



MATERIAL SAFETY DATA SHEETS (MSDS)

*Prepared by Chief Executive Office, Risk Management Branch
Loss Control and Prevention Section
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Call (213) 738-2269 for additional information*

Title 8, California Code of Regulations, Section 5194 (Hazard Communication) [<http://www.dir.ca.gov/Title8/5194.html>] requires employers to inform and train employees on the hazardous substances to which they may be exposed at their workplace. To comply with this requirement, County departments should acquire and maintain copies of material safety data sheets (MSDS) for each hazardous substance in their respective workplace(s) and should ensure that the MSDSs are readily accessible to employees during each work shift. MSDSs may be maintained in paper or electronic form, but must be organized such that individual data sheets can be located when needed. If employees must travel between workplaces during a work shift, the MSDSs may be kept at the primary workplace, but should be readily available in an emergency.

MSDSs are reference guides that provide information on hazardous substances including, but not limited to, health hazards, chemical and physical characteristics, first aid and safe handling procedures of the substance. MSDSs must be in English and should contain the following information:

- (A) The identity used on the label, chemical and common name(s) and Chemical Abstracts Service (CAS) number(s) of the hazardous substance.
- (B) Physical and chemical properties of the hazardous substance (such as vapor pressure and flash point).
- (C) The physical hazards of the hazardous substance, including the potential for fire, explosion, and reactivity.
- (D) The health hazards of the hazardous substance, including signs and symptoms of exposure, and any medical conditions which are generally recognized as being aggravated by exposure to the substance.
- (E) The potential route(s) of entry.
- (F) The Cal/OSHA permissible exposure limit (PEL), ACGIH Threshold Limit Value (TLV), and any other exposure limit used or recommended by the manufacturer, importer, or employer preparing the MSDS, where available.
- (G) Whether the hazardous substance is listed in the National Toxicology Program (NTP) Sixth Annual Report on Carcinogens or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs, Volumes 1-53 and Supplements 1-8, or by OSHA.

- (H) Any generally applicable precautions for safe handling and use which are known to the manufacturer, importer, or employer preparing the MSDS, including the appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for cleanup of spills and leaks.
- (I) Any generally applicable control measures which are known to the manufacturer, importer or employer preparing the MSDS, such as appropriate engineering controls, work practices, or personal protective equipment (PPE).
- (J) Emergency and first-aid procedures.
- (K) The date of preparation or revision of the MSDS.
- (L) The name, address and telephone number of the manufacturer, importer, employer, or other responsible party preparing or distributing the MSDS, who can provide additional information on the hazardous substance and appropriate emergency procedures, if necessary.
- (M) A description in lay terms, if not otherwise provided, on either a separate sheet or with the body of the information specified in this section, of the specific potential health risks posed by the hazardous substance intended to alert any person reading the information.



SAMPLE MSDS (page 1)

Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard,
 29 CFR 1910.1200. Standard must be
 consulted for specific requirements.



U.S. Department of Labor
 Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072

IDENTITY (As used on Label and List) Methyl Ethyl Ketone (MEK)	Note: Blank spaces are not permitted, if any item is not applicable, or no information is available, the space must be marked to indicate that.
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Section I

Manufacturer's Name XYX Chemical Company	Emergency Telephone Number (204) 123-4566
Address (Number, Street, City, State, and ZIP Code) 111 Main Street New York, NY 10012	Telephone Number for Information (204) 123-4522 Date Prepared January 5, 1990
	Signature of Preparer (optional) John Doe

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Methyl Ethyl Ketone (2-butanone)	200 ppm	200 ppm	N/A	100%
CAS No. 78-93-3				

Section III — Physical/Chemical Characteristics

Boiling Point @ 760 mm Hg	175.3°F	Specific Gravity (H ₂ O = 1)	0.8061
Vapor Pressure (mm Hg.) @ 20°C	70mmHg	Melting Point	N/A
Vapor Density	2.5	Evaporation Rate (Butyl Acetate = 1)	5.7
Solubility in Water Appreciable = 24%			
Appearance and Odor Clear liquid with sweet odor similar to acetone			

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used) Tag. Open Cup = 22°F	Flammable Limits In air % by volume	LEL 1.8	UEL 10
Extinguishing Media Use carbon dioxide or dry chemical for small fires. Use alcohol-type foams for large fires.			
Special Fire Fighting Procedures Self-contained (NIOSH-approved) breathing apparatus and protective clothing should be used in all fires involving chemicals.			
Unusual Fire and Explosion Hazards Vapors are heavier than air and may travel along the ground, or be moved by ventilation, and be ignited by various ignition sources.			

(Reproduce locally)

OSHA 174, Sept. 1985

SAMPLE MSDS (page 2)

Section V — Reactivity Data			
Stability	Unstable		Conditions to Avoid
	Stable	<input checked="" type="checkbox"/>	None
Incompatibility (<i>Materials to Avoid</i>) May react with oxidizing agents and/or organic peroxides. Avoid alkaline materials, mineral acids and halogens.			
Hazardous Decomposition or Byproducts Burning can produce carbon monoxide and/or carbon dioxide.			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	<input checked="" type="checkbox"/>	None
Section VI — Health Hazard Data			
Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	Yes	Yes
Health Hazards (<i>Acute and Chronic</i>) Acute LD ₅₀ (oral rat) = 3,100 mg/kg. Inhalation: lung irritation, central nervous system effects (dizziness and headaches). Skin: irritation, rashes, dermatitis. Eyes: irritation, redness, pain.			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	No	No	No
Signs and Symptoms of Exposure Inhalation: irritation of respiratory tract, coughing, headache, nausea. Skin: Dryness, redness, rashes. Eyes: irritation, pain, conjunctivitis (redness). Ingestion: abdominal spasms, nausea, vomiting.			
Medical Conditions Generally Aggravated by Exposure None known.			
Emergency and First Aid Procedures Inhalation: move to fresh air, provide oxygen, obtain medical help. Eyes: flush with water for at least 15 minutes, obtain medical help if irritation persists. Skin: thoroughly wash affected areas with water, remove contaminated clothing, obtain medical help if irritation persists or large body areas are affected. Ingestion: give water to drink, obtain medical help.			
Section VII — Precautions for Safe Handling and Use			
Steps to Be Taken in Case Material is Released or Spilled Collect leaking liquid in sealable containers. Absorb spilled liquid in sand or inert absorbent and remove to a safe place. Cleanup personnel should wear protective clothing, including a self-contained respirator. Avoid contact with the skin. Remove all sources of ignition.			
Waste Disposal Method Consult a licensed waste disposal service firm for disposal in accordance with all federal, state and local regulations.			
Precautions to Be Taken in Handling and Storing Drums must be grounded and electrically bonded to the receiving vessel while dispensing in order to avoid static sparks. Store away from oxidizing agents, heat and ignition sources. Handle small quantities in approved safety cans. Handle as a Class 1B flammable liquid.			
Other Precautions Good Personal hygiene practices should always be followed.			
Section VIII — Control Measures			
Respiratory Protection (<i>Specify Type</i>) Not required if concentration is below PEL. At higher concentrations, NIOSH-approved respirator with organic vapor filter should be worn.			
Ventilation	Local Exhaust Required for high concentrations.	Special All electrical equipment must be Class 1, Group D; fans must be non-sparking	
	Mechanical (<i>General</i>)	Other	
Protective Gloves Rubber.		Eye Protection Chemical goggles and/or face shield.	
Other Protective Clothing or Equipment Eye-wash fountains, safety showers, barrier creams, etc.			
Work/Hygienic Practices			

*U.S. Government Printing Office: 1987 — 181-584/64362