

# MATERIAL SAFETY DATA SHEET

For R&D use only. Not for drug, household or other uses.

Click <http://www.lookchem.com/cas-55/55-98-1.html> for suppliers of this product.

## Composition/Information on Ingredient

**Cas:**  
55-98-1  
**Code:**  
M

**RTECS:**  
EK1750000  
**Code:**  
M

**Name:**  
BUSULFAN (1,4-BUTANEDIOL DIMETHYLSULFONATE OR MYL

**Other REC Limits:**  
NOT ESTABLISHED

**OSHA PEL:**  
NOT ESTABLISHED  
**Code:**  
M

**OSHA STEL:**

**Code:**

**ACGIH TLV:**  
NOT ESTABLISHED  
**Code:**  
M

**ACGIHSTEL:**  
N/P  
**Code:**

## Control Measures

**Respiratory Protection:**  
FULL AIR-SUPPLIED SUIT IS RECOMMENDED OR AN AIR-SUPPLIED HOOD WITH FULL BODY COVERING.

**Ventilation:**  
LOCAL EXHAUST.

**Protective Gloves:**  
DOUBLE LATEX

**Eye Protection:**  
CHEMICAL SAFETY GOGGLES

**Other Protective Equipment:**  
Equipment AVOID ALL CONTACT BY WEARING FULL BODY PROTECTIVE CLOTHING (FOR EXAMPLE TYVEK).

**Work Hygienic Practices:**  
WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. 4

**Supplemental Safety and Health:**  
THIS IS AN ANTINEOPLASTIC DRUG. \*CONTINUED FROM HEALTH HAZARDS:THERE HAVE BEEN CLINICAL REPORTS OF STERILITY,AZOOSPERMIA AND TESTICULAR ATROPHY IN MALE PATIENTS RECEIVING THIS DRUG\*

## Health Hazards Data

**LD50LC50Mixture:**  
LD50 (ORAL MOUSE) IS 120 MG/KG

**Route Of Entry Inds - Inhalation:**  
YES

**Skin:**  
YES

**Ingestion:**  
YES

**Carcinogenicity Inds - NTP:**  
YES

**IARC:**  
YES

**OSHA:**  
NO

**Health Hazards Acute And Chronic:**  
HAS POWERFUL CYTOTOXIC PROPERTIES. MAY DEPRESS BONE MARROW AND IS VESICANT AND NASAL IRRITANT.BUSULFAN IS MUTAGENIC IN MOUSE,AND POSSIBLY,IN MAN.MAY CAUSE FETAL HARM WHEN ADMINISTERED TO A PREGNANT WO MAN.INTERFERES WITH SPERMATOGENESIS IN EXPERIMENTAL ANIMALS \*CONTINUES IN SUPPLEMENTAL DATA\*

**Explanation Of Carcinogenicity:**  
2 BUSULFAN IS A CONFIRMED CARCINOGEN BY IARC AND NTP.

**Signs And Symptions Of Overexposure:**  
NASAL IRRITANT. CAUSES BLISTERS.

**Medical Cond Aggravated By Exposure:**  
NONE NOTED.

**First Aid:**  
EYES:RINSE IMMEDIATELY WITH PLENTY OF WATER.SEE DOCTOR. SKIN:WASH OFF SKIN WITH PLENTY OF WATER.SEE DOCTOR IF CONTACT IS PROLONGED. INHALATION:REMOVE TO FRESH AIR.SEE DOCTOR. INGESTION:WASH OUT MOUTH. GIVE FLUIDS.INDUCE VOMIT OR GASTRIC LAVAGE IF INGESTION WAS RECENT.SEE DOCTOR.GIVE ACTIVATED CHARCOAL IF INGESTION WAS RECENT.DAILY BLOOD COUNTS ARE NECESSARY FOR AT LEAST 4 WEEKS.

**Spill Release Procedures:**  
WEAR SUITABLE PROTECTIVE CLOTHING.SWEEP UP MINIMIZING DUST EVOLUTION.TRANSFER TO CLOSED DISPOSAL CONTAINER.DECONTAMINATE AREA WITH DILUTE CAUSTIC SODA AND SODIUM HYPOCHLORITE SOLUTION.

**Neutralizing Agent:**  
DILUTE CAUSTIC SODA AND SODIUM HYPOCHLORITE SOLUTION.

**Waste Disposal Methods:**  
NOTIFY YOUR LOCAL ENVIRONMENTAL OFFICER. DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. PRODUCT MAY BE INCINERATED. WASH WATERS AND RINSES SHOULD BE DISCHA RGED TO AN APPROVED SEWERAGE SYSTEM.

**Handling And Storage Precautions:**  
STORE IN COOL, DRY, WELL VENTILATED AREA. PROTECT FROM PHYSICAL DAMAGE, HEAT AND IGNITION SOURCES. KEEP CONTAINERS CLOSED. PROTECT FROM LIGHT.

**Other Precautions:**  
NONE NOTED.

## Fire and Explosion Hazard Information

**Flash Point Method:**  
N/P 3

**Flash Point:**

**Flash Point Text:**  
N/R

**Autoignition Temp:**

**Autoignition Temp Text:**  
N/A

**Lower Limits:**  
N/R

**Upper Limits:**  
N/R

**Extinguishing Media:**  
USE CARBON DIOXIDE, FOAM, DRY CHEMICAL, OR WATER FOG.

**Fire Fighting Procedures:**  
FIRE FIGHTERS SHOULD USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT WHEN FIGHTING CHEMICAL FIRE. USE WATER SPRAY TO COOL NEARBY CONTAINERS EXPOSED TO FIRE.

**Unusual Fire/Explosion Hazard:**  
FIRE OR EXCESSIVE HEAT MAY CAUSE PRODUCTION OF HAZARDOUS DECOMPOSITION PRODUCTS.

## Physical/Chemical Properties

**HCC:**  
T6

**NRC/State LIC No:**

**Net Prop WT For Ammo:**

**Boiling Point:**

**B.P. Text:**  
N/R

**Melt/Freeze Pt:**

**M.P/F.P Text:**  
243F,117C

**Decomp Temp:**

**Decomp Text:**  
N/A

**Vapor Pres:**  
N/R

**Vapor Density:**  
N/R

**Volatile Org Content %:**

**Spec Gravity:**  
UNKNOWN

**VOC Pounds/Gallon:**

**PH:** N/P

**VOC Grams/Liter:**

**Viscosity:**  
N/P

**Evaporation Rate & Reference:**  
N/R

**Solubility in Water:**  
INSOLUBLE

**Appearance and Odor:**  
WHITE ALMOST ODORLESS CRYSTALLINE POWDER.

**Percent Volatiles by Volume:**  
N/R

**Corrosion Rate:**  
N/P

## Reactivity Data

**Stability Indicator:**  
YES

**Stability Condition To Avoid:**  
N/R

**Materials To Avoid:**  
N/R

**Hazardous Decomposition Products:**  
CARBON DIOXIDE, CARBON MONOXIDE, INCOMPLETELY BURNED CARBON PRODUCTS. 5

**Hazardous Polymerization Indicator:**  
NO

**Conditions To Avoid Polymerization:**  
NOT APPLICABLE

## Toxicological Information

**Information:**N/P

## MSDS Transport Information

**Information:**N/P

## Regulatory Information

**Sara Title III Information:** N/P

**Federal Regulatory Information:** N/P

**State Regulatory Information:** N/P

## Other Information

**Other Information:**N/P