

1. Identification of substance/mixture and company information

Product : Listed on the front cover.


Product detail : Stop Solution

Manufacturer :

Immuno-Biological Laboratories Co., Ltd.
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2. Composition/information on ingredients

- **Chemical characterization:** Mixture (1N, 0.5 mol/L)
- **Description:** Mixture of substances below contained in water with following concentration.

Dangerous components:	CAS Number	Percent (w/v) %
Sulphuric acid 	7664-93-9	4.9 %

- **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 CO₂. 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, well-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 (H₂SO₄ solution)

· Form:	liquid
· Color:	colorless
· Odor:	odorless
· pH:	0.3 (1N solution)
· 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 source 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/m³/2hours (mouse)
510 mg/m³/2hours (rat)
 - (TCL0): 3 mg/m³/24w (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.