



## MATERIAL SAFETY DATA SHEET

2,3-BUTANEDIONE MONOXIME

### SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name:  
2,3-BUTANEDIONE MONOXIME

Synonyms : DIACETYL MONOXIME; Biacetylmonoxime; DAM;  
diacetylmonoxime; 2,3-butanedione monoxime  
CAS No. : 57-71-6  
Molecular Weight : 101.11  
Chemical Formula : C<sub>4</sub>H<sub>7</sub>NO<sub>2</sub>  
Product Codes : Un Listed  
J.T. Baker : G218  
Mallinckrodt : 1892

Company Information:  
LEONID CHEMICALS  
62/A-2 1st Stage, Yeshwanthpur Industrial Suburb  
Ashokpuram School Road  
Bangalore-560 022, Karnataka, INDIA  
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### SECTION 2- COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient : 2,3-Butanedione Monoxime  
CAS No. : 57-71-6  
% : 90 - 100 %  
Hazardous : Yes

### SECTION 3- HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.  
MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT

J.T. Baker SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

Health Rating : 2 - Moderate  
Flammability Rating : 1 - Slight  
Reactivity Rating : 1 - Slight  
Contact Rating : 2 - Moderate  
Lab Protective Equip : GOGGLES; LAB COAT; VENT HOOD; PROPER  
GLOVES  
Storage Color Code : Orange (General Storage)

#### Potential Health Effects

Information on the human health effects from exposure to this substance is limited.

Inhalation:



No information found, but compound should be handled as a potential health hazard. May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, labored breathing, and chest pain.

**Ingestion:**

No information found, but compound should be handled as a potential health hazard. May cause irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

**Skin Contact:**

No information found, but compound should be handled as a potential health hazard. May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

**Eye Contact:**

No information found, but compound should be handled as a potential health hazard. May cause irritation, redness and pain.

**Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

No information found.

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**SECTION 4- FIRST AID MEASURES**  
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**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:**

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

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**SECTION 5- FIRE FIGHTING MEASURES**  
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**Fire:**

Not considered to be a fire hazard.

**Explosion:**

Has exploded when vacuum distilled below 1.3 mbar from a steam bath.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## SECTION 6- ACCIDENTAL RELEASE MEASURES

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Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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## SECTION 7 - HANDLING and STORAGE

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Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

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Airborne Exposure Limits:  
None established

### Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details..

### Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### Skin Protection:

Wear protective gloves and clean body-covering clothing.

### Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	:	White crystals.
Odor	:	No information found.
Solubility	:	Appreciable in water.
Specific Gravity	:	No information found.
pH	:	No information found.
% Volatiles by volume @ 21C (70F)	:	0
Boiling Point	:	185 - 186C (365 - 367F)
Melting Point	:	75 - 78C (167 - 172F)
Vapor Density (Air=1)	:	No information found.

Vapor Pressure (mm Hg) : No information found.  
Evaporation Rate (BuAc=1) : No information found.

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#### SECTION 10 - STABILITY AND REACTIVITY

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**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products**

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

No information found.

**Conditions to Avoid:**

No information found.

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#### SECTION 11 - TOXICOLOGICAL INFORMATION

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Inhalation mouse LC50: 72300 mg/m<sup>3</sup>/2H; Investigated as a tumorigen.

**NTP Carcinogen**

Ingredient	:	2,3-Butanedione Monoxime (57-71-6)
Known	:	No
Anticipated	:	No
IARC Category	:	None

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#### SECTION 12 - ECOLOGICAL INFORMATION

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**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

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#### SECTION 13 - DISPOSAL CONSIDERATIONS

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Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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#### SECTION 14 - TRANSPORT INFORMATION

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Not regulated.

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#### SECTION 15 - REGULATORY INFORMATION

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**Chemical Inventory Status - Part 1**

Ingredient	:	2,3-Butanedione Monoxime (57-71-6)
TSCA	:	Yes

EC : Yes  
Japan : Yes  
Australia : Yes

#### Chemical Inventory Status - Part 2

Ingredient : 2,3-Butanedione Monoxime (57-71-6)

#### Canada

Korea : Yes  
DSL : Yes  
NDSL : No  
Phil : Yes

#### Federal, State & International Regulations - Part 1

Ingredient : 2,3-Butanedione Monoxime (57-71-6)

#### SARA 302

RQ : No  
TPQ : No

#### SARA 313

List : No  
Chemical Catg: No

#### Federal, State & International Regulations - Part 2

Ingredient : 2,3-Butanedione Monoxime (57-71-6)  
CERCLA : No

#### RCRA

261.33 : No

#### TSCA

8(d) : No

Chemical Weapons Convention : No TSCA 12(b): No CDTA: No  
SARA 311/312 : Acute: Yes Chronic: No Fire: No Pressure: No  
Reactivity : No (Pure / Solid)

Australian Hazchem Code : None allocated.

Poison Schedule : None allocated.

#### WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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#### SECTION 16 - OTHER INFORMATION

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NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0

#### Label Hazard Warning:

WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

#### Label Precautions:

Avoid breathing dust.

Avoid contact with eyes, skin and clothing.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

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**DISCLAIMER:**

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