


# Material Safety Data Sheet

Section 1. Chemical Product and Company Identification		
<b>Product Name:</b>	<b>Methyl Ethyl Ketone</b>	<b>Version: 3</b> <b>Effective Date: June 23, 2014</b>
<b>Supplier/ Manufacturer:</b>	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055	
<b>Material Uses</b>	Industrial solvent	
<b>24 Hour Emergency</b>	Canutec (613) 996-6666	
<b>WHMIS</b>		
		
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR		
<b>HMIS Ratings</b> for this product are: <b>Health 2, Flammability 3, Reactivity 0</b>		

Section 2. Composition and Information on Ingredients		
Name	CAS#	% by weight
Methyl ethyl ketone	78-93-3	60 - 100
See Section 8 for information on permissible exposure limits and threshold limit values		

Section 3. Hazards Identification	
<b>Physical State and Appearance</b>	Clear, colourless liquid, strong, sweet ketone odour
<b>Hazard Summary</b>	Irritant
<b>Routes of Exposure</b>	Eye, skin contact, inhalation and ingestion
<b>Potential Acute Health Effects</b>	<p><b>Skin:</b> Irritant. May cause moderate skin irritation with a burning sensation. Repeated and prolonged contact may cause defatting, leading to dermatitis</p> <p><b>Eyes:</b> Irritant. May cause burning sensation, redness, swelling and blurred vision.</p>

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	<p><b>Inhalation:</b> Irritant. May cause burning sensation in the nose and throat, coughing and difficulty breathing. High concentrations may cause central nervous system depression, resulting in headaches, dizziness and nausea. Continued inhalation may result in unconsciousness and/or death.</p> <p><b>Ingestion:</b> May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression. Aspiration hazard – small amounts of product can be aspirated in to the lungs during ingestion and vomiting, this may cause lung injury leading to death. Symptoms may include coughing, gasping, choking, shortness of breath, bluish coloured skin, rapid breathing and heart rate. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may be delayed up to 24 hours dependant on quantity of material inhaled.</p>
<b>Medical Conditions Aggravated by Exposure</b>	Existing respiratory and skin conditions may be aggravated by exposure to this material
See Toxicological Information – Section 11	
<b>Additional Hazard</b>	None
<b>Identification Remarks</b>	

<b>Section 4. First Aid Measures</b>	
<b>Eye Contact</b>	Flush eyes with water for 15 minutes. Seek medical attention.
<b>Skin Contact</b>	Flush area with water. If irritation persists seek medical attention. Launder clothing before reuse.
<b>Inhalation</b>	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.
<b>Ingestion</b>	Give two glasses of water if conscious. Do not induce vomiting. Lay victim on left side to prevent aspiration of any vomit. Seek immediate medical attention.
<b>Notes to Physician</b>	None
<b>Additional First Aid Remarks</b>	None

<b>Section 5. Fire Fighting Measures</b>	
<b>Flammability of the Product</b>	Flammable
<b>Flash Point</b>	-9 °C
<b>Explosive Limits</b>	LEL: 1.8 % UEL: 11.5%
<b>Auto Ignition Temperature</b>	404 – 515 °C
<b>Static Discharge</b>	Yes

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<b>Suitable Extinguishing Media</b>	Dry chemical, CO <sub>2</sub> , alcohol foam, water spray
<b>Hazardous Combustion Products</b>	A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved.
<b>Precautions for Fire Fighting</b>	Fire fighters should wear self contained breathing apparatus and full protective clothing. Use water spray to cool containers and structures exposed to fire.

<b>Section 6. Accidental Release Measures</b>	
<b>Personal Precautions</b>	Chemical resistant gloves (Nitrile or butyl), coveralls (flameproof), chemical resistant footwear, safety glasses, respiratory protection if exposure limits are exceeded
<b>Environmental Precautions</b>	Do not allow product to enter surface drains, watercourses and low lying areas.
<b>Methods for Clean Up</b>	Stop leak, dike area if needed. Isolate area, remove any source of combustion or naked flame. Large spill, dike spill and pump up material into suitable containers. Clean up residual material with absorbent, wash area with detergent and water. Small spills, soak up an absorbent, wash area to remove residues.

<b>Section 7. Handling and Storage</b>	
<b>Handling</b>	Flammable liquid. Handle with care. Ground all drums when in use. Do not cut, weld or use sparking materials on empty drums, these may contain flammable residues.
<b>Storage</b>	Store in a cool dry place. Keep containers closed when not in use. Remove all sources of ignition. Keep out of direct sunlight.

<b>Section 8. Exposure Controls and Personal Protection</b>				
<b>Exposure Guidelines</b>	<b>TWA: 8 Hr</b>	<b>STEL: 15 min</b>	<b>Ceiling</b>	<b>IDLH *</b>
<b>Methyl ethyl ketone</b>	200 ppm (ACGIH)	300 ppm (ACGIH)		3000 ppm
* Immediately Dangerous to Life and Health				
<b>Exposure Controls</b>	Local exhaust ventilation			
<b>Personal Protection</b>				
<b>Respiratory</b>	If exposure levels are exceeded an air purifying respirator must be worn, fitted with the appropriate cartridges			
<b>Skin</b>	Gloves (nitrile, butyl), coveralls (flameproof), chemical resistant footwear			
<b>Eyes</b>	Safety glasses			
<b>Other</b>	None			

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Section 9. Physical and Chemical Properties	
<b>Physical State and Appearance</b>	Clear, colourless liquid, strong, sweet ketone odour
<b>Odour Threshold</b>	No data
<b>pH</b>	Not applicable
<b>Boiling Point</b>	79 – 80.5 °C
<b>Melting Point / Freezing point</b>	-86 °C
<b>Evaporation Rate</b>	2.7 (ether =1)
<b>Vapour Density</b>	2.41
<b>Vapour Pressure</b>	10.33 kPa @ 20°C
<b>Specific Gravity</b>	0.804 – 0.806
<b>Solubility in Water</b>	Completely miscible
<b>% Volatile</b>	100 %
<b>Other Data</b>	None

Section 10. Stability and Reactivity	
<b>Chemical Stability</b>	Stable
<b>Hazardous Polymerisation</b>	Will not occur
<b>Conditions to Avoid</b>	Avoid excessive heat, open flames and all ignition sources
<b>Materials to Avoid</b>	Oxidising agents, strong alkalis, strong bases, reducing agents, amines, ammonia, aldehydes, halogens, hydrogen peroxide
<b>Hazardous Decomposition Products</b>	Peroxides

Section 11. Toxicological Information	
<b>Principle Routes of Exposure</b>	
<b>Skin:</b>	Irritant. May cause moderate skin irritation with a burning sensation. Repeated and prolonged contact may cause defatting, leading to dermatitis
<b>Eyes:</b>	Irritant. May cause burning sensation, redness, swelling and blurred vision.
<b>Inhalation:</b>	Irritant. May cause burning sensation in the nose and throat, coughing and difficulty breathing. High concentrations may cause central nervous system depression, resulting in headaches, dizziness and nausea. Continued inhalation may result in unconsciousness and/or death.
<b>Ingestion:</b>	May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression. Aspiration hazard – small amounts of product can be aspirated in to the lungs during ingestion and vomiting, this may cause lung injury leading to death. Symptoms may include coughing, gasping, choking, shortness of breath, bluish

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	coloured skin, rapid breathing and heart rate. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may be delayed up to 24 hours dependant on quantity of material inhaled.
<b>Additional Information</b>	
<b>Acute Toxicity</b>	
Methyl ethyl ketone	LD50: 2600 mg/kg (Rat, oral) LD50: 6400 mg/kg (Rabbit, dermal) LC50: 11300 ppm (Rat, male, inhalation) 4 hr
<b>Chronic Toxic Effects</b> – None known	
<b>Carcinogenicity</b> – Not listed	
<b>Reproductive Toxicity / Teratogenicity / Embryotoxicity / Mutagenicity</b> – animal studies have shown fetotoxicity (skeletal anomalies) at doses which did not produce any or only slight maternal toxicity	

<b>Section 12. Ecological Information</b>	
<b>Ecotoxicity</b>	Methyl ethyl ketone: LC50; 3130 – 3320 mg/L flow through (Pimephales promelas)
<b>BOD and COD</b>	BOD was a high percentage of the theoretical oxygen demand.
<b>Biodegradability / OECD</b>	Readily bio-degradable
<b>Toxicity of the Products of Biodegradation</b>	Products of bio-degradation are not expected to be toxic
<b>Special Remarks</b>	Photo-degradation will occur. Not expected to bio-accumulate

<b>Section 13. Disposal Considerations</b>	
Dispose of in accordance with local, provincial and federal regulations	

<b>Section 14. Transport Information</b>	
<b>TDG Classification</b>	Methyl ethyl ketone; UN 1193; Class 3; Packing Group II
<b>Emergency Response Guide #</b>	ERG # 127
<b>Marine Pollutant</b>	No
<b>Special Precautions</b>	None

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<b>Section 15. Regulatory Information</b>	
<b>Canada – DSL Inventory</b>	All components of this product are either on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or exempt
<b>TSCA</b>	All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt
<b>WHMIS Hazard Class</b>	B2 D2B
<b>Additional Information</b>	None

<b>Section 16. Other Information</b>	
<b>Prepared by:</b>	Chemfax Products Ltd., Technical Department
<b>Date Prepared:</b>	1 December, 2011
<b>Revision Date:</b>	23 June, 2014
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