SAFETY DATA SHEET

Version 1.0
Revision Date 01/10/2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers:

Product Name	Isopropyl Alcohol
CAS Number	67-63-0

1.2 Identified uses: Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet:

Company:	UFC Biotechnology Inc. 435 Creekside Drive, Suite 5 Amherst NY 14228 UNITED STATES
Telephone:	+1-716-777-3776
Fax:	+1-716-240-2713

1.4 Details of the supplier of the safety data sheet:

Emergency Phone #:	+1-800-535-5053 INFOTRAC (USA) – 24h, 7 Days/week +1-352-323-3500 INFOTRAC (International) – 24h, 7 Days/week

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200.

Flammable liquids	Category 2
Eye irritation	Category 2A
Specific target organ toxicity - single	Category 3
Central nervous system	

2.2 GHS label elements, including precautionary statements

Pictogram:

Signal word: Danger

Hazard statements:

H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary Statements

P210	Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233	Keep the container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant

2.3 Other hazards which do not result in classification

May form explosive peroxides.

Section 3: Composition/information on ingredients

3.1 Substances

Synonyms:	sec-Propyl alcohol Isopropyl alcohol Isopropanol
Formula:	C_3H_8O
Molecular weight:	60.10 g/mol
CAS-No.:	67-63-0
EC-No.:	200-661-7
Index-No.:	603-117-00-0

Chemical name	Common names and	CAS number	EC number	Concentration
2-Propanol		67-63-0	67-63-0	≤100%

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

Section 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	Remove to fresh air. If symptoms persist, call a physician.
In case of skin contact	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of eye contact	Rinse thoroughly with plenty of water. Remove contact lenses.
If swallowed	Immediately make the person drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No data available

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

Carbon oxides
Combustible
Pay attention to flashback
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

5.3 Advise for firefighters

In the event of fire, wear self-contained breathing apparatus..

5.4 Special protective actions for fire-fighters

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, or aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, and consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let the product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of it properly. Clean up the affected area.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: Avoid the generation of vapours/aerosols.

Advice on protection against fire and explosion: Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures: Change contaminated clothing. Wash hands after working with substances. For precautions see section 2.2..

7.2 Conditions for safe storage, including any incompatibilities

Keep the container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Handle and store under inert gas. Hygroscopic.

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Strong acids. OXIDIZERS. Metals. Aluminum.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Ensure that eyewash stations and safety showers are close to the workstation location.

Component	CAS-No.	Value	Control parameters	Basis
2-Propanol	67-63-0	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Not classifiable as a human carcinogen		
		STEL	400 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Not classifiable as a human carcinogen		
		ST	500 ppm 1,225 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	400 ppm 980 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	400 ppm 980 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		PEL	400 ppm 980 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	500 ppm 1,225 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
2-Propanol	67-63-0	Acetone	40 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift at end of workweek			

8.2 Appropriate engineering controls

Use local exhaust ventilation.

Prevent vapor buildup by providing adequate ventilation during and after use.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the glove's outer surface) to avoid skin contact with this product. Dispose of

contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested :Dermatril® (KCL 740 / Aldrich Z677272, Size M)
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions that differ from EN 374, contact the supplier of the CE-approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering approval for any specific use scenario.

Body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Respiratory protection is not required. For rescue and maintenance work use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let the product enter drains. Risk of explosion.

Section 9: Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	slightly alcohol like
pH	not applicable
Melting point/ freezing point	-88 °C
Boiling point or initial boiling point and boiling range	83.2 °C
Flammability	no data available
Lower and upper explosion limit/flammability limit	2% (v) / 12% (v)
Flashpoint	12 °C (54 F), closed cup
Vapor pressure	44 hPa at 20 °C
Density and/or relative density	0.785 g/cc at 20 °C
Vapor density	2.1 (air 1.0)
Auto-ignition temperature	399 °C
Dynamic viscosity	2.1 mPa.s at 25 °C
Solubility in water	soluble
Molecular weight	60.11

Section 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Heat, flames, and sparks.
Keep away from direct sunlight

10.5 Incompatible materials

Strong acids
Strong oxidizing agents
Keep away from metals.
Acetaldehyde

Aluminum
Chlorine
Ethylene oxide
Isocyanates
Oxygen
May attack many plastics, rubbers and coatings.

10.6 Hazardous decomposition products

Carbon dioxide (CO_2)
Carbon monoxide

Section 11: Toxicological information

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
2-propanol (67-63-0)	5,045 mg/kg (Rat)	12,800 mg/kg (Rabbit)-	1,600 ppm (Rat) 8 h

Skin corrosion/irritation
Slight (Rabbit)
Serious eye damage/irritation
Severe (Rabbit)
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
no data available
Reproductive toxicity
no data available
STOT-single exposure
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

Section 12: Ecological information

12.1 Toxicity

Fish	Algae/Aquatic plants	Crustacea	Bacteria
LC50: > 5 g/l Exposure time: 24 h Species: Carassius auratus (goldfish) LC50: 8,970 mg/l Exposure time: 48 h Species: Leuciscus idus (Golden orfe) LC50: 10,400 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)	LC50: > 2,000 mg/l Exposure time: 72 h Species: Desmodesmus subspicatus (green algae)	EC50: > 100 mg/l Exposure time: 48 h Species Daphnia magna (Water flea)	EC50: 35,390 mg/l Exposure time: 5 min Species: Photobacterium phosphoreum

12.2 Persistence and degradability

Biochemical Oxygen Demand (BOD) within 5 days Value: 58 %

12.3 Bioaccumulative potential

Accumulation in aquatic organisms is unlikely

12.4 Mobility in soil

no data available

Section 13: Disposal considerations

13.1 Disposal methods

Product Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: Transport information

DOT (US)

UN number: 1219 Class: 3 Packing group: II
Proper shipping name: Isopropanol
Reportable quantity (RQ):

IATA

UN number: 1219 Class: 3 Packing group: II
Proper shipping name: Isopropanol

IMDG/IMO

UN number: 1219 Class: 3 Packing group: II
Proper shipping name: Isopropanol

Section 15: Regulatory information

Inventories

On US TSCA inventory

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313
Isopropanol 67-63-0

SARA 311/312 Hazards

Fire Hazard
Acute Health Hazard
Chronic Health Hazard

Massachusetts Right To-Know Components

Isopropanol 67-63-0.

WHMIS Classification

B2: Flammable liquid
D2B: Toxic Material Causing Other Toxic Effects
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Section 16: Other information

	HMIS III	NFPA
Health hazard	2 (chronic)	1
Flammability	3	3
Physical hazard	0	
Instability		0

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

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