

Isobutyl Alcohol

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: Isobutyl 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

Comet Chemical Company Ltd.

of the supplier:

Name, address, and telephone number of

the manufacturer:

Refer to supplier

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. Musty alcohol odour.

Most important hazards: Flammable liquid and vapour. May cause skin and eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Occupational exposure to the substance or mixture may cause adverse effects.

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

Skin Irritation - Category 2

Serious eye damage/eye irritation - 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!



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Hazard statement(s)

Flammable liquid and vapour.

Causes skin irritation.

Causes eye irritation.

May cause drowsiness or dizziness.

May cause respiratory irritation.

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.

Wash hands thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

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)
Isobutyl alcohol	1-Propanol, 2-methyl-; IBA	78-83-1	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.



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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: 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

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 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.



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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

: 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). EPA/CERCLA Reportable quantity (RQ): Isobutyl alcohol(5000 lbs / 2270 kg)

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

: Oxidizing agents; Chromium trioxide

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:					
Chemical Name	ACGIH	TLV	OSHA PEL		
	<u>TWA</u>	STEL	<u>PEL</u>	<u>STEL</u>	
Isobutyl alcohol	50 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.

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

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



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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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Liquid.
Colour : Colorless

Odour : Musty alcohol odour.

Odour threshold : <50 ppm

pH : No information available.

Melting Point/Freezing point : -108°C Initial boiling point and boiling range

: 107°C : 28°C

Flash point : 28°C

Flashpoint (Method) : Cleveland closed cup

Evaporation rate (BuAe = 1) : Not available.

Flammability : Not applicable.

Lower explosion or flammability limit (% by vol.)

: 1.7%

Upper explosion or flammability limit (% by vol.)

: 10.6%

Oxidizing properties : None known.

Explosive properties : Not explosive

Vapour pressure : 8.8 mmHg

Relative vapour density : 2.56

Relative density / Specific gravity

: 0.80

Solubility in water : Slightly soluble. 100 (g/L)
Other solubility(ies) : Soluble in most organic solvents.

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

: 0.79 : 343°C

Decomposition temperature: No information available.

Viscosity: 4.7 mPa.sParticle characteristics: Not applicable.Volatiles (% by weight): Not available.

Volatile organic Compounds (VOC's)

: Not available.

Absolute pressure of container

Auto-ignition temperature

: 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.



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

substances. Do not use in areas without adequate ventilation.

Incompatible materials : Incompatible materials (see Section 7).

Hazardous decomposition products

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

SECTION 11. TOXICOLOGICAL INFORMATION

<u>Information on likely routes of exposure:</u>

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

: 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: 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.



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	LCso(4hr)	LD:	ı	
Chemical name	<u>inh, rat</u>	(Oral, rat)	(Rabbit, dermal)	
Isobutyl alcohol	18.12 mg/L	3350 mg/kg	2460 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 below for individual ingredient ecotoxicity.

Ecotoxicity data:

<u>Ingredients</u>	CAC#			
	CAS#	LC50 / 96h	NOEC / 21 day	M Factor
Isobutyl alcohol	78-83-1	N/Av	N/Av N/Av	

<u>Ingredients</u>	CAS#	Toxicity to Daphnia				
		EC50 / 48h	NOEC / 21 day	M Factor		
Isobutyl alcohol	78-83-1	N/Av	20mg/L (Daphnia magna)	none		

<u>Ingredients</u>	CAS#	Toxicity to Algae				
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor		
Isobutyl alcohol	78-83-1	632mg/L (Green algae)	53 mg/L (Green algae)	none		

Persistence and degradability

: Readily biodegradable.

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

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Isobutyl alcohol (CAS 78-83-1)	0.79	3

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.



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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	UN1212	ISOBUTANOL; or ISOBUTYL ALCOHOL	3	III	₹ <u>₹</u>	
49CFR/DOT Additional information		d as a Limited Quantity when transported in containers no lig (66 pounds) gross mass.	larger than 5 L	(1.3 gallons); in packages not	
TDG	UN1212	ISOBUTYL ALCOHOL	3	III	3	
TDG Additional information		d as a Limited Quantity when transported in containers no l g (66 pounds) gross mass.	larger than 5 L	(1.3 gallons); in packages not	
IMDG	UN1212	ISOBUTANOL; or ISOBUTYL ALCOHOL	3	III	3	
IMDG Additional information	Consult the IMI	DG regulations for exceptions.				
ICAO/IATA	UN1212	Isobutanol	3	III	3	
ICAO/IATA Additional information	Refer to ICAO/	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:

Ingredients		TSCA R		SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
	CAS#	Inventory	Reportable Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de Minimis Concentration	
Isobutyl alcohol	78-83-1	Yes	5000 lb/ 2270 kg	N/Av	No	No	

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

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
Isobutyl alcohol	78-83-1	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
Isobutyl alcohol	78-83-1	201-148-0	Present	Present	(2)-3049	KE-24894	Present	HSR001097

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



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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 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)

: 13/10/2023

Revision No. : 2

Revision Information : Updated SDS to the 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.

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

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