

CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

SAFETY DATA SHEET

ISO-PROPYL ALCOHOL

1. Identification

Product identifier: Iso-Propyl Alcohol

Product Code Number: 1901

Company Identification: Corco Chemical Corporation
299 Cedar Lane
Fairless Hills, PA 19030
Phone: 215-295-5006
Fax: 215-295-0781

24 Hour Emergency Telephone Number: CHEMTREC (U.S.): 1-800-424-9300
CHEMTREC (Outside U.S. 1-703-527-3887)

Trade Name: Iso-Propyl Alcohol
Synonyms: 2-Propanol, Sec-propyl Alcohol, Isopropanol, Dimethylcarbinol
Chemical Formula: (CH₃)₂CHOH
Product Use: Process chemical, Laboratory and scientific research and development

2. HAZARD(S) IDENTIFICATION

<u>Physical hazards</u>	<u>Category</u>
Flammable liquids	Category 2
Eye irritation	Category 2A
Specific target organ toxicant	Category 3
OSHA hazard(s)	Not classified

Label elements



Signal word: DANGER

Hazard statement: Highly flammable liquid and vapor. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary Statements: Keep away from heat / sparks / open flames / Hot surfaces. No smoking. Avoid breathing dust / fume / gas / mist / vapors / spray. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Response. In case of fire: Use appropriate media for extinction. Eliminate all ignition sources if safe to do so. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. If eye irritation persists: Get medical advice/attention.

Storage: Store in a well-ventilated place. Keep container tightly closed.

Disposal Dispose of contents/container to an approved incineration plant.

Hazard(s) not otherwise classified (HNOC): None as defined under 29 CFR 1910.1200.

3. Composition/information on ingredients

CAS Number: 67-63-0

EC Number: 200-661-7

Index Number: 603-117-00-0

Molecular Weight: 60.1 g/mol

<u>Ingredient</u>	<u>CAS Number</u>	<u>EC Number</u>	<u>Percent</u>	<u>Hazardous</u>	<u>Chemical</u> <u>Characterization</u>
-------------------	-------------------	------------------	----------------	------------------	--

67-63-0 200-661-7 100% Yes Substance Isopropyl
Alcohol

4. First-aid measures

Inhalation: Move to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.**Eye contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Do not use mouth-to-mouth method if victim ingested the substance. If ingestion of a large amount does occur, call a poison control center immediately. **DO NOT INDUCE VOMITING!**

5. Fire-fighting measures

Fire: Flash point: 18.3C (64F) CC / Autoignition temperature: 399C (750F) / Flammable limits in air % by volume: lel: 2.0; uel: 12 / Listed fire data is for Pure Isopropyl Alcohol.

Explosion: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with strong oxidizers may cause fire or explosion. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Fire Extinguishing Media: Water spray, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

Special Information: In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth,) and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

7. Handling and storage

Precautions for safe handling Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. **Storage:** Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in cool place. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Keep container tightly closed. Keep in an area equipped with sprinklers. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Airborne Exposure Limits: For Isopropyl Alcohol (2-Propanol):

OSHA Permissible Exposure Limit (PEL): 400 ppm (TWA)

ACGIH Threshold Limit Value (TLV): 400 ppm (TWA), 500 ppm (STEL)

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded, a full face piece respirator with organic vapor cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full face piece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in Oxygen-deficient atmospheres.

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Neoprene and nitrile rubber are recommended materials.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and chemical properties

Appearance: Clear, colorless liquid

Odor: Rubbing Alcohol

Odor Threshold: Not determined

pH: Not available

% Volatiles by volume @ 21C (70F): 100

Melting Point: -89C (-128F)

Boiling Point / Boiling Range: 79 - 81C (174 - 178F)

Flash Point: 53.6F (12C) Closed Cup

Evaporation Rate (BuAC=1): 2

Flammability: Concentrated isopropyl alcohol can be ignited
% by volume

Vapor Pressure (mm Hg): 44 @ 25C (77F)

Vapor Density (Air=1): 2

Relative Density: 0.786 g/cc for anhydrous IPA

Solubility: Miscible in water

Partition Coefficient: n-octanol / water: log Pow: 0.05

Auto-ignition Temperature: 425C (797F)

Decomposition Temperature: No data available

Viscosity: 2.4 mPa at 20C

10. Stability and reactivity

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, flame, ignition sources, incompatibles.

Incompatible Materials: Strong oxidizers, Acetaldehyde, acids, Chlorine, Ethylene Oxide, Hydrogen - Palladium combination, Hydrogen Peroxide - Sulfuric Acid combination, Potassium Tert-butoxide, Hypochlorous Acid, isocyanates, Nitroform, Phosgene, Aluminum, Oleum, and Perchloric Acid.

Hazardous Decomposition Products: Carbon Dioxide and Carbon Monoxide may form when heated to decomposition.

11. Toxicological information

Information on likely routes of exposure

Ingestion: Acute toxicity (Rat) LD50 5840 mg/kg – Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline – 401.

Inhalation: Acute Toxicity: (Rat) 6 hour(s) LD50 25000 mg/m3 (vapor) Minimally Toxic based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403

Skin contact: Acute toxicity: (rabbit) LD50 13900 mg/kg Minimally Toxic based on test data for the material. Test(s) equivalent or similar to OECD Guideline 402.

Eye contact: Serious eye damage/Irritation. Irritating and will injure eye tissue. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405.

Respiratory Sensitization: No end point data for the material. Not expected to be a respiratory sensitizer.

Skin Sensitization: Not expected to be a skin sensitizer. Based on test data for the material. Test(s) equivalent or similar to OECD 406.

Aspiration: May be harmful if swallowed and enters airways. Based on physico-chemical properties of the material.

Germ cell mutagenicity: Not expected to be a germ cell mutagen. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471, 474, 476.

Carcinogenicity: Not expected to cause cancer. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 451.

Reproductive toxicity: Not expected to be a reproductive toxicant based on test data for the material. Test(s) equivalent or similar to OECD Guideline 414, 415, 416.

Lactation: No end point data for the material. Not expected to cause harm to breast-fed children.

Specific Target Organ Toxicity (STOT) – Single exposure – No end point data for the material. May cause drowsiness or dizziness Repeated exposure - Not expected to cause organ damage from prolonged or repeated

exposure based on test data for the material. Test(s) equivalent or similar to OECD Guideline 413.

12. Ecological information

Ecotoxicity: This material is not expected to be toxic to aquatic life. The LC50/96 hour values for fish are over 100 mg/l.

Persistence and Degradability: When released into the soil, this material may biodegrade to a moderate extent. When released into water, this material may biodegrade to a moderate extent. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals.

Bioaccumulative Potential: This material is not expected to significantly bioaccumulate.

Mobility in Soil: When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material may leach into groundwater.

Other adverse effects: When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.

13. Disposal considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transportation Information

UN Number: UN1219

UN Proper Shipping Name: ISOPROPANOL

Packing Group: II

DOT IMDG IATA



**Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Transport Hazard Class(es): 3**

**Maritime Transport IMDG/GGVSea
Transport Hazard Class(es): 3**

Marine Pollutant: No

**Air Transport ICAO-TI and IATA-DGR
Transport Hazard Class(es): 3**

Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code

Special Precautions for User: No additional information

15 Regulatory information

US federal regulations CERCLA/SARA Hazardous Substances - Not applicable.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not Regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)TSCA
Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not on regulatory list.**

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - Yes
	Pressure Hazard - No
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance **No**

SARA 311/312 Hazardous chemical **No**

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act**(SDWA) - Not regulated****Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and chemical code number****Not listed****Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c)) Not regulated****DEA Exempt Chemical Mixtures Code Number****Not regulated****Food and Drug Administration (FDA)****Not regulated****US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.****US. Massachusetts RTK - Substance List****ISOPROPYL ALCOHOL (CAS 67-63-0)****US. New Jersey Worker and Community Right-to-Know Act Not regulated****US. Pennsylvania RTK - Hazardous Substances****ISOPROPYL ALCOHOL (CAS 67-63-0)****US. Rhode Island RTK - ISOPROPYL ALCOHOL (CAS 67-63-0)****US. California Proposition 65 - US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance Not listed****International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information

Disclaimer - The information in the sheet was written based on the best knowledge and experience currently available. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

April 12, 2016 revised section 2 and 11.