

Safety Data Sheet

COVACHEM, LLC.

HPLC Grade Isopropanol

SECTION 1: Identification

1.1 Product identifier

Product name

HPLC Grade Isopropanol

Product number Brand Substance name EC no. CAS no. Index no. 16306 CovaChem Isopropanol 200-661-7 67-63-0 603-117-00-0

1.2 Other means of identification Isopropyl alcohol; 2-Propanol

1.3 Recommended use of the chemical and restrictions on use

The intended use is as a mobile phase additive for high performance liquid chromatography (HPLC). This compound may also be used in organic synthesis and in the manufacture of substances. This compound is usually encountered as an aqueous solution.

1.4 Supplier's details

1.5

Name Address	CovaChem, LLC. 6260 East Riverside Blvd Suite 119 Loves Park, IL 61111 United States
Telephone Fax email	815-315-1271 815-315-1272 info@covachem.com
Emergency phone number(s)	

PERS Professional Emergency Response Service Company Code 11814 1-800-633-8253 (U.S. & Canada) 1-801-629-0667 (International)

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Eye damage/irritation (chapter 3.3), Cat. 2
- Flammable liquids (chapter 2.6), Cat. 2

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapor
H336	May cause drowsiness or dizziness
H319	Causes serious eye irritation
Precautionary statement(s)	
P501	Dispose of contents/container in accordance with local regulations.
P405	Store locked up.
P403+P235	Store in a well ventilated place. Keep cool.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P370+P378	In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
P337+P313	If eye irritation persists: Get medical advice/attention.
P312	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.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash thoroughly after handling.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P243	Take precautionary measures against static discharge.
P242	Use only non-sparking tools.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P240	Ground/bond container and receiving equipment.
P233	Keep container tightly closed.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name EC no. CAS no. Index no. Formula Molecular weight	Isopropanol 200-661-7 67-63-0 603-117-00-0 C3H8O 60.1
Other names / synonyms	2-PROPANOL; SEC-PROPYL ALCOHOL; 2-PROPANOL; PROPAN-2-OL; 2-HYDROXYPROPANE; DIMETHYLCARBINOL; ISOPROPYL ALCOHOL; ISOPROPANOL
Impurities and stabilizing additives	No additional ingredients present known to the supplier, which are classified as hazardous to health or environment, which would require reporting herein.

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

In the event of exposure situation, move away from the dangerous area and contact a physician immediately. Show this safety data sheet to physician, as a reference.

*SKIN CONTACT:

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water.

If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

*INHALATION:

IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital.

Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.

*EYE CONTACT:

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center.

Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician.

IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

*INGESTION:

DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems.

If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

*SYMPTOMS:

Symptoms of exposure to this compound include irritation of the skin, eyes, nose, throat and respiratory tract, dizziness, nausea, central nervous system depression, dizziness, giddiness and headache [058]. It can cause flushing, decrease in pulse rate, lowered blood pressure, anesthesia, narcosis, mental depression, hallucinations, distorted perceptions, dyspnea, respiratory depression, vomiting, corneal burns, eye damage and coma [043]. It can also cause abdominal pain, hematemesis, areflexia, oliguria

	followed by diuresis, generalized tenderness, induration and edema of muscles. Prolonged skin contact may cause corrosion [301]. Drunkenness may also occur [371].
If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self- Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.
In case of skin contact	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.
	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
If swallowed	DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting. Thus, the risk of increasing the medical problems by inducing vomiting of a volatile corrosive chemical is very high. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.
	DO NOT INDUCE VOMITING. Volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

4.2 Most important symptoms/effects, acute and delayed

Symptoms of exposure to this compound include irritation and burns of the skin, eyes and respiratory tract [269,371]. It also causes irritation of the mucous membranes [033,102]. It is corrosive and extremely destructive to tissues of the mucous membranes and upper respiratory tract, eyes and skin [269]. Other symptoms of exposure include coughing, chest pains and difficulty in breathing [102,269]. It may cause swelling of the eye, causing foggy vision and appearance of halos around lights. Eye contact may also cause pain [102]. Exposure may cause smarting and reddening of the skin. High vapor concentrations can cause asphyxiation [371]. Erythema and blistering have been reported [301]. Topical application to skin can cause necrosis and vesiculation [102]. Severe corneal damage may occur from contact with eyes. Repeated exposures may cause tracheitis, bronchitis, pneumonitis and pulmonary edema [421]. Other eye effects from exposure to this compound include edema of the epithelium of the cornea and blue hazy vision due to a subtle temporary disturbance of the corneal epithelium [099]. Ingestion of strong alkalies causes severe pain, vomiting, diarrhea and collapse. The vomitus contains blood and desquamated mucosal lining. If death does not occur in 24 hours, there may be improvement then sudden onset of severe abdominal pain, board-like abdominal rigidity and rapid fall of blood pressure indicating delayed gastric or esophageal perforation. Other symptoms include esophageal stricture and chronic dermatitis [301].

Symptoms of exposure to this compound include irritation of the skin, eyes, nose, throat and respiratory tract, dizziness, nausea, central nervous system depression, dizziness, giddiness and headache [058]. It can cause flushing, decrease in pulse rate, lowered blood pressure, anesthesia, narcosis, mental depression, hallucinations, distorted perceptions, dyspnea, respiratory depression, vomiting, corneal burns, eye damage and coma [043]. It can also cause abdominal pain, hematemesis, areflexia, oliguria followed by diuresis, generalized tenderness, induration and edema of muscles. Prolonged skin con- tact may cause corrosion [301]. Drunkenness may also occur [371].

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

When the temperature is above the flash point, flammable in the presence of an ignition source. Keep away from all heat sources, sparks, and open flames.

5.3 Special protective actions for fire-fighters

Wear a self-contained breathing apparatus when appropriate.

Further information

Carbon oxides may form upon combustion.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors. Use in well ventilated area. Use air purifying respirator protection.

*ACUTE/CHRONIC HAZARDS:

This compound is an irritant of the skin, eyes, mucous membranes and upper respiratory tract [269]. It is flammable and flashback along the vapor trail may occur [371]. When heated to decomposition it emits acrid smoke and toxic fumes of carbon monoxide, carbon dioxide and unidentified organic compounds [043,058,269].

*MINIMUM PROTECTIVE CLOTHING: Not available

*RECOMMENDED GLOVE MATERIALS:

GlovES+ Expert System Glove Types For The Neat (Undiluted) Chemical: This chemical has not been tested for permeation by Radian Corporation; however, the GlovES+ expert system was used to extrapolate permeation test information from compounds in the same chemical class. The GlovES+ system uses permeation data from literature sources; therefore, extra safety margins should be used with the estimated protection time(s). If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once.

The GlovES+ expert system is a tool that can help people better manage protection from chemicals, however this tool cannot replace sound judgment nor make technical decisions. Our GlovES+ expert system is designed to offer initial advice and assistance in glove selection while the final glove selection should be made by knowledgeable individuals based on the specific circumstances involved.

Glove Type Model Number Thickness Estimated Protection Time Neoprene Ansell Neoprene 530 0.46 mm 360 min Nitrile Pioneer A-14 0.56 mm 480 min PE/EVAL/PE Safety4 4H 0.07 mm 240 min PVC Comasec Multitop 0.07 mm 480 min

*RECOMMENDED RESPIRATOR:

When working with this chemical, wear a NIOSH-approved full face chemical cartride respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators.

*OTHER: Not available

*STORAGE PRECAUTIONS: STORE AWAY FROM SOURCES OF IGNITION.

*SPILLS AND LEAKAGE:

If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

*DISPOSAL AND WASTE TREATMENT: Not available

6.2 Environmental precautions

Prevent environmental release. Do not pour down drain or allow to enter waterways or sewers. Prevent further spillage of material when possible.

6.3 Methods and materials for containment and cleaning up

If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor- tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

Reference to other sections

For disposal information refer to section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid breathing vapors. Wear respiratory protection. Avoid contact with skin and eyes. Container may explode under fire conditions. Keep away from ignition sources including sparks, fire, and static electricity.

7.2 Conditions for safe storage, including any incompatibilities

Store container upright, in a well ventilated, dry location.

Recommended Storage Temperature: Room Temp (+15 - 25 °C)

Specific end use(s)

For laboratory use only. Intended for use as a research laboratory chemical or in the manufacturing of substances.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Isopropyl alcohol (CAS: 67-63-0) REL (Inhalation): 400 ppm, (ST) 500 ppm (NIOSH) OSHA Annotated Table Z-1, www.osha.gov

2. Isopropyl alcohol (CAS: 67-63-0) PEL (Inhalation): 400 ppm, (ST) 500 ppm (Cal/OSHA) OSHA Annotated Table Z-1, www.osha.gov

3. Isopropyl alcohol (CAS: 67-63-0) PEL (Inhalation): 980 mg/m3 (OSHA) OSHA Annotated Table Z-1, www.osha.gov

4. Isopropyl alcohol (CAS: 67-63-0)

PEL (Inhalation): 400 ppm (OSHA) OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

Use product in a well ventilated location, such as in a fume hood.

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

Eye/face protection

Use a face shield (minimum 8 inches) and government tested and approved safety goggles, such as NIOSH (US) or EN 166 (EU).

Skin protection

*MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. *RECOMMENDED GLOVE MATERIALS: Permeation Test Results For The Neat (Undiluted) Chemical: The permeation test results for the neat (undiluted)

chemical are given below. The breakthrough times of this chemical are given for each glove type tested. The table is a presentation of actual test results, not specific recommendations or suggestions. Avoid glove types which exhibit breakthrough times of less than the anticipated task time plus an adequate safety factor. If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Breakthrough Time Viton North F-091 0.25 mm 20 min Butyl rubber North B-174 0.86 mm 40 min Nitrile Edmont 37-155 0.41 mm 5 min PVC Edmont 34-100 0.20 mm 1 min

*MINIMUM PROTECTIVE CLOTHING: Not available *RECOMMENDED GLOVE MATERIALS: GlovES+ Expert System Glove Types For The Neat (Undiluted) Chemical: This chemical has not been tested for permeation by Radian Corporation; however, the GlovES+ expert system was used to extrapolate permeation test information from compounds in the same chemical class. The GlovES+ system uses permeation data from literature sources; therefore, extra safety margins should be used with the estimated protection time(s). If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once. The GlovES+ expert system is a tool that can help people better manage protection from chemicals, however this tool cannot replace sound judgment nor make technical decisions. Our GlovES+ expert system is designed to offer initial advice and assistance in glove selection while the final glove selection should be made by knowledgeable individuals based on the specific circumstances involved. Glove Type Model Number Thickness Estimated Protection Time Neoprene Ansell Neoprene 530 0.46 mm 360 min Nitrile Pioneer A-14 0.56 mm 480 min PE/EVAL/PE Safety4 4H 0.07 mm 240 min PVC Comasec Multitop 0.07 mm 480 min

Body protection

Complete chemical protective suit is recommended. The personal protective equipment should be selected based upon the concentration and amount of chemical at work station.

Respiratory protection

*RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartride respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form Odor Odor threshold pH Melting point/freezing point Initial boiling point and boiling range Flash point Evaporation rate Flammability (solid, gas) Upper/lower flammability limits Upper/lower explosive limits	Liquid Alcohol like odor Data unavailable -89.5 C 82 C 12 C Evaporation rate (butyl acetate = 1): 3.0 Flash Point of -28 °C (-20 F) Upper explosion Limit: 12.7 % V Lower explosion Limit: 2 % V
Relative density	0.785 @ 25 C
Partition coefficient: n-octanol/water Auto-ignition temperature Decomposition temperature Viscosity Explosive properties Oxidizing properties	log P octanol: 0.05 425 C Data unavailable Data unavailable Data unavailable Data unavailable

SECTION 10: Stability and reactivity

10.1 Reactivity

Data unavailable

10.2 Chemical stability

The chemical is stable under normal storage conditions.

10.3 Possibility of hazardous reactions Data unavailable

10.4 Conditions to avoid Avoid excessive heat exposure and proximity to sparks or open flames.

10.5 Incompatible materials Oxidizing agents, Acid anhydrides, Aluminum, Halogenated compounds

10.6 Hazardous decomposition products Carbon oxides may form under fire conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral: 5,045 mg/kg (Rat) LC50 Inhalation: 16,000 ppm for 4 h (Rat) LC50 Dermal: 12,800 mg/kg (Rabbit)

Skin corrosion/irritation

Skin: Skin irritation (rabbit)

Serious eye damage/irritation

Data unavailable

Respiratory or skin sensitization

May cause skin irritation/sensitization and allergic respiratory conditions

Germ cell mutagenicity

Data unavailable

Carcinogenicity

Contains a component of which its carcinogenicity based on its IARC, ACGIH, EPA, and NTP classification is not classifiable

Reproductive toxicity

Data unavailable

STOT-single exposure Data unavailable

Data unavaliable

STOT-repeated exposure Data unavailable

Aspiration hazard Data unavailable

SECTION 12: Ecological information

Toxicity

Toxicity to Fish: LC50, 9.640 mg/L at 96 h (Oncorhynchus mykiss, ie. Rainbow trout) Toxicity to Daphnia: EC50, 5,102 mg/L at 48 h (Daphnia magna, ie. Water flea) Toxicity to Algae: 2,000 mg/L at 72 h (Algae)

Persistence and degradability

Data unavailable

Bioaccumulative potential

Data unavailable

Mobility in soil Data unavailable

Results of PBT and vPvB assessment

Data unavailable

Other adverse effects

This chemical may cause environmental hazards. Do not allow material to enter the drain, sewer, or water ways.

SECTION 13: Disposal considerations

Disposal of the product

Generation of waste should be kept to a minimum when possible. Any waste generated should be recycled when possible. Please dispose any unused or used materials in accordance with applicable national, regional and local laws and regulations.

Disposal of contaminated packaging

Dispose in the same way as unused product.

Waste treatment

This product should be disposed of by a licensed waste management professional. Disposal through incineration with afterburner scrubbing is recommended.

Sewage disposal

Product should not enter the sewer.

SECTION 14: Transport information

DOT (US)

UN Number: 1219 Class: 3 Packing Group: II Proper Shipping Name: Isopropanol Reportable quantity (RQ): Poison inhalation hazard: No

IMDG

UN Number: 1219 Class: 3 Packing Group: II EMS Number: F-E, S-D Proper Shipping Name: ISOPROPANOL

IATA UN Number: 1219 Class: 3 Packing Group: II Proper Shipping Name: Isopropanol

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Pennsylvania Right To Know Components Chemical name: 2-Propanol CAS number: 67-63-0

New Jersey Right To Know Components Common name: ISOPROPYL ALCOHOL CAS number: 67-63-0

Massachusetts Right To Know Components

Chemical name: 2-Propanol CAS number: 67-63-0

HMIS Rating

Isopropanol		
HEALTH	2	
FLAMMABILITY	3	
PHYSICAL HAZARD	0	
PERSONAL PROTECTION		

NFPA Rating



SECTION 16: Other information

The information represented in this Safety Data Sheet is believed to be correct and is based on the current state of our knowledge. This document or any other document does not represent or suggest any type of warranty or guarantee of the product properties or characteristics of this material. CovaChem, LLC and its affiliates shall not be held liable for any damages that result from contact with the above product or handling this product or any others.