


Material Safety Data Sheet

Section 1. Chemical Product and Company Identification		
Product Name:	Butyl Cellusolv	Version: 5 Effective Date: June 20, 2014
Supplier / Manufacturer:	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055	
Material Uses	Industrial Solvent	
24 Hour Emergency	Canutec (613) 996-6666	
WHMIS		
		
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		
HMIS Ratings for this product are: Health 3 , Flammability 2 , Reactivity 0		

Section 2. Composition and Information on Ingredients		
Name	CAS#	% by weight
2 - butoxyethanol	111-76-2	100
See Section 8 for information on permissible exposure limits and threshold limit values		

Section 3. Hazards Identification	
Physical State and Appearance	Clear, colourless liquid with a mild odour
Hazard Summary	Very toxic – may be fatal if inhaled, absorbed through the skin or swallowed
Routes of Exposure	Skin contact, absorption, eyes, inhalation, ingestion

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Potential Acute Health Effects	<p>Skin: Toxic. Material can be absorbed through the skin in harmful amounts. Regular contact can cause irritation, dryness and dermatitis</p> <p>Eyes: Irritant. May cause irritation and can lead to permanent corneal damage</p> <p>Inhalation: Toxic. Irritating to the respiratory tract. May cause choking, shortness of breath and chest pains.</p> <p>Ingestion: Toxic. Causes irritation, a burning sensation of the mouth and throat and abdominal pain. Ingestion of very high levels may cause metabolic acidosis – a condition that causes a decrease in pH and bicarbonate concentration in the body fluids.</p>
Medical Conditions Aggravated by Exposure	Existing medical conditions that may be aggravated by this product include: neurological and cardiovascular disorders, diseases of the skin, eyes or respiratory tract, pre-existing liver and kidney disorders.
See Toxicological Information – Section 11	
Additional Hazard Identification Remarks	<p>May cause damage to the red blood cells, red blood hemolysis (breaking open of the red blood cells) anemia, choking, central nervous system depression, liver damage, kidney damage and death. Anemia is any condition that affects the number of red blood cells, the amount of haemoglobin and the volume of pack red blood cells are less than normal.</p> <p>Central nervous system depression is characterized by headache, dizziness, drowsiness, nausea, vomiting and incoordination. Severe over exposure may lead to coma and possible death due to respiratory failure. Liver damage - loss of appetite, jaundice (yellow skin colour) and pain in the upper left hand side of the abdomen. Signs and symptoms of kidney damage generally progress from oliguria (lack of, or reduction in urine output), to blood in the urine to complete renal failure.</p>

Section 4. First Aid Measures	
Eye Contact	Flush eyes with water for 15 minutes. Seek medical attention.
Skin Contact	Flush area with water. If irritation persists seek medical attention. Launder clothing before reuse.
Inhalation	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.
Ingestion	Give two glasses of water. Do not induce vomiting. Lay victim on left side to prevent aspiration of any vomit. Seek immediate medical attention.
Notes to Physician	Toxic – perform liver and kidney function tests. Monitor blood count. Treat symptomatically. If ingested within two hours give gastric lavage – ensuring no material is aspirated. Observe for pneumonitis (inflammation of the lung tissue). Consider ethanol and hemodialysis.

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Additional First Aid Remarks	See above
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Section 5. Fire Fighting Measures	
Flammability of the Product	Combustible liquid
Flash Point	62 °C
Explosive Limits	LEL: 1.3 UEL: 10.6
Auto Ignition Temperature	224 °C
Static Discharge	Yes
Suitable Extinguishing Media	Alcohol resistant foam. Carbon dioxide or dry chemical for small fires. Water fog.
Hazardous Combustion Products	Thermal decomposition products are toxic and may include oxides of carbon and irritating gases. Heating in air may produce irritating aldehydes, acids and ketones.
Precautions for Fire Fighting	Fire fighters should wear self contained breathing apparatus and full protective clothing. Use water spray to cool containers and structures exposed to fire.

Section 6. Accidental Release Measures	
Personal Precautions	Gloves (neoprene), chemical resistant coveralls, safety glasses, chemical resistant boots, air purifying respirator (organic vapours / mists)
Environmental Precautions	Do not allow to enter any water course or storm sewer. Minimise any spread to land or waterways.
Methods for Clean Up	Remove all sources of ignition, use non combustible absorbent. Place in covered containers ready for disposal. Use spark resistant tools

Section 7. Handling and Storage	
Handling	Ground and bond equipment and containers to prevent a static charge buildup. Use spark resistant tools and avoid “splash filling”. Vent containers prior to opening
Storage	Store in a cool dry place. Keep containers closed when not in use.

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Section 8. Exposure Controls and Personal Protection				
2 - butoxyethanol	TWA: 8 Hr 5 ppm skin (NIOSH) 50 ppm (ACGIH)	STEL: 15 min	Ceiling	IDLH * 700 ppm
* Immediately Dangerous to Life and Health				
Exposure Controls	Local exhaust ventilation			
Personal Protection				
Respiratory	Air purifying respirator fitted with cartridges for organic vapours / mists			
Skin	Gloves (neoprene), coveralls, chemical resistant boots			
Eyes	Safety glasses			
Other	None			

Section 9. Physical and Chemical Properties	
Physical State and Appearance	Clear, colourless liquid with a mild odour
Odour Threshold	0.1 – 0.48 ppm
pH	7
Boiling Point	168 – 173 °C
Melting Point / Freezing point	-77 °C
Evaporation Rate	0.06
Vapour Density	4.1
Vapour Pressure	0.4 – 0.76 (mmHg @ 20 °C)
Relative Density (g/cc)	0.89 – 0.91
Solubility in Water	Completely soluble in water
% Volatile	100
Other Data	None

Section 10. Stability and Reactivity	
Chemical Stability	Stable
Hazardous Polymerisation	Will not occur
Conditions to Avoid	High temperatures, sparks, open flames and all sources of ignition. Air sensitive. 2 Butoxyethanol can form unstable peroxides on prolonged exposure to heat and air. Avoid direct sunlight, and extended contact with air or oxygen. Oxygen exposure may lead to the formation of explosive peroxides. Do not distill to dryness. Avoid moisture. Material is hygroscopic.
Materials to Avoid	Strong oxidisers. Lewis or mineral acids. Violently reactive with: perchloric acid, sodium hydroxide, potassium hydroxide. Avoid contamination with high concentrations of alkalis at elevated

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	temperatures. Aluminum and its alloys. Copper and its alloys. Bronze, brass, zinc and its alloys. Galvanised steel. Galvanised iron. Attacks some types of rubber, plastics and coatings
Hazardous Decomposition Products	Heating in air may produce irritating aldehydes, acids and ketones

Section 11. Toxicological Information

Principle Routes of Exposure	
Skin:	Toxic. Material can be absorbed through the skin in harmful amounts. Regular contact can cause irritation, dryness and dermatitis
Eyes:	Irritant. May cause irritation and can lead to permanent corneal damage
Inhalation:	Toxic. Irritating to the respiratory tract. May cause choking, shortness of breath and chest pains.
Ingestion:	Toxic. Causes irritation, a burning sensation of the mouth and throat and abdominal pain. Ingestion of very high levels may cause metabolic acidosis – a condition that causes a decrease in pH and bicarbonate concentration in the body fluids.

Additional Information

May cause damage to the red blood cells, red blood hemolysis (breaking open of the red blood cells), anemia, choking, central nervous system depression, liver damage, kidney damage and death. Anemia is any condition that affects the number of red blood cells, the amount of haemoglobin and the volume of pack red blood cells are less than normal. Central nervous system depression is characterized by headache, dizziness, drowsiness, nausea, vomiting and incoordination. Severe over exposure may lead to coma and possible death due to respiratory failure. Liver damage - loss of appetite, jaundice (yellow skin colour) and pain in the upper left hand side of the abdomen. Signs and symptoms of kidney damage generally progress from oliguria (lack of, or reduction in urine output), to blood in the urine to total renal failure.

Acute Toxicity	
2 - butoxyethanol	LD50: 400 mg/kg (Rat, oral) LD50: 99 – 220 mg/kg (Rabbit, dermal) LC50: 450 ppm (Rat, inhalation, 4hrs)

Chronic Toxic Effects – Long term exposure can lead to liver and kidney failure

Carcinogenicity – Animal carcinogen with unknown relevance to humans. Group 3 –IARC, ACGIH A3

Reproductive Toxicity / Teratogenicity / Embryotoxicity / Mutagenicity – 2 - butoxyethanol may cause reproductive effects based on studies in laboratory animals at high generally toxic doses. 2 – butoxyethanol has been found to produce toxic effects in pregnant rats at about 200 ppm, with no apparent increase in congenital defects among the offspring. May cause teratogenic / embryotoxic effects based on studies in laboratory animals, but only at high, generally toxic doses.

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Section 12. Ecological Information	
Ecotoxicity	2 – butoxyethanol – LC50: 1490 mg/l (Lepomis macrochirus – 96 hr static) LC50: 2950 mg/l (Lepomis macrochirus – 96 hr) Harmful to aquatic life at low concentrations
BOD and COD	BOD: 5.2 % (5days) 57 % (10 days) 72.2 % (20 days)
Biodegradability / OECD	Biodegradation is expected to be significant. Not expected to bioaccumulate
Toxicity of the Products of Biodegradation	Products of biodegradation are not expected to be harmful
Special Remarks	This product has high mobility in soil. Can be dangerous if allowed to enter drinking water intakes, do not allow to contaminate domestic or irrigation water supplies, lakes, streams, ponds or rivers.

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

Section 14. Transport Information	
TDG Classification	Not regulated under TDG
Emergency Response Guide #	Not applicable
Marine Pollutant	No
Special Precautions	None

Section 15. Regulatory Information	
Canada – DSL Inventory	All components of this product are either on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or exempt
TSCA	All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt
WHMIS Hazard Class	B3 D1A D2B
Additional Information	None

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Section 16. Other Information**Prepared by:**

Chemfax Products Ltd., Technical Department

Date Prepared: July 7, 2011**Revision Date:** June 20, 2014**Disclaimer**

Notice to reader

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