

## PRODUCT IDENTIFICATION

**Product Name:** Isopropyl Alcohol 91%- USP Grade**CAS Number:** 67-63-0**Molecular Formula:**  $C_3H_8O$ **Molecular Weight:** 60.10 g/mol**Grade:** USP Grade**Purity / Concentration:** 91%**Synonyms:** Isopropanol, 2-Propanol

## PRODUCT OVERVIEW

Isopropyl Alcohol 91% USP Grade is a high-purity, clear solvent essential for laboratory and industrial applications requiring strict quality control. With a measured assay of 91.3% and minimal nonvolatile residue of 1 mg, this reagent provides the reliability needed for analytical and cleaning processes.

**Grade Significance:** USP Grade signifies that the product meets the stringent quality and purity standards established by the United States Pharmacopeia, ensuring consistency and safety for sensitive applications.

## CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER          | UNIT | TYPICAL    | MIN  | MAX   | TEST METHOD       |
|--------------------|------|------------|------|-------|-------------------|
| Assay Gc           | %    | 91         | 90.5 | 91.5  | GC                |
| Color (APHA)       | APHA | 3          | —    | 10    | APHA              |
| Water Karl Fischer | %    | ≤ 0.09 %   | —    | —     | Karl Fischer      |
| Aluminum Al        | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Arsenic As         | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Chromium Cr        | ppm  | ≤ 0.01 ppm | —    | —     | ICP-OES           |
| Cobalt Co          | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Iron (Fe)          | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Lead Pb            | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Nickel Ni          | ppm  | ≤ 0.01 ppm | —    | —     | ICP-OES           |
| Potassium K        | ppm  | ≤ 0.01 ppm | —    | —     | ICP-OES           |
| Sodium Na          | ppm  | ≤ 0.01 ppm | —    | —     | ICP-OES           |
| Zinc Zn            | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Chlorides As Cl    | ppm  | ≤ 0.09 ppm | —    | —     | ICP               |
| Phosphate          | ppm  | ≤ 0.09 ppm | —    | —     | Per specification |
| Acidity As Acetic  | %    | 0.0010     | —    | 0.184 | Titration         |
| Barium Ba          | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Boron B            | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Cadmium Cd         | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Distillation Range | —    | 75.56      | —    | 76.11 | Per specification |
| Particle Size      | µm   | 1          | —    | 46    | Sieve Analysis    |
| Silicon Si         | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Silver Ag          | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Strontium Sr       | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |
| Tin Sn             | ppm  | ≤ 0.01 ppm | —    | —     | ICP-MS            |

ND = Not Detected. Values are typical and may vary by lot.

## PHYSICAL & CHEMICAL PROPERTIES

|                                 |                                 |                         |                                                                      |
|---------------------------------|---------------------------------|-------------------------|----------------------------------------------------------------------|
| <b>Appearance</b>               | Clear, colorless liquid         | <b>Odor</b>             | Characteristic alcohol odor                                          |
| <b>Form</b>                     | Liquid                          | <b>Boiling Point</b>    | 180.5 °F at 760 mmHg (NTP, 1992)                                     |
| <b>Melting / Freezing Point</b> | -127.3 °F (NTP, 1992)           | <b>Flash Point</b>      | ≈14 °C closed cup (57 °F TCC; Hydrox/<br>McKesson) — Class 3 PG II.  |
| <b>Specific Gravity</b>         | 0.79                            | <b>Solubility</b>       | Soluble in water, alcohol, ether, and many<br>other organic solvents |
| <b>Molecular Formula</b>        | C <sub>3</sub> H <sub>8</sub> O | <b>Molecular Weight</b> | 60.10 g/mol                                                          |
| <b>Vapor Pressure (20°C)</b>    | 43 mmHg                         | <b>Viscosity (25°C)</b> | 2.07 cP                                                              |
| <b>Refractive Index (20°C)</b>  | 1.377                           | <b>Density (25°C)</b>   | 0.786 g/mL                                                           |

## APPLICATIONS

1. **Analytical Chemistry** — Functions as a critical mobile phase component in reversed-phase chromatography to facilitate the precise separation of organic compounds.
2. **Spectroscopy** — Serves as an ideal baseline solvent for UV-Vis spectroscopy due to its low UV cutoff wavelength, which minimizes background interference.
3. **Pharmaceutical Manufacturing** — Used effectively in liquid-liquid extraction processes to isolate and purify sensitive pharmaceutical intermediates.
4. **Electronics** — Provides a high-efficiency cleaning solution for delicate electronic components and laboratory equipment, ensuring a residue-free surface.

## STORAGE & HANDLING

Due to its flash point of 12°C, this liquid is highly flammable and must be stored in a cool, well-ventilated area away from heat sources or sparks. Maintaining proper containment is essential to prevent the accumulation of vapors, which can cause drowsiness or dizziness if inhaled.

- Store in a cool, well-ventilated area away from heat sources and open flames.
- Use materials compatible with isopropyl alcohol, such as HDPE or glass containers.
- Avoid contact with strong oxidizing agents and acids.
- Ensure proper personal protective equipment (PPE) is worn, including gloves and goggles.
- Keep container tightly closed when not in use to prevent evaporation.

## AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

## SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



### Hazard Statements:

- H225: Highly Flammable liquid and vapor [Danger Flammable liquids]
- H319: Causes serious eye irritation [Warning Serious eye damage/eye irritation]
- H336: May cause drowsiness or dizziness [Warning Specific target organ toxicity, single exposure; Narcotic effects]

**Emergency Contact:** CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

*For complete safety information, refer to the Safety Data Sheet (SDS) for this product.*

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