%	99.0（After Drying）
Molecular weight	163.39
ENCS	(2)-1188
ISHL No.	Listed
CAS No	76-03-9
Impurities and/or Additives	Not applicable

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IN IF EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Water spray (fog), Carbon dioxide (CO_2), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Special extinguishing method

No information available

Special protective actions for fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipment to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminant and methods and materials for cleaning up

Sweep up and gather scattered particles, and collect it in an empty airtight container.

Recovery, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Avoid contact with strong oxidizing agents. Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Storage

Safe storage conditions

Storage conditions	Store away from sunlight in well-ventilated place at room temperature (under25℃). Keep container tightly closed. Store locked up.
Safe packaging material	Glass
Incompatible substances	Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	Trichloroacetic Acid 76-03-9
JSOH (Japan)	N/A
ISHL (Japan)	N/A
ACGIH	TWA: 0.5ppm

Personal protective equipment

Respiratory protection	Dust mask
Hand protection	Impermeable protective gloves
Eye protection	Protective eyeglasses or chemical safety goggles
Skin and body protection	Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	white
Appearance	crystals or mass
Odor	Pungent odor
Melting point/freezing point	58℃
Boiling point, initial boiling point and boiling range	198℃
Flammability	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	
Upper:	No data available
Lower:	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	strongly acidic (aq.)
Viscosity (coefficient of viscosity)	No data available
Dynamic viscosity	No data available
Solubility /	Water, Ethanol, Diethyl ether: Very soluble.
n-Octanol/water partition coefficient: (log Pow)	1.7
Vapor pressure	1hPa
Specific Gravity/Relative density	1.62g/cm_3
Vapor density	5.64 (air=1)
Particle characteristics	No data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity	No data available
Chemical stability	This material is deliquescent

Hazardous reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO_2), Halides

Section 11: TOXICOLOGICAL INFORMATION

Chemical Name	Trichloroacetic Acid

Acute toxicity

Oral LD50	3320 mg/kg (Rat)
Dermal LD50	> 2000 mg/kg (Rat)
Inhalation LC50	N/A

Source information

Acute toxicity

Oral	Based on the NITE GHS classification results.

Dermal	Based on the NITE GHS classification results.
Inhalation	
gas	Based on the NITE GHS classification results.
vapor	Based on the NITE GHS classification results.
dust	Based on the NITE GHS classification results.
mist	Based on the NITE GHS classification results.
Skin irritation/corrosion	Based on the NITE GHS classification results.
Serious eye damage/irritation	Based on the NITE GHS classification results.
Respiratory or skin sensitization	Based on the NITE GHS classification results.
Reproductive cell mutagenicity	Based on the NITE GHS classification results.
Carcinogenicity	Based on the NITE GHS classification results.
NTP	-
IARC	Group 2B
ACGIH	A3
JSOH (Japan)	-
Reproductive toxicity	Based on the NITE GHS classification results.
STOT	
single exposure	Based on the NITE GHS classification results.
repeated exposure	Based on the NITE GHS classification results.
Aspiration hazard	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity	No information available
Other date	
Hazardous to the aquatic environment source information	
Short-term (acute)	Based on the NITE GHS classification results.
Long-term (chronic)	Based on the NITE GHS classification results.
Persistence and degradability	Degree of decomposition： 39% by BOD (METI Existing chemical safety inspections)
Bioaccumulative potential	Concentration factor
Mobility in soil	No information available
Hazard to the ozone layer	No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID

UN number	UN1839
Proper shipping name:	Trichloroacetic Acid
UN classification	8
Subsidiary hazard class	
Packing group	Ⅱ
Marine pollutant	Not applicable

IMDG

UN number	UN1839
Proper shipping name:	Trichloroacetic Acid
UN classification	8
Subsidiary hazard class	

Packing group	Ⅱ
Marine pollutant (Sea)	Not applicable
Transport in bulk according to Annex Ⅱ of MARPOL 73/78 and the IBC Code	No information available

IATA

UN number	UN1839
Proper shipping name:	Trichloroacetic Acid
UN classification	8
Subsidiary hazard class	
Packing group	Ⅱ
Environmentally Hazardous	Not applicable

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELONCS	Listed
TSCA	Listed

Japanese regulations

Fire Service Act	Not applicable
Poisonous and Deleterious Substances Control Law	Deleterious Substances 2nd. Grade

Industrial Safety and Health act

Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18)
Notifiable Substances (Low Art.57-2, Enforcement Oder Art.18-2 Attached Table No.9) No.385

Regulations for the carriage and storage of dangerous goods in ship

Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)

Civil Aeronautics Law

Corrosive Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)

Pollutant Release and Transfer Register Law	Class 1
Class 1 – No.	282
Export Trade Control Order	Not applicable
Air Pollution Control Law	Hazardous Air Pollutants

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
http://www.safe.nite.go.jp/japan/db.html
IATA dangerous Goods Regulations
RTECS: Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Organic Chemistry, SSOCJ, Koudansha Scientific Co., Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc.

Disclaimer

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. GHS Classification is according to JIS Z 7252 (2019). 'JIS: Japanese Industrial Standards

End of Safety Date Sheet

Revision Date 25-Jan-2022

IBL Safety Data Sheet

1. Identification of substance/mixture and company information

Product : 27790 Bradykinin Assay Kit-IBL

Product detail : Stop Solution

Manufacturer :
Immuno-Biological Laboratories Co., Ltd.
1091-1 Naka, Fujioka-shi, Gunma 375-0005, JAPAN
TEL: +81 (0)274-50-8666 FAX: +81 (0)274-23-6055
URL: https://www.ibl-japan.co.jp E-Mail: do-ibl@ibl-japan.co.jp

2. Composition/information on ingredients

· **Description:** Mixture of substances below contained in water with following concentration.

Dangerous components:	CAS Number	Percent (w/v) %
Sulphuric acid 	**7664-93-9**	**8.1 %**

· **Additional information:** This product is exempted from the deleterious materials under control law in Japan.

3. Hazard identification

· **Main hazard:** Acute toxicity, corrosive, strong acidity
· **Flammability:** Non flammability
· **Potential health effect:**
Skin Corrosive. Severe burn can occur.
Eyes Corrosive. Can cause blindness.
Ingestion Corrosive. Swallowing can cause severe burns of the mouth, throat and stomach, leading to death. Can cause sore throat, vomiting and diarrhea. Circulatory shock is often the immediate cause of death.
Inhalation Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. Symptoms may include irritation of the nose and throat and labored breathing. May cause lung edema, a medical emergency.

4. First aid measures

· **After eye contact:**
Hold eyelids open and immediately rinse with cool running water for at least 15 minutes, and seek medical attention after rinsing.
· **After skin contact:**
Wash thoroughly with soap and water. Rinse for 15 minutes. Discard contaminated clothing. Seek medical attention.
· **After swallowing:**
Do not induce vomiting. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Call a doctor immediately.
· **After inhalation:**
Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Call a doctor immediately.

5. Fire fighting measures

· **Flammability:** Non-flammable
· **Suitable extinguishing agents:** Use dry chemical foam or CO_2. Don't use water. Water spray can be used to prevention of spread of a fire.

· **Protective equipment:** No special measures required.

6. Accidental release measures

· **Person-related safety precautions:** Wear acid resistant boots, face-shield, chemical splash goggles and acid resistant gloves.
· **Small spills:** Neutralize with soda ash or lime. Cover spill and mix well until pH is neutral. Do not use organic material such as saw dust. Collect into sealable container and dispose of as hazardous waste.
· **Large spills:** Contain and collect as much as possible in suitable containers. Dam and neutralize with soda ash or lime. Absorb with sand or vermiculite and collect in sealable containers. Do not use organic material such as sawdust. Dispose of as hazardous waste.

7. Handling and storage

· **Handling:**
· **Information for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Don't get in eyes, on skin, or on clothing.
Don't ingest or inhale.
· **Information about fire - and explosion protection:** No special measures required.
· **Storage:** Keep container tightly closed. Store in a cool, dry, will-ventilated area away from incompatible substances.

8. Exposure control and personal protection gear

· **Engineering controls:** Provide exhaust ventilation of other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.
· **Personal protective equipment:** Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

9. Physical and chemical properties (H_2SO_4 solution)

· **Form:**	liquid
· **Color:**	colorless
· **Odor:**	odorless
· **pH:**	0
· **Change in condition**	
Melting point/Melting range:	undetermined
Boiling point/Boiling range:	undetermined
· **Flash point:**	Not applicable
· **Self-igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Density:**	Not determined
· **Solubility in / Miscibility with Water:**	Fully miscible

10. Stability and reactivity

· **Stability:** Stable under normal condition.
· **Conditions to avoid:** Heat, moisture and incompatibles. Prevent smoking, fires and any other ource of ignition around lead acid batteries. Battery electrolyte will react with water to produce heat. Can react with oxidizing or reducing agent. Do not allow acid to mix with any material unless the material is a known compatible.
· **Incompatible materials:** Water, potassium chlorate, potassium perchlorate, potassium permanganate, sodium, lithium, bases, organic material, halogens, metal acetylides, oxides and hydrides, metals, strong oxidizing or reducing agents.
· **Hazardous decomposition products:** Toxic fumes of oxides or sulfur when heated to decomposition. Will react with water or steam to produce toxic and corrosive fumes. Reacts with

carbonates to generate carbon dioxide gas and with cyanides and sulphides to produce poisonous hydrogen cyanide and hydrogen sulphide.

11. Toxicological information

· **Acute toxicity**

· **Primary irritant effect:**

Skin Causes severe irritation and burns on prolonged contact..

Eyes Caused severe burns. Risk of serious damage to eye.

Inhalation Inhalation of mist or vapor will cause irritation of the upper respiratory tract, high concentrations may cause damage to mucous membranes and lungs.

Ingestion May cause burns to mucous membranes, throat and stomach. May cause severe internal injury.

· **Additional toxicological information:**

Acute oral toxicity (LD50): 2140 mg/kg (rat)

Acute toxicity of the vapor (LD50): 320 mg/m^3/2hours (mouse)

510 mg/m^3/2hours (rat)

(TCL0): 3 mg/m^3/24w (human)

12. Ecological information

· **General notes:** Harmful effect due to pH shift. Implement necessary measures at the spill and disposal.

13.Disposal consideration

· **Product:** Dilute concentrate with water and neutralize afterwards with suitable alkali material (sodium hydroxide solution, lime). The formed neutral salts are relatively environment-friendly.

· **Uncleaned packaging:**

Recommended cleansing agents: Water, if necessary together with cleansing agents.

14. Transport information

· **UN-Number:** 2796 (Sulphuric acid with not more than 51 %)

Class: 8

PG: II

15. Regulations

· **Labelling according to Japan guidelines:**

Sulphuric acid is indicated as a deleterious substance by Poisonous and Deleterious Substances Control Law in Japan (exempts below concentration 10 %).

This product is exempted from deleterious substances.

16. Other information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used as a guide. Immuno-Biological Laboratories Co., Ltd. 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.

End of Safety Date Sheet

Revision Date 30-Jun-2021