

Isopropyl Alcohol Cleaner multicomp^{PRO}

RoHS
Compliant

Description

The Isopropyl Alcohol (IPA) is a high purity cleaner and solvent. The purity level meets Grade A standard for MIL Spec TT-I-735A and ASTM D770, ensuring that no contamination occurs from its use.

As a cleaner, it is fully miscible in water and most organic fluids, making it good at dissolving dirt, light organic contaminants, and ionic flux residues. Since the is highly anhydrous (without water) and hygroscopic (absorbs humidity), it readily scavenges water off surfaces, trapping the water in the IPA solution as an azeotropic mixture. This helps to dehumidify surfaces.

As a solvent, it acts as a moderate evaporation, 'plastic safe' diluent (see compatibility chart on page 3) and is used to improve the properties of paint resins and other heterogeneous solid mixtures. Therefore, it serves as a useful carrier solvent to adjust the rheological properties and compatibilities of complex mixtures. Due to IPA's volatility, it resists entrapment in the coating. As it dries, it gives off a very light odor, which is not bothersome but serves as a cue to limit over-exposure due to poor ventilation.

Applications & Usages

Since the is safe for most plastics, seals, ceramics, and printed circuit board components, it is used heavily in the electronics industry. It is great for cleaning screens, stencils, fiber optics, cables, keypads, printed circuit board components, or electrical contacts and connectors. It is also used to clean oxides and grime on audio or video tape heads. It effectively removes light greases, oils, and flux without adding additional residues to contacts, relays, and circuit boards connectors. It is quick drying relative to water. Further, it can be used to wash off more aggressive organic solvents like acetone or toluene.

Features and Benefits

- Suitable for Use in Food Facilities as a Non-Food Chemical—Canadian and NFS recognition letters available on request
- Meets MIL Spec TT-I-735A and ASTM D770
- Meets reagent ACS and USP/NF Grades
- Anhydrous solvent—Removes water and humidity from components leaving them dry
- Less than 0.001 g/100 mL non-volatile residues
- Excellent "Green Solvent" scores, Safe for aqueous environments, Low toxicity

Storage Properties

Properties	Value
Shelf Life @22°C [72°F]	5y
Storage Temperature Limits ^{a)}	-20 to 40°C [-4 to 104°F]

a) Store in cool, dry, and well ventilated area.

Mil Spec #TT-I-735A

Physical Properties	Method	Grade A Specifications
Purity	Gas chromatography	>99.8%
Water (w/w)	ASTM D 1364	≤0.10%
Color (Pt-Co scale)	ASTM D 1209	≤5
Acidity (% of acetic acid)	ASTM D 1613	≤0.001
Density @20°C [68°F]	ASTM D 4052	0.785—0.786 g/mL
Specific gravity @20°C / 20°C	ASTM D 4052	0.785—0.787 g/mL
Dilution range	ASTM D 1078	≥81.8°C
Initial boiling point	"	≥82.8°C
Dry point	"	≤0.001 g/100 mL
Nonvolatile matter	ASTM D 1353	Clear and miscible
Water miscibility	ASTM D 1772	Clear, free from sediment, and
Appearance	ASTM D 4176	suspended matter

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Properties

Physical Properties	Method	Value
Odor	—	Mild alcohol
Color	Visual	Colorless
Refractive Index @20°C [68°F]	ASTM D 1218	1.3766
Evaporation Rate (ButAc =1)	Literature	2.9
Heat Capacity	"	11 400 kJ/m [0.612 BTU•in/h•ft ² •°F]
Viscosity	"	3.4 cP
Safety Properties	Method	Value
Flammability	Literature	Highly flammable liquid and vapor
Flash Point	"	12°C [54°F]
Boiling Point	"	82°C [180°F]
Auto-ignition	"	425°C [797°F]
Volatile Organic Content (VOC)	"	100%
Environmental Properties	Method	Value
Toxicity for Aqueous Environment	Literature	Very low toxicity
Biodegration	"	Readily biodegradable

Solvation Parameters	Value
Solubility in water (%wt)	∞ Fully Miscible
Solubility for water (%wt) Dielectric constant @20°C [68°F]	∞ Fully Miscible 17.5
Surface Tension @25°C [75°F] (dynes/cm)	21.4
Hansen Solubility Parameters	(MPa) ^{1/2} [cal/cm ³] ^{1/2}
Total	23.5 [11.5]
Non-Polar	15.8 [7.7]
Polar	6.1 [3]
Hydrogen Bonding	16.4 [8]

Note: Typical literature values

Part Number Table

Description	Part Number
Isopropyl Alcohol Cleaner, 400mL	MP014782

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