

# Safety Data Sheet

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## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifier

Product name: Busulfan

Catalog No.: S1692

CAS No.: 55-98-1

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, manufacture of substances.

### 1.3 Details of the supplier of the safety data sheet

Company: Selleck Chemicals

TollFree: +1 877 796-6397

Tel: +1 832 582-8158

Fax: +1 832 582-8590

### 1.4 Emergency telephone number

Emergency phone #: +1 832 582-8158

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

H300 #Fatal if swallowed.

H301 #Toxic if swallowed.

H310 #Fatal in contact with skin.

H315 #Causes skin irritation.

H319 #Causes serious eye irritation.

H330 #Fatal if inhaled.

H335 #May cause respiratory irritation.

H340 #May cause genetic defects.

H350 #May cause cancer.

H360 #May damage fertility or the unborn child.

H373 #Causes damage to organs through prolonged or repeated exposure.

**Classification according to EU Directives DSD 67/548/EEC or DPD 1999/45/EC**

Xn, N Harmful, Dangerous for the environment R22, R50/53

### 2.2 GHS Label elements, including precautionary statements

**Labelling according Regulation (EC) No 1272/2008 [CLP]****Pictogram****Signal word**

No data available

**Hazard statement(s)**

H300

Fatal if swallowed.

H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H373	Causes damage to organs through prolonged or repeated exposure.

#### **Precautionary statement(s)**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/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/eye protection/face protection.
P281	Use personal protective equipment as required.
P284	[In case of inadequate ventilation] Wear respiratory protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTER or doctor/ physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P361	Take off immediately all contaminated clothing.
P362	Take off contaminated clothing.
P363	Wash contaminated clothing before reuse.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.
P302+P352	IF ON SKIN: wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do-continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
P337+P313	IF eye irritation persists: Get medical advice/attention.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/ container to an approved waste disposal plant.

#### **Supplemental hazard statements**

None.

### **2.3 Other hazards**

None.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Synonyms: 1,4-dimethanesulfonate-1,4-butanediol

NSC-750

Formula:  $C_6H_{14}O_6S_2$

Molecular Weight: 246.3

CAS No.: 55-98-1

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

##### Eye contact

Remove any contact lenses, locate eye-wash station, and flush eyes immediately with large amounts of water. Separate eyelids with fingers to ensure adequate flushing. Promptly call a physician.

##### Skin contact

Rinse skin thoroughly with large amounts of water. Remove contaminated clothing and shoes and call a physician.

##### Inhalation

Immediately relocate self or casualty to fresh air. If breathing is difficult, give cardiopulmonary resuscitation (CPR). Avoid mouth-to-mouth resuscitation.

##### Ingestion

Wash out mouth with water; Do NOT induce vomiting; call a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2).

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Use water spray, dry chemical, foam, and carbon dioxide fire extinguisher.

#### 5.2 Special hazards arising from the substance or mixture

During combustion, may emit irritant fumes.

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective clothing.

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Use full personal protective equipment. Avoid breathing vapors, mist, dust or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Refer to protective measures listed in sections 8.

#### 6.2 Environmental precautions

Try to prevent further leakage or spillage. Keep the product away from drains or water courses.

#### 6.3 Methods and materials for containment and cleaning up

Absorb solutions with finely-powdered liquid-binding material (diatomite, universal binders); Decontaminate surfaces and equipment by scrubbing with alcohol; Dispose of contaminated material according to Section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid inhalation, contact with eyes and skin. Avoid dust and aerosol formation. Use only in areas with appropriate exhaust ventilation.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly sealed in cool, well-ventilated area. Keep away from direct sunlight and sources of ignition.

Store at -20°C(powder) or -80°C( in solvent)

### 7.3 Specific end use(s)

No data available.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

This product contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Engineering controls

Ensure adequate ventilation. Provide accessible safety shower and eye wash station.

#### Personal protective equipment

Eye protection	Safety goggles with side-shields.
Hand protection	Protective gloves.
Skin and body protection	Impervious clothing.
Respiratory protection	Suitable respirator.
Environmental exposure controls	Keep the product away from drains, water courses or the soil. Clean spillages in a safe way as soon as possible.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	solid
Odor	No data available
Odor threshold	No data available
pH	No data available
Melting/freezing point	No data available
Boiling point/range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Water solubility	null mg/mL

<b>Partition coefficient</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	No data available

## 9.2 Other safety information

No data available.

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

No data available.

### 10.5 Incompatible materials

Strong acids/alkalis, strong oxidising/reducing agents.

### 10.6 Hazardous decomposition products

Under fire conditions, may decompose and emit toxic fumes.

Other decomposition products - no data available.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

Classified based on available data. For more details, see section 2.

#### Skin corrosion/irritation

Classified based on available data. For more details, see section 2.

#### Serious eye damage/irritation

Classified based on available data. For more details, see section 2.

#### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2.

#### Germ cell mutagenicity

Classified based on available data. For more details, see section 2.

#### Carcinogenicity

IARC: No component of this product present at a level equal to or greater than 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

Classified based on available data. For more details, see section 2.

#### Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2.

#### Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2.

**Aspiration hazard**

Classified based on available data. For more details, see section 2.

**Additional information**

RTECS No.: Unavailable

This information is based on our current knowledge. However the chemical, physical, and toxicological properties have not been completely investigated.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment unavailable as chemical safety assessment not required or not conducted.

**12.6 Other adverse effects**

No data available.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Dispose substance in accordance with prevailing country, federal, state and local regulations.

**Contaminated packaging**

Conduct recycling or disposal in accordance with prevailing country, federal, state and local regulations.

**14. TRANSPORT INFORMATION****14.1 UN number**

DOT: - ADR: 3077.0

IMDG: 3077.0 IATA: 3077.0

**14.2 UN proper shipping name**

DOT: -

ADR: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IATA: Environmentally hazardous substance, solid, n.o.s.

**14.3 Transport hazard class(es)**

DOT: - ADR: 9.0

IMDG: 9.0 IATA: 9.0

**14.4 Packaging group**

DOT: - ADR: III

IMDG: III IATA: III

**14.5 Environmental hazards**

DOT: - ADR: yes

IMDG Marine pollutant: yes

IATA: yes

**14.6 Special precautions for user**

No data available.

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No data available.

**15.2 Chemical safety assessment**

Chemical safety assessment was not carried out for this product.

**16. OTHER INFORMATION**

The above information is believed to be correct based on our present knowledge but does not purport to be complete. The product is for research use only and for trained personnel. The burden of safe use of this material rests entirely with the user. SELLECK CHEMICALS disclaims all liability for any damage resulting from use of this material.