

## Liquid Oxygen Validation Solvent Product# 2996

### Product Description

Techspray Liquid Oxygen Validation Solvent is a proprietary azeotropic blend designed specifically for effective cleaning and validation of NASA propulsion oxygen systems hardware. This unique formulation is non-combustible and exhibits good material compatibility, oxygen system compatibility and high cleaning effectiveness. It is an ideal AK-225 replacement in systems where high cleaning efficiency and high non-volatile residue removal are required.

### Specifications

- Meets SAE ARP1176
- valuated and tested in NASA/TP-2015-218207

### Features / Benefits

- Cleaning solvent for critical cleaning applications
- Non combustible
- No ozone depleting chemicals, low global warming potential
- Azeotropic composition provides excellent composition stability
- Designed for use in oxygen system cleaning
- Removes particulates and debris
- Removes fluorocarbon greases and oils used to lubricate fittings
- Low toxicity
- Fast drying
- Very low non-volatile residue for maximum performance and safety
- Maximum performance and safety

### Applications

Used to replace CFCs, HCFCs, and flammable solvents as a cleaning solvent for applications where metal and oxygen compatibility is a priority.



### Typical Product Data and Physical Properties

<b>Boiling Point</b>	82.4°F/28°C
<b>Solubility in Water</b>	<1%
<b>Specific Gravity</b>	1.4
<b>Vapor Pressure @77°F</b>	88.7 mm Hg
<b>Vapor Density (air=1)</b>	3.3
<b>Appearance</b>	Clear, colorless liquid
<b>Odor</b>	Ethereal
<b>Surface Tension (dynes/cm @ 68°F)</b>	14.0
<b>Flash Point (TCC)</b>	none
<b>Evaporation Rate (butyl acetate =1)</b>	>1
<b>VOC* Content</b>	100%
SCAQMD	1400 g/L
Federal	22%
<b>Shelflife</b>	2 years from DOM unopened
<b>RoHS Compliant</b>	Yes

\* Volatile Organic Compound (VOC) information is calculated on a weight basis using the VOC definition of California Air Resources Board (CARB) Consumer Product Regulations, South Coast Air Quality Management District (SCAQMD) Rule 102 and the Federal definition published in 40 CFR 51.100(s).

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### Typical Product Data and Physical Properties (cont)

<b>Moisture Content</b> (ASTM D-3401)	<100 ppm by weight
<b>NVR</b> (ASTM-D-2109)	<5 ppm by weight
<b>Largest Soluble Hydrocarbon</b>	12 carbon
<b>Particulate Matter</b>	
>50 microns	0 per 100 mL.
25-50 microns	8 per 100 mL max.
15-25 microns	17 per 100 mL max.

### Material Compatibility

Material Name	Plastics Compatibility
All Metals	Satisfactory
Polyethylene	Fair
Polypropylene	Fair
Polycarbonate	Satisfactory
Nylon	Satisfactory
Epoxy	Satisfactory
FEP Copolymer*	Satisfactory
PCTFE*	Satisfactory
Aromatic Polyimide*	Satisfactory
FFKM*	Fair
FKM V0747-75*	Fair
Buna N*	Fair
PTFE*	Satisfactory
PTFE with silica fiber*	Satisfactory
PEEK*	Satisfactory

\* Results interpreted from NASA/TP-2015-218207 – "Replacement of Hydrochlorofluorocarbon-225 - Solvent for Cleaning and Verification Sampling of NASA Propulsion Oxygen Systems Hardware, Ground Support Equipment, and Associated Test Systems", published April 2015.

### Usage Instructions

**For industrial use only. Read MSDS carefully prior to use.**

Allow the product to achieve room temperature before using. Use only in cleanroom controlled environment. Liquid Oxygen Validation Solvent is used for cleaning, verification and validation of liquid oxygen lines. It can also be used as a flush cleaner at room temperature for oils and grease, and can also be used in a vapor degreaser for precision cleaning applications. Use in a well-ventilated area.

### Packaging and Availability

**2996-G** 1 gal. (3.8L) bottle

### Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

### Resources

Techspray® products are supported by global sales, technical and customer services resources.

For additional technical information on this product or other Techspray® products in the United States, call the technical sales department at 800-858-4043, email [tsales@techspray.com](mailto:tsales@techspray.com) or visit our web site at: [www.techspray.com](http://www.techspray.com).

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