

n-Butyl alcohol

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: n-Butyl alcohol

Other means of identification: None assigned.

Recommended use of the chemical and restrictions on use

: Industrial solvent.

Use pattern Professional use only: Recommended restrictions None known.

Chemical family : Primary aliphatic alcohol

Name, address, and telephone number

of the supplier:

Name, address, and telephone number of

the manufacturer:

Refer to 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

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear, colorless liquid. Pungent odour.

Most important hazards: 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 Liquids - Category 3 Acute toxicity, oral - Category 4 Skin Irritation - Category 2 Eye Damage - Category 2A

Specific target organ toxicity, single exposure - Category 3 (narcotic effects) Specific target organ toxicity, single exposure - Category 3 (respiratory)

Label elements

Hazard pictogram(s)





Signal Word

Warning!

Hazard statement(s)

Flammable liquid and vapour. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause respiratory irritation.



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Precautionary statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical and ventilating equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Avoid breathing mist or vapours.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Do NOT induce vomiting.

Rinse mouth.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

If skin irritation occurs: get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

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.

In case of fire: Use water fog, dry chemical, CO2 or 'alcohol' foam to extinguish.

Store locked up.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local regulation.

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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
n-Butyl alcohol	n-Butanol 1-Hydroxybutane	71-36-3	100.00

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion

: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

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.



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Skin contact: Immediately flush with plenty of water, while removing contaminated

clothing.Immediately call a POISON CENTER or doctor/physician. Wash contaminated

clothing before reuse.

Eye contact : For eye contact, flush with running water for at least 15 minutes. If eye irritation

persists: get medical advice/attention.

Most important symptoms and effects, both acute and delayed

: Harmful if swallowed. Causes skin irritation. Redness, swelling, itching and dryness. May cause respiratory irritation. May cause coughing and breathing difficulties. 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 cause headache, nausea, dizziness and other symptoms of central nervous system depression. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Indication of any immediate medical attention and special treatment needed

: Treat symptomatically. This product is a CNS depressant.

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

Flammable liquid and vapor. Vapours may ignite explosively. Vapours are heavier than air and may spread along floors. Static discharge, impact, friction, and heat may ignite exposed chemical material. Empty containers may contain hazardous residues.

Flammability classification (OSHA 29 CFR 1910.106)

: Flammable Liquids - Category 3

Hazardous combustion products

: Carbon dioxide, carbon monoxide and other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Do not breathe fumes or vapours. 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. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).Contact the proper local authorities.

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

: Wear protective gloves and eye/face protection. Use only outdoors or in a well-ventilated area. Avoid breathing vapour or mist. 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. Keep away from flames and hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharges. Ground all equipment during handling. Use explosion-proof electrical and

ventilating equipment.

Conditions for safe storage : Keep container tightly closed. Store in cool/well-ventilated place. Store locked up.

Keep cool. 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. Empty containers may contain hazardous residues.

Incompatible materials : Acids, oxidizing agents, halogens and halogenated compounds. Metal salts.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGIH TLV		OSHA PEL	
	<u>TWA</u>	STEL	<u>PEL</u>	<u>STEL</u>
n-Butyl alcohol	20 ppm	N/Av	100 ppm (300 mg/m³)	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 airbourne concentrations are above the permissible exposure limit or are not known,

use NIOSH-approved respirators. Advice should be sought from respiratory protection

specialists.

Skin protection: Wear protective gloves. Advice should be sought from glove suppliers.

Eye / face protection : Wear eye/face protection. Wear chemical 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

: Avoid breathing mist or vapor. 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. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.



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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Liquid.

Colour : Clear, colorless.

Odour : Pungent odour.

Odour threshold : 11-15 ppm

pH : No information available.

Melting Point/Freezing point : -89°C Initial boiling point and boiling range

: 118°C

Flash point : 37°C

Flashpoint (Method) : Cleveland closed cup

Evaporation rate (BuAe = 1) : Not available.

Flammability : Not applicable.

Lower explosion or flammability limit (% by vol.)

1.4%

Upper explosion or flammability limit (% by vol.)

: 11.2%

Oxidizing properties: None known.Explosive properties: Not explosiveVapour pressure: 4 mmHgRelative vapour density: 2.6

Relative density / Specific gravity

: 0.811

Solubility in water : Slightly soluble. 7.7 (g/L)

Other solubility(ies) : Soluble in most organic solvents.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: 0.88

Auto-ignition temperature : 343°C

Decomposition temperature: No information available.

Viscosity: 3.7 mm2/sParticle characteristics: Not applicable.Volatiles (% by weight): Not available.

Volatile organic Compounds (VOC's)

: Not available.

Absolute pressure of container

: Not applicable.

Flame projection length : Not applicable.

Other physical/chemical comments

: None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive.

Chemical stability : Stable under normal conditions.

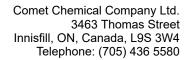
Possibility of hazardous reactions

: Hazardous polymerization does not occur.

Conditions to avoid : Open flames, sparks, high heat, direct sunlight, and close proximity to incompatible

substances. Do not use in areas without adequate ventilation.

Incompatible materials : Incompatible materials (see Section 7).





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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

May cause respiratory tract irritation. Coughing, difficulty breathing, and tightness in chest. May cause headache, nausea, dizziness and other symptoms of central

nervous system depression.

Sign and symptoms ingestion

: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting

and diarrhea. Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Sign and symptoms skin

Causes skin irritation. Symptoms may include redness, edema, drying defatting and

cracking of the skin.

Sign and symptoms eyes

Causes serious eye irritation. Symptoms may include stinging, tearing, redness,

swelling and blurred vision.

Potential Chronic Health Effects

: Prolonged exposure can cause central nervous system effects.

Mutagenicity: Not expected to be mutagenic in humans.

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

Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

Sensitization to material :

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects: Specific t

Specific target organ toxicity, single exposure - Category 3.

May cause drowsiness or dizziness. May cause respiratory irritation.

The substance or mixture is not classified as specific target organ toxicant, 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.

	LC50(4hr)	LDe	ı	
Chemical name	<u>inh, rat</u>	(Oral, rat)	(Rabbit, dermal)	
n-Butyl alcohol	8000 ppm (24.3 mg/L) (vapour)	790 - 4360 mg/kg	3402 mg/kg	



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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 below for individual ingredient ecotoxicity.

Ecotoxicity data:

Ingradianta	CAC #	Toxicity to Fish			
<u>Ingredients</u>	CAS#	LC50 / 96h	NOEC / 21 day	M Factor	
n-Butyl alcohol	71-36-3	1376 mg/L (Fathead minnow)	N/Av	None.	

<u>Ingredients</u>	CAS#	Toxi	Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor		
n-Butyl alcohol	71-36-3	1328 mg/L (Daphnia magna)	4.1 mg/L	None.		

<u>Ingredients</u>	CAS#	Toxicity to Algae					Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor					
n-Butyl alcohol	71-36-3	225 mg/L/96hr (Green algae)	129 mg/L/96hr	None.					

Persistence and degradability

: Readily biodegradable.

Bioaccumulation potential: No data is available on the product itself.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
n-Butyl alcohol (CAS 71-36-3)	0.88	0.64 species: freshwater fish

Mobility in soil : There is no data available for this product.

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.

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.



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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1120	BUTANOLS	3	III	3
49CFR/DOT Additional information		d as a Limited Quantity when transported in containers no l g (66 pounds) gross mass.	arger than 5 L	(1.3 gallons); in packages not
TDG	UN1120	BUTANOLS	3	III	3
TDG Additional information		d as a Limited Quantity when transported in containers no l g (66 pounds) gross mass.	arger than 5 L	(1.3 gallons); in packages not
IMDG	UN1120	BUTANOLS	3	III	3
IMDG Additional information	Consult the IMI	DG regulations for exceptions.			
ICAO/IATA	UN1120	Butanols	3	III	3
ICAO/IATA Additional information	Refer to ICAO/I	ATA Packing Instruction			

Special precautions for user: Keep away from heat, sparks and open flame - 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:

		TSCA CERCLA Reportable		SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients CA	CAS#	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de Minimis Concentration	
n-Butyl alcohol	71-36-3	Yes	5000 lb/ 2270 kg	None.	Yes	No	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Flammable liquid; Acute toxicity (Oral); Skin irritation; Eye Damage; Specific target organ toxicity, single exposure.

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.



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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California Proposition 65		State "Right to Know" Lists					
<u>inigrodismo</u>	GAG II	Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
n-Butyl alcohol	71-36-3	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
n-Butyl alcohol	71-36-3	200-751-6	Present	Present	(2)-3049	KE-03867	Present	HSR001096

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 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



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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 Lists6. California Proposition 65 List

7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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: 10/21/2016

Reviewed Date SDS (dd/mm/yyyy)

: 29/01/2024

Revision No. : 2

Revision Information: Updated SDS to comply with new 2023 WHMIS format.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for:

Comet Chemical Company Ltd.

3463 Thomas Street Innisfill. ON L9S 3W4

Information (M-F 8:00-5:00): 705-436-5580

www.cometchemical.com

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