



Material Safety Data Sheet

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RESIDUAL SOLVENT CLASS 2 - METHYLBUTYLKETONE

Catalog Number: 1601667

Package Size: See label

Revision Date:

October 13, 2003

This reference standard contains methylbutylketone in dimethyl sulfoxide (DMSO). The mixture has not been tested to determine specific physical hazards, but it is considered potentially combustible. DMSO is an irritant and is rapidly absorbed through the skin. It may carry dissolved chemicals into the body through this route. Methylbutylketone is an irritant.

SECTION 1 - IDENTIFICATION

Common Name: Methylbutylketone

Formula: C₆H₁₂O (Methylbutylketone); C₂H₆OS (DMSO)

Synonym: MBK

Chemical Name: 2-Hexanone in dimethyl sulfoxide

CAS Number: 591-78-6 (Methylbutylketone); 67-68-5 (DMSO) **RTECS Number:** MP1400000 (Methylbutylketone); PV6210000 (DMSO)

Chemical Family: Ketone (Methylbutylketone)

Therapeutic Category: Residual solvent

SECTION 2 - INGREDIENT INFORMATION

Principle Components	Percent	Exposure Limits
Methyl butyl ketone (2-Hexanone)	0.025%	OSHA: TWA 100 ppm NIOSH: TWA 1 ppm; IDLH 1600 ppm ACGIH: TWA 5 ppm; STEL 10 ppm (skin)
Dimethyl sulfoxide	99.975%	

SECTION 3 - HEALTH HAZARD INFORMATION

Usual Adult Dose: n/f

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- Adverse Effects:** Adverse effects of DMSO may include redness, itching, or rash on skin; garlic-like taste or odor on breath and skin; swelling of face; troubled breathing; shortness of breath; and nasal congestion. Possible allergic reaction to material if inhaled, ingested or in contact with skin.
- Overdose Effects:** Ingestion or inhalation of high concentrations of ketones can result in central nervous system depression. Effects include headache, dizziness, fainting, tremor, incoordination, decreased body temperature, depressed respiration and heart rate, shortness of breath, coma, and death. Methylbutylketone has caused nerve damage manifested by abnormal skin sensations and muscle weakness.
- Acute:** Eye, skin, gastrointestinal and/or respiratory tract irritation; central nervous system depression.
- Chronic:** Possible hypersensitization; nerve damage.
- Inhalation:** Causes irritation. Avoid inhalation. Remove to fresh air.
- Eye:** Causes irritation. Avoid contact. Flush with copious quantities of water for at least 15 minutes.
- Skin:** Causes irritation. Avoid contact. Flush with copious quantities of soap and water. DMSO readily penetrates the skin and can enhance absorption of other chemicals.
- Ingestion:** Causes irritation. Avoid ingestion. Flush out mouth with water.
- Medical Conditions Aggravated by Exposure:** Hypersensitivity to material.
- Cross Sensitivity:** n/f
- Pregnancy Comments:** Animal reproduction studies with methylbutylketone have shown adverse effects on the fetus, possibly secondary to maternal toxicity.
- Pregnancy Category:** n/f

SECTION 4 - FIRST AID MEASURES

- General:** Remove from exposure. Remove contaminated clothing. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention. If person is not breathing give artificial respiration. If breathing is difficult give oxygen. Obtain medical attention.
- Overdose Treatment:** Treatment of overdose should be symptomatic and supportive.

SECTION 5 - TOXICOLOGICAL INFORMATION

- Oral Rat:** LD50: 2590 mg/kg (Methylbutylketone); 14500 mg/k
- Oral Mouse:** LD50: 2430 mg/kg (Methylbutylketone); 7920 mg/kg
- Irritancy Data:** RTECS - Rabbit/skin,eye: mild (Methylbutylketone); Rabbit/skin,eye: mild (DMSO)
- Target Organ(s):** Central and peripheral nervous systems (Methylbutylketone)
- Listed as a Carcinogen?** NTP: No IARC: No OSHA: No
- Other:** No

SECTION 6 - FIREFIGHTING MEASURES

- Flash Point:** n/f **Upper Flammable Limit:** n/f
- Auto-Ignition Temperature:** n/f **Lower Flammable Limit:** n/f
- Extinguisher Media:** Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials.
- Fire and Explosion Hazards:** This material is expected to be combustible. Vapors may form explosive mixtures with air. Vapors may travel to sources of ignition and flash back.

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Firefighting Procedures: As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

SECTION 7 - PHYSICAL HAZARDS

Conditions to Avoid: Avoid exposure to light.

Incompatibilities: n/f

Decomposition Products: When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions.

Stable? Yes **Hazardous Polymerization?** No

SECTION 8 - HANDLING / SPILL / DISPOSAL MEASURES

Handling: As a general rule, when handling USP Reference Standards avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Wash thoroughly after handling.

Storage: Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

Spill Response: Wear approved respiratory protection, chemically compatible gloves and protective clothing. Remove ignition sources. Ventilate enclosed spaces. Absorb with suitable material. Do not flush into a confined space such as a sewer. Avoid breathing vapors. Place spillage and all contaminated cleanup materials in an appropriately-labelled container for disposal. Wash spill site.

Disposal: Dispose of waste in accordance with all applicable Federal, State and local laws.

SECTION 9 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Use a NIOSH approved respirator, if it is determined to be necessary by an industrial hygiene survey involving air monitoring.

Ventilation: Recommended.

Gloves: Chemically compatible

Eye Protection: Safety Goggles

Protective Clothing: Protect exposed skin.

SECTION 10 - PHYSICAL AND CHEMICAL PROPERTIES

NOTE: The data reported below is general information, and is not specific to the USP Reference Standard Lot provided!

Appearance and Odor: Clear liquid.

Melting Point: n/f

Solubility in Water: n/f

Boiling Point: n/f

Specific Gravity: n/f

Vapor Pressure: n/f

Vapor Density: n/f

Evaporation Rate: n/f

Reactivity in Water: n/f

% Volatile by Volume: n/f