

Butyl Cellosolve

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Butyl Cellosolve**

Other means of identification : Not available.

Recommended use of the chemical and restrictions on use

: Chemical intermediate; Solvent
Use pattern: professional use
Restriction on use: None known

Chemical family : Pure substance

Name, address, and telephone number
of the supplier:

Comet Chemical Company Ltd.

3463 Thomas Street
Innisfill, ON, Canada
L9S 3W4

Supplier's Telephone # : (705) 436-5580

24 Hr. Emergency Tel # : GFL Environmental - 1-888-772-2543

Name, address, and telephone number of
the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear colourless liquid. Sweet odour.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Flammable Liquid - Category 4
Acute Toxicity, inhalation - Category 3 (mist)
Acute toxicity, dermal - Category 3
Acute toxicity, oral - Category 4
Skin Irritation - Category 2
Eye irritation - Category 2A

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

Combustible liquid.
Toxic if inhaled.
Toxic in contact with skin.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.

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Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking
Avoid breathing mist or vapours.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/clothing and eye/face protection.

IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Rinse mouth.
Call a POISON CENTER or doctor/physician if you feel unwell.
In case of fire: Use water fog, dry chemical, CO₂ or 'alcohol' foam to extinguish.

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal. May form explosive peroxides.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
2-butoxyethanol	EGBE; Glycol Ether EB	111-76-2	100.00

SECTION 4. FIRST-AID MEASURES**Description of first aid measures**

- Ingestion* : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms persist.
- Inhalation* : If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTRE or doctor/physician if you feel unwell.
- Skin contact* : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention. Take off contaminated clothing and wash before re-use.
- Eye contact* : For eye contact, flush with running water for at least 15 minutes. If eye irritation persists: get medical advice/attention.

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Most important symptoms and effects, both acute and delayed

- : Toxic in contact with skin. Toxic if inhaled. Causes skin irritation. Harmful if swallowed. Contact may cause redness, swelling and a painful sensation. Causes serious eye irritation. Symptoms may include tearing, redness and discomfort. May cause respiratory irritation. May cause coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard - material may cause lung inflammation or damage if it enters lungs through vomiting or swallowing. Inhaling high concentrations may cause central nervous system depression, with effects ranging from dizziness and headache to unconsciousness. Chronic overexposure to 2-butoxyethanol may cause liver, kidney and blood damage, based on animal data.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Carbon dioxide (CO₂); Dry chemical; Alcohol resistant foam; Water fog

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Combustible liquid and vapor. Vapour can travel considerable distance and flashback to a source of ignition. Vapours are heavier than air and collect in confined and low-lying areas. Vapour will form a flammable/explosive mixture with air between the upper and lower flammable limits. May form explosive peroxides.

Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable liquid- Category 4

Hazardous combustion products

- : Carbon dioxide and carbon monoxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Do not enter without wearing specialized protective equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. A full-body encapsulating chemical protective suit with positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

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- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools and equipment in the clean-up process. Absorb material with inert absorbent, and place into labelled containers for disposal. Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

- : In Canada: For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). US CERCLA Reportable quantity (RQ): See section 15.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Keep away from heat, open flames and hot surfaces. - No smoking. Use only non-sparking tools. Use explosion-proof electrical and ventilating equipment. Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

- Conditions for safe storage** : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking. Keep container tightly closed. May form explosive peroxides.

- Incompatible materials** : Strong oxidizers (e.g. Chlorine, Peroxides, etc.).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
2-butoxyethanol	20 ppm	N/Av	50 ppm (skin)	N/Av

Exposure controls

Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.

- Respiratory protection** : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

- Skin protection** : Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

- Eye / face protection** : Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles

- Other protective equipment** : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

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: Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Liquid
Colour : Clear, colourless
Odour : Sweet odour.
Odour threshold : 0.48 ppm
pH : Not available.
Melting Point/Freezing point : -75°C (-103°F)
Initial boiling point and boiling range
: 171°C (339.8°F)
Flash point : 67°C (152.6°F)
Flashpoint (Method) : closed cup
Evaporation rate (BuAe = 1) : 0.1
Flammability : Not applicable.
Lower explosion or flammability limit (% by vol.)
: Not available.
Upper explosion or flammability limit (% by vol.)
: Not available.
Oxidizing properties : None known.
Explosive properties : Not applicable.
Vapour pressure : 1.17 hPa
Relative vapour density : (Air = 1) 4
Relative density / Specific gravity
: 0.90
Solubility in water : Soluble. (900 g/l)
Other solubility(ies) : Soluble in most organic solvents.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: 0.81
Auto-ignition temperature : Not available.
Decomposition temperature : 124.7°C (DSC)
Viscosity : 3.642 mm²/s@ 20°C
Particle characteristics : Not applicable.
Volatiles (% by weight) : Not available.
Volatile organic Compounds (VOC's)
: No information available.
Absolute pressure of container
: Not applicable.
Flame projection length : Not applicable.
Other physical/chemical comments
: Ignition temperature: 230°C (446°F)
Molecular Weight: 118.2 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive. May form explosive peroxides.
Chemical stability : Stable under normal conditions.

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Possibility of hazardous reactions

: Hazardous polymerization does not occur.

Conditions to avoid

: Avoid heat, open flames, sparks, static electricity and electrical equipment. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials. Avoid prolonged exposure to air. Do not allow evaporation to dryness.

Incompatible materials

: Strong oxidizers (e.g. Chlorine, Peroxides, etc.).

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Harmful if inhaled. May cause respiratory irritation. Symptoms may include coughing and sneezing. Inhalation may cause headache, nausea and central nervous effects such as dizziness, coordination difficulties and unconsciousness. Could result in pulmonary edema (fluid accumulation).

Sign and symptoms ingestion

: Harmful if swallowed. Ingestion can cause gastrointestinal irritation, nausea, and diarrhea. May be an aspiration hazard.

Sign and symptoms skin

: Causes skin irritation. Toxic in contact with skin. May be absorbed and cause symptoms similar to those for inhalation.

Sign and symptoms eyes

: Causes serious eye irritation.

Potential Chronic Health Effects

: Repeated exposure may cause skin dryness or cracking. Chronic overexposure to 2-butoxyethanol may cause liver, kidney and blood damage, based on animal data.

Mutagenicity

: Not expected to be mutagenic in humans.

Carcinogenicity

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: Not classified as a specific target organ toxicity - single exposure.
Not classified as a specific target organ toxicity - repeated exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials

: No information available.

Toxicological data

: See below for toxicological data on the substance.
Acute Toxicity, inhalation - Category 3 (vapor)
Acute toxicity, dermal - Category 3
Acute toxicity, oral - Category 4

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<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
2-butoxyethanol	450 ppm (2.175 mg/L)	530 mg/kg	400 - 500 mg/kg

Other important toxicological hazards

: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Do not allow material to contaminate ground water system. See the following tables for the substance's ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS #</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
2-butoxyethanol	111-76-2	1490 mg/L (Lepomis macrochirus)	>100 mg/L (Zebra fish)	none

<u>Ingredients</u>	<u>CAS #</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
2-butoxyethanol	111-76-2	835 mg/L (Daphnia magna)	100 (Daphnia magna)	none

<u>Ingredients</u>	<u>CAS #</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
2-butoxyethanol	111-76-2	911 mg/L (Green algae)	286 mg/L (Green algae)	none

Persistence and degradability

: Readily biodegradable.

Bioaccumulation potential

: Not expected to bioaccumulate.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
2-butoxyethanol (CAS 111-76-2)	0.81 at 25 °C	0.97

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

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RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	Not regulated for road or rail shipment if packaged in non-bulk containers (450 Litres or less each). When shipped in bulk use Combustible Liquids, n.o.s. NA1993, PG III				
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package. Keep away from heat and open flames. - No smoking.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	Toxic Chemical	de Minimis Concentration
2-butoxyethanol	111-76-2	Yes	N/Ap	N/Av	No	No	N/Ap

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SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:

Health hazards:

Acute toxicity(Oral, Dermal, Inhalation); Eye irritation; Skin irritation

Physical hazards:

Combustible Liquid

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
2-butoxyethanol	111-76-2	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

All ingredients are present on the DSL.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
2-butoxyethanol	111-76-2	203-905-0	Present	Present	(7)-97; (2)-407	KE-04134	Present	HSR001154

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- DOT: Department of Transportation
- ECHA: European Chemicals Agency
- ECOTOX: U.S. EPA Ecotoxicology Database
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- EPA: Environmental Protection Agency
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer
- IBC: Intermediate Bulk Container
- IECSC: Inventory of Existing Chemical Substances
- IMDG: International Maritime Dangerous Goods
- IOC: Inventory of Chemicals
- IUCLID: International Uniform Chemical Information Database
- KECI: Korean Existing Chemicals Inventory
- KECL: Korean Existing Chemicals List
- LC: Lethal Concentration
- LD: Lethal Dose
- N/Ap: Not Applicable

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N/Av: Not Available
 NIOSH: National Institute of Occupational Safety and Health
 NOEC: No observable effect concentration
 NTP: National Toxicology Program
 OECD: Organisation for Economic Co-operation and Development
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 RCRA: Resource Conservation and Recovery Act
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments and Reauthorization Act
 SDS: Safety Data Sheet / Material Safety Data Sheet
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TSCA: Toxic Substance Control Act
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
 2. ECHA - European Chemical Agency
 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
 4. Safety Data Sheets from manufacturer.
 5. US EPA Title III List of Lists
 6. California Proposition 65 List
 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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: 2

Revision Information

: Changes made to align with GHS version 7

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

<p><u>Prepared for:</u> Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4 Information (M-F 8:00-5:00): 705-436-5580 www.cometchemical.com</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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