

Material Safety Data Sheet

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: 1,4-BUTANE SULTONE

Manufacturer Information

Wuhan Pinestone Fortune International Trading Co., Ltd.

Tel: +86-27-85615902

ADD: Garden village, yangluo economic development zone, xinzhou district, wuhan city

Email: imp.exp8@fengfan.net

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1633-83-6	1,4-Butane Sultone	≥98%

*** Section 3 – Hazards Identification ***

Eyes contact: May cause irritation.

Skin contact: May cause irritation.

Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.

Inhalation: May cause respiratory and digestive tract irritation.

*** Section 4 – First Aid Measures ***

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. TOXIC. Avoid any skin contact. Effects of contact or inhalation may be delayed.

Eye: Flush eyes with plenty of soap and water for at least 15 minutes while holding eyelids open. Obtain medical aid.

Skin: Immediately flush skin with plenty of water and soap and rinse thoroughly for at least 15 minutes while removing contaminated clothing and shoes. If a large area of the skin is damaged or if irritation persists get medical attention. Wash clothing and shoes before reuse.

Inhalation: Remove victim to fresh area. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Keep patient warm. In severe cases, or if recovery is not rapid or complete seek immediate medical attention.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If patient is conscious and alert, wash out mouth with water and drink 2-4cupfuls of milk or warm water. If patient feels unwell call a physician immediately.

*** Section 5 - Fire Fighting Measures ***

Combustion may decompose to produce carbon oxide and sulfur oxide etc. irritating and highly toxic gases or fumes. Wear self-contained breathing apparatus and full protective suit for firefighting if necessary. Do NOT get water inside containers. Containers may explode when heated. Use water spray to keep fire-exposed containers cool. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use firefighting measures that suit the environment. Cool containers with flooding quantities of water until well after fire is out. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

***** Section 6 - Accidental Release Measures *****

Use personal protective equipment. Evacuate personnel to safe areas. Remove all sources of ignition. Keep away from ignition sources. Avoid contact with eye. Wear respiratory protection, Ensure adequate ventilation. Avoid breathing vapors, mist or gas. Avoid contact with the spilled material. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Shut off source of the leak only if is safe to do so. Absorb with sand, diatomite, acid binders, universal binders, sawdust and etc. inert absorbent material. Collect as much of the spilled material as possible, placed the spilled material into a suitable closed disposal container. Wash spill site with plenty of water after material has been taken up. Keep spilled material out of sewers, ditches and bodies of water. This material harmful to the environment; should give special attention to the water. Do not allow material to be released to the environment.

***** Section 7 - Handling and Storage *****

Handling Procedures: Operations should be carried out in an efficient ventilation area. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.
Storage Procedures: Keep away from heat, sparks, and flame. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

***** Section 8 – Exposure Controls / Personal Protection *****

General advice: Handle in accordance with good industrial hygiene and safety practice. The usual precautionary measures for handling chemicals should be followed. Instantly remove any soiled and impregnated garments. Wash hands before breaks and at the end of workday.

Eye/face protection: Use equipment for eye protection. Full face protection.

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product.

Body Protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator.

***** Section 9 - Physical & Chemical Properties *****

Molecular Formula: $C_4H_8O_3S$;

Molecular Weight: 136.17 g/mol;

Melting Point: 12~15°C;

Density: 1.331g/ml(25°C);

Boiling Point: 134~136°C(0.53kPa), 153°C(19.00hPa);

Flash Point: 113°C(Closed Cup);

Refractive index $n_{20/D}$: 1.464;

Vapor Density: 4.70;

Sensitive: Moisture Sensitive;

Water Solubility: 54g/L(20°C) (Decomposition in water, and miscible with many kinds of organic solvents, insoluble in water);

Stability: This material is stable under normal temperatures and pressures. Incompatible with oxidizing agents;

Colorless transparent liquid with sulfurous odor. The similar chemical properties with the homologues of 1, 3 - propane sulfonic lactones. Intermediates of medicine, chemical reagent, surface active agent, color dye

sensitizers. As sulfonation of organic agents and fine chemical intermediates, for pharmaceuticals, photographic materials, lithium batteries, electronic plating, daily - use chemical industry and so on.

***** Section 10 - Chemical Stability & Reactivity Information *****

Stability: This material is stable under normal temperatures and pressures.

Incompatibility: Oxidizing agents

Hazardous Decomposition: Carbon monoxide, oxides of sulfur, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

***** Section 11 - Toxicological Information *****

Oral toxicity: LD50 = 500 mg/kg (animal: Mouse)

Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**** Section 12 - Ecological Information *****

Ecotoxicity: No data available.

Environmental: No data available.

***** Section 13 – Disposal Consideration *****

Treatment Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

***** Section 14 - Transportation Information *****

ADR/RIC Code/Class: Not Restricted

Maritime Transport IMDG Code/Class: Not Restricted

Air Transport IATA Code/Class: Not Restricted

***** Section 15 – Regulatory Information *****

Check with your local regulatory authorities.

***** Section 16 - Other Information *****

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied is given. The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. And it must be recognised that the physical and chemical properties of any product may not be fully understood and the new, possibly hazardous products may arise from reactions between chemicals.