



<b>Date:</b>	01/01/88	<b>MSDS No:</b>
<b>Supersedes:</b>		
<b>Trade Name:</b>		
<b>Sizes:</b>	All	

# MATERIAL SAFETY DATA SHEET

## SECTION I - IDENTIFICATION

<b>Manufacturer/Supplier:</b> Dial Manufacturing, Inc. 25 S. 51st Avenue Phoenix, Arizona 85043 Tel. No.: (602) 278-1100	<b>Product Name:</b>	METHYL ETHYL KETONE
	<b>Product Number:</b>	4674 and 4689

## SECTION II - HAZARDOUS MATERIALS

<b>Chemical Name:</b>	Methyl Ethyl Keton	<b>Special Hazard Designations::</b>	<b>HMIS</b>	<b>NFPA</b>	<b>KEY</b>
<b>Chemical Family:</b>	Ketone	Health:	2	1	0-Minimal
<b>Formula:</b>	CH <sub>3</sub> COCH <sub>2</sub> CH <sub>3</sub>	Flammability:	3	3	1-Slight
<b>Molecular Weight:</b>	72	Reactivity:	0	0	2-Moderate
<b>CAS Number:</b>	78-93-3	Personal Protective Equipment:	G	--	3-Serious
<b>CAS Name:</b>	2-Butanone				4-Severe
<b>Synonyms:</b>	2-Butanone; MEK; Ethyl Methyl Ketone; Methyl Acetone; Butanone-2	OSHA 29CFR1910.1200	Evaluation: Hazardous		

## SECTION III - PHYSICAL DATA

<b>Boiling Range:</b>	(750mmHg) 79.6°C / 175°F	<b>Solubility in Water:</b>	(% by wt (a200(a20°C): 26.8
<b>Freezing Point:</b>	-86.7°C / -124°F	<b>% Volatile by Volume:</b>	100%
<b>Specific Gravity:</b>	H <sub>2</sub> O = 1 (a20/20°C): 0.8062	<b>Evaporation Rate:</b>	(BuAc = 1): 5.7
<b>Vapor Pressure:</b>	(20°C): 77.5 mm Hg	<b>Appearance and Odor:</b>	Clear, colorless, mobile liquid with strong characteristic "ketone" odor
<b>Vapor Density:</b>	(Air = 1 (a20°C): 2.5		

## SECTION IV - FIRE AND EXPLOSTION HAZARD DATA

<b>Flash Point (test method):</b>	Tag open cup (ASTM D1310): 30°F / -1°C	<b>Flammable limits in air, % by volume:</b>	Upper: 11.0
	Tag closed cup (ASTM D56): 20°F / -7°C		Lower: 2.0
<b>Extinguishing Media:</b>	Use CO <sub>2</sub> or dry chemical for small fires, alcohol-type aqueous film-forming foam or water spray for large fires. Water may be ineffective but should be used to cool fire-exposed structures and vessels.		
<b>Unusual Fire and Explosion Hazards:</b>	Vapor is heavier than air and can travel considerable distance to a source of ignition and flashback. Material creates a special hazard because it floats on water.		
<b>Special Fire Fighting Procedures:</b>	Wear self-contained breathing apparatus (SCBA) and complete personal protective equipment when potential for exposure to vapors or products of combustion exists. Water spray can be used to reduce intensity of flames and to dilute spills to nonflammable mixture.		

## SECTION V - HEALTH HAZARD DATA

<b>Permissible Exposure Limits:</b>	OSHA standard: 200 ppm, 8-hr TWA; ACGIH TLV: 200 ppm, 8-hr TWA; 300ppm, 15-min STEL
<b>Immediately Dangerous to Life and Health Level:</b>	3000 ppm
<b>Effects of Exposure/Toxicity Date (Acute):</b>	
<b>Ingestion (swallowing):</b>	Can cause mental sluggishness. Slightly toxic to animals (oral LD50, rats: 4.8 g/kg.)
<b>Inhalation (breathing):</b>	Causes irritation of nasal passages and throat. Causes stupor (central nervous system depression). Slightly toxic to animals (inhalation LCLo, rats, 4 Hrs: 2000 ppm). Can cause moderate skin injury (reddening and swelling). Repeated or prolonged contact can cause drying of skin, also dermatitis. Slightly toxic to animals by absorption (dermal LD50, rabbits: 13 g/kg).
<b>Skin contact:</b>	
<b>Eye contact:</b>	Liquid and vapors are irritating to eyes. Can cause severe injury -- damage reversible.

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**Effects of Exposure/Toxicity Date (Chronic):****Mutagenicity:**

In vitro, no information. In vivo, no information.

**Carcinogenicity:**

No information

**Reproduction:**

No evidence of reproductive effects.

**SECTION VI – EMERGENCY AND FIRST AID PROCEDURES**

<b>Ingestion (swallowing):</b>	Do not induce vomiting. Immediately give two glasses of water or milk. Contact a physician immediately.
<b>Inhalation (breathing):</b>	Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact a physician immediately.
<b>Skin contact:</b>	Remove contaminated clothing and wash contaminated skin with large amounts of water. If irritation persists, contact a physician.
<b>Eye contact:</b>	Flush eyes with water for at least 15 minutes. Contact a physician immediately.

**SECTION VII – HAZARDOUS REACTIVITY DATA**

<b>Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Will not occur
<b>Materials to Avoid:</b>	Caustic soda and other strong alkalis: hydrochloric, sulfuric and other strong inorganic acids; amines; oxidizing agents such as hydrogen peroxide, nitric acid, perchloric acid or chromium trioxide.
<b>Hazardous Combustion or Decomposition Products::</b>	Carbon monoxide
<b>Conditions to Avoid:</b>	Heat, sparks and flame

**SECTION VIII – SPILL OR LEAK PROCEDURES**

<b>Steps to be taken in case material is released or spilled:</b>	Eliminate ignition sources. Avoid eye or skin contact. Place leaking containers in well-ventilated area. If fire potential exists, blanket spill with foam or use water spray to disperse vapors. Contain spill to minimize contaminated area and facilitate salvage or disposal. To clean up spill, flush area sparingly with water or use an absorbent. Avoid runoff into storm sewers and ditches which lead to natural waterways. Call the National Response Center (800-424-8802) if spill is equal to or greater than reportable quantity (5000 lb/day) under "Superfund". If required, state and local authorities should be notified.
<b>Waste Disposal Method:</b>	This product, when spilled or disposed, is a hazardous solid waste as defined in Resource Conservation Recovery Act regulations (40CFR261). Preferred method is incineration or biological treatment in federal/state approved facility

**SECTION IX – SPECIAL PROTECTION INFORMATION**

<b>Respiratory Protection:</b>	Use full-face NIOSH-approved organic vapor cartridge or canister respirator within use limitations of these devices; in all other situations, use self-contained breathing apparatus (SCBA).
<b>Ventilation:</b>	Local exhaust: Recommended when appropriate to control employee exposure.
<b>Mechanical (general):</b>	Not recommended as the sole means of controlling employee exposure.
<b>Protective Gloves:</b>	Neoprene or rubber.
<b>Eye Protection:</b>	Chemical safety goggles.
<b>Other Protective Equipment:</b>	For operations where spills or splashing can occur, use impervious body covering and boots. A safety shower and eye bath should be available

**SECTION X – SPECIAL PRECAUTIONS**

<b>Precautions To Be Taken In Handling and Storing:</b>	Store in a cool, well-ventilated area. Keep away from heat, sparks and flame. Keep containers closed. Use spark-resistant tools. When transferring follow proper grounding procedures. Use with adequate ventilation. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Discard contaminated leather clothing.
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**SECTION XI – TRANSPORTATION DATA**

<b>Shipping Name:</b>	Methyl Ethyl Ketone
<b>Hazard Class:</b>	Flammable Liquid
<b>United Nations Number:</b>	UN 1193
<b>DOT Emergency Response Guide No.</b>	26