



Section 1. Product and Company Identification

Product Name Busulfan
Product ID B7973
Chemical Name (Synonyms) Busulphan
Supplier LKT Laboratories, Inc
545 Phalen Blvd.
St. Paul, MN 55130 USA
Ph: 651-644-8424 Fax: 651-644-8357
www.lktlabs.com - getinfo@lktlabs.com

Emergency Phone # 1-800-424-9300

Section 2. Hazards Identification

GHS Classification Acute toxicity, Oral (Category 3), H301
Acute toxicity, Skin (Category 2), H310
Acute toxicity, Inhalation (Category 2), H330
Carcinogenicity (Category 1B), H350

GHS Label elements including precautionary statements

Pictogram



Signal word Danger

Hazard and precautionary statements

Hazard statements

H301 - Toxic if swallowed.
H310 + H330 - Fatal in contact with skin or if inhaled.
H350 - May cause cancer.

Precautionary statements

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fumes, gas, mist, vapors, and spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/ protective clothing.
P284 - Wear respiratory protection.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 - Immediately call a POISON CENTER or doctor/ physician.
P320 - Specific treatment is urgent (see supplemental first aid instructions on this label).
P330 - Rinse mouth.
P361 - Remove/ take off immediately all contaminated clothing.
P363 - Wash contaminated clothing before reuse.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification Health hazard: 4
Chronic health hazard: *
Flammability: 0
Physical hazard: 0

NFPA Rating Health hazard: 4
Fire hazard: 0
Reactivity hazard: 0

Potential Health Effects Inhalation - Acute toxicity. Fatal if inhaled.
Skin - Acute toxicity. Fatal in contact with skin.
Eyes - May cause eye irritation.

Ingestion - Acute toxicity. Toxic if swallowed.
Carcinogen - May cause cancer.

Section 3. Composition/Information on Ingredients

Substances	Ingredient: Title Compound	Percent: 100	
Formula	C ₆ H ₁₄ O ₆ S ₂	Formula Wt.	246.30
CAS No.	55-98-1	EC No.	200-250-2

Section 4. First Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Eye Contact	Flush eyes with water as a precaution.
Skin Contact	Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 . Firefighting Measures

Flash Point	Not available.
Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Firefighting Procedures	Wear self-contained breathing apparatus for firefighting if necessary.
Unusual Fire Hazards	Carbon oxides, sulfur oxides .

Section 6. Accidental Release Measures

Personal Precautions	Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleanup	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

Handling	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: Ambient
Hazardous Decomposition Products	Not available.
Other Remarks	Moisture sensitive.

Section 8. Exposure Controls/Personal Protection

Personal protective equipment

EXPOSURE CONTROLS

Contains no substances with occupational exposure limit values.
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

PERSONAL PROTECTION

Eye/face protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full and splash contact - Material: Nitrile rubber, Minimum layer thickness: 0.11 mm, Break through time: 480 min., Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M).

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 particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. Physical and Chemical Properties

Physical State	Solid.	Color	White crystalline powder.
Boiling Point	Not available.	Volatility	Not available.
Melting Point	287°C	Density	Not available.
Solubility	Soluble in acetone (22 mg/mL), ethanol, or DMSO. Insoluble in water.	pH	Not available.
Flash Point	Not available.	Ignition temperature	Not available.
Lower explosion limit	Not available.	Autoignition temperature	Not available.
Upper explosion limit	Not available.	Vapor pressure	Not available.
Water solubility	Insoluble in water.	Odor	Not available.
Partition coefficient: n-octanol/water	Not available.	Odor Threshold	Not available.
Relative vapor density	Not available.	Evaporation rate	Not available.

Section 10. Stability and Reactivity

Stability Stable under recommended storage conditions.

Materials To Avoid Strong oxidizing agents.

Hazardous Decomposition Products Not available.

Possibility of hazardous reactions Not available.

Conditions to avoid Not available.

Section 11. Toxicological Information

Oral LD50 Mouse - 110 mg/kg. Skin and appendages: Hair: Other. Gastrointestinal: "Hypermotility, Diarrhea"

Skin corrosion/irritation Not available.

Inhalation LC50 Not available.

Serious eye damage/irritation Not available.

Dermal LD50 Not available.

Respiratory or skin sensitization Not available.

Other information on acute toxicity Not available.

Germ cell mutagenicity Not available.

Reproductive Toxicity Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Aspiration Hazard Not available.

Specific organ toxicity single exposure (GHS) Not available.

Synergistic effects Not available.

Specific organ toxicity repeated exposure (GHS) Not available.

Additional Information RTECS: EK1750000

Teratogenicity Not available.

Signs and symptoms of exposure Not available.

Potential Health Effects Inhalation - Acute toxicity. Fatal if inhaled.
Skin - Acute toxicity. Fatal in contact with skin.
Eyes - May cause eye irritation.
Ingestion - Acute toxicity. Toxic if swallowed.
Carcinogen - May cause cancer.

Carcinogenicity **IARC:** 1 - Group 1: Carcinogenic to humans (Busulfan).
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: Known to be human carcinogen (Busulfan).
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Section 12. Ecological Information

Toxicity Not available.

Mobility in soil Not available.

PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not

conducted.

Persistence and degradability Not available.

Other adverse effects Not available.

Bioaccumulative potential Not available.

Section 13. Disposal Considerations

Waste Disposal Dispose of material according to all federal, state, and local regulations.
Offer material to a licensed, professional waste disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of as unused product.

Section 14. Transport Information

DOT (US) UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solids, organic, n.o.s. (Busulfan)
Marine pollutant: No Poison inhalation hazard: No

IATA UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solid, organic, n.o.s. (Busulfan)

IMDG UN number: 2811 Class: 6.1 Packing group: III EMS No.: F-A, S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (BUSULFAN)
Marine pollutant: No

Further Information

Section 15. Regulatory Information

Reach No.

SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components Acute health hazard, chronic health hazard.

Massachusetts Right To Know Components Busulfan CAS #: 55-98-1 Revision Date: 1993-04-24

Pennsylvania Right To Know Components Busulfan CAS #: 55-98-1 Revision Date: 1993-04-24

New Jersey Right To Know Components Busulfan CAS #: 55-98-1 Revision Date: 1993-04-24

California Prop 65 Components WARNING: This product contains a chemical known to the State of California to cause cancer.
Busulfan CAS #: 55-98-1 Revision Date: 1987-02-27
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm:
Busulfan CAS #: 55-98-1 Revision Date: 1987-02-27

Section 16. Other Information

Other information The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.

Updated 5/9/2019

For emergencies in the USA, call
CHEMTREC 800-424-9300