

Product Name Benzyl Alcohol World/GMP, WORLD GRADE ® Grade NF/EP/BP/JP Grade Catalog # 303WORLD

| TEST | MONO- GRAPH | SPECIFICATION | TYPICAL RESULT | UNITS |
|---|----------------|--|-------------------|-------|
| Acidity | EP/BP | NMT 1 mL of 0.1M NaOH solution is required | 0.3 | ml |
| Appearance of Solution | EP/BP | Solution is clear and colorless | Pass | N/A |
| Assay | EP/BP | 98.0% - 100.5% C7H8O | 99.99 | % |
| Related Substances - Benzaldehyde | EP/BP | 0.15% max. | 0.01 | % |
| Characters | EP/BP | Appearance: clear, colourless, oily liquid. Solubility: soluble in water, miscible with ethanol (96 per cent) and with fatty and essential oils. | Pass | N/A |
| Related Substances - Cyclohexylmethanol | EP/BP | 0.10% max. | 0.00 | % |
| Relative Density | EP/BP | 1.043 - 1.049 @ 20°C | 1.047 | N/A |
| Identification - Infrared Absorption | EP/BP | Conforms to Reference Spectrum | Pass | N/A |
| Related Substances - Peaks with RT < C7H8O | EP/BP | 0.04% max. | 0.00 | % |
| Related Substances - Peaks with RT > C7H8O | EP/BP | 0.30% max. | 0.00 | % |
| Peroxide Value | EP/BP | NMT 5 | 1 | N/A |
| Impurites: Residue on Evaporation | EP/BP | NMT 0.05% | 0.00 | % |
| Refractive Index | EP/BP | 1.538 - 1.541 @ 20°C | 1.541 | N/A |
| Benzene | Internal | NMT 2 ppm | LT 2 ppm | N/A |
| Purity 2 - Acidity | JP | Red color develops | Pass | N/A |



| TEST | MONO- GRAPH | SPECIFICATION | TYPICAL RESULT | UNITS |
|--|----------------|--|-------------------|-------|
| Assay | JP | 98.0% - 100.5% C7H8O | 99.99 | % |
| Purity 3 - Benzaldehyde | JP | 0.15% max. | 0.01 | % |
| Purity 3 - Cyclohexylmethanol | JP | 0.10% max. | 0.00 | % |
| Description | JP | Clear, colorless, oily liquid. It is soluble in water. Miscible with ethanol, and with fatty and essential oils. | Pass | N/A |
| Identification - Infrared Absorption | JP | Conforms to Reference Spectrum | Pass | N/A |
| Purity 3 - Peaks with RT < C7H8O | JP | 0.04% max. | 0.00 | % |
| Purity 3 - Peaks with RT > C7H8O | JP | 0.30% max. | 0.00 | % |
| Purity 4 - Peroxide Value | JP | NMT 5 | 1 | N/A |
| Purity 1 - Clarity and Color of Solution | JP | The solution is clear and colorless | Pass | N/A |
| Purity 5 - Residue on Evaporation | JP | NMT 5 mg | 0.00 | % |
| Refractive Index | JP | 1.538 - 1.541 @ 20°C | 1.541 | N/A |
| Specific Gravity | JP | 1.043 - 1.049 @ 20°C | 1.047 | N/A |
| Acidity | NF | NMT 1 mL of 0.1M NaOH solution is required | 0.3 | ml |
| Assay | NF | 98.0% - 100.5% C7H8O | 99.99 | % |
| Organic Impurities - Benzaldehyde | NF | 0.15% max. | 0.01 | % |
| Clarity of Solution | NF | Test Solution shows same clarity as that of water, or its opalescence is not more pronounced than that of Reference suspension 1 | Pass | N/A |
| Color of Solution | NF | The Test solution has the color of water | Pass | N/A |

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|--|----------------|--------------------------------|-------------------|-------|
| Organic Impurities - Cyclohexylmethanol | NF | 0.10% max. | 0.00 | % |
| Identification A - Infrared Spectroscopy | NF | Conforms to Reference Spectrum | Pass | N/A |
| Impurities - Fats and Fixed Oils | NF | NMT 5 | 1 | N/A |
| Organic Impurities - Peaks with RT < C7H8O | NF | 0.04% max. | 0.00 | % |
| Organic Impurities - Peaks with RT > C7H8O | NF | 0.30% max. | 0.00 | % |
| Impurites: Residue on Evaporation | NF | NMT 0.05% | 0.00 | % |
| Refractive Index | NF | 1.538 - 1.541 @ 20°C | 1.541 | N/A |
| Ag (Silver) | USP<232> | Lot Analysis | 0.00 | ppm |
| As (Arsenic) | USP<232> | Lot Analysis | 0.00 | ppm |
| Au (Gold) | USP<232> | Lot Analysis | 0.00 | ppm |
| Ba (Barium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Cd (Cadmium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Co (Cobalt) | USP<232> | Lot Analysis | 0.00 | ppm |
| Cr (Chromium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Cu (Copper) | USP<232> | Lot Analysis | 0.00 | ppm |
| Hg (Mercury) | USP<232> | Lot Analysis | 0.00 | ppm |
| Ir (Iridium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Li (Lithium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Mo (Molybdenum) | USP<232> | Lot Analysis | 0.00 | ppm |
| Ni (Nickel) | USP<232> | Lot Analysis | 0.00 | ppm |
| Os (Osmium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Pb (Lead) | USP<232> | Lot Analysis | 0.00 | ppm |

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| Pd (Palladium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Pt (Platinum) | USP<232> | Lot Analysis | 0.00 | ppm |
| Rh (Rhodium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Ru (Ruthenium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Sb (Antimony) | USP<232> | Lot Analysis | 0.00 | ppm |
| Se (Selenium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Sn (Tin) | USP<232> | Lot Analysis | 0.00 | ppm |
| TI (Thallium) | USP<232> | Lot Analysis | 0.00 | ppm |
| V (Vanadium) | USP<232> | Lot Analysis | 0.00 | ppm |

Certification and Compliance Statements

This product is not derived, nor does it come in contact with, any materials derived from bovine or other animal sources.

This product is for further commercial manufacturing, laboratory or research use, and may be used as an excipient or a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.

This lot of Benzyl Alcohol has been processed and packaged in compliance with excipient Good Manufacturing Practices

This lot of Benzyl Alcohol complies with all of the current requirements listed in t the National Formulary, European Pharmacopeia, British Pharmacopeia, Japanese Pharmacopeia monographs. Certain data have been supplied by third parties.

No chemicals whatsoever are used as solvents at any point in the manufacture, processing or packaging of Benzyl alcohol. Only Class 2 and Class 3 residual solvents may appear as impurities / related substances / low level contaminants in Benzyl Alcohol. Concentration of Class 2 Option 1 and Class 3 residual solvents is below limits in the current USP/NF General Chapter <467> and ICH Q3C Impurities: Residual Solvents.

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This document was electronically signed by Gabriella Scoca on 10 Jan 2023 06:16 PM to indicate Quality Assurance Approval and to release this batch.