PRODUCT TECHNICAL DATA SHEET

SolVantage® Final Rinse

Cleanliness Verification and Vapor Degreasing Solvent

PRODUCT BENEFITS AND PROPERTIES

SolVantage® Final Rinse is a VOC exempt solvent designed for use in a wide variety of applications where a pure, non-flammable solvent is required. Final Rinse can be used as a vapor degreasing solvent and as a cleanliness verification solvent for space flight or other components requiring critically cleaned surfaces. SolVantage Final Rinse can also be used as a rinsing agent in bi-solvent processes. Acting as a co-solvent it can add positive characteristics to heavy duty cleaning blends. Final Rinse may also be used in a variety of heat transfer applications. It was designed as in ideal substitute for solvents like, Chemours Vertrel® and 3M Novec®.

Benefits

- Certified to < 2ppm NVR
- Zero Surface Residue
- Low Surface Tension
- Non-Flammable, No Flash Point
- Low Viscosity
- High Boil Point

Environmental Properties

- VOC Exempt
- GWP - 580
- US EPA SNAP Approved
- Zero ODP
- Not a Hazardous Air Pollutant (HAP)

MATERIAL COMPATIBILITY

SolVantage Final Rinse is non-corrosive and non-staining to a wide variety of substrates. Some selected categories of materials compatible with SolVantage Final Rinse include*:

Most polymers and elastomers typically encountered during cleaning and vapor degreasing of precision parts, electronics, etc. • Copper, Stainless Steel, Aluminum, Titanium and other metals commonly used in precision parts manufacturing • Polyethylene • Polyvinylchloride (PVC, CPVC) • Polyester (PET, BET) • Polyimide (PI, PEI, PAI) • Polyetherketone (PEK) • Polyaryletherketone (PEEK) • Polyarylsulfone (PAS) • Polyphenylene Sulfide (PPS) • Polypropylene • Acetal • Epoxy • PTFE, Teflon • Polysulfone (PSO) • Phenolic • Ionomer • EPDM

SOILS

SolVantage Final Rinse removes a wide range of organic soils. Some categories of soils that can be removed with SolVantage Vapor Solv include*:

Corrosion Inhibiting Compounds (CICs) • Hydraulic Fluids • Oils (Drawing, Silicone) • Particulate • Metalworking Fluids: Water Soluble, Straight Oil and Synthetic • Fingerprints

**Material compatibility should always be confirmed via testing with specific contaminants under specific cleaning conditions.*

USE RECOMMENDATIONS

System	Roto Vap, Cleaning Station or Open Top Vapor Degreaser
Boiling Point	133°F (56°C)
Cleaning Duration	1-30 minutes: typical parts are clean in 3-10 minutes

TYPICAL CHEMICAL CHARACTERISTICS

Physical Form	Liquid	Latent Heat of Vaporization @BP	163kj/kg
Color	Colorless	Flash Point per ASTM D93 and ASTM D56	None
Odor/Fragrance	Slight	Vapor Flammability Limit in Air, VOL %	None
KB Value	13	Dielectric Constant	6.6 @ 23C
Viscosity	0.65mPa*s @ 25°C	Electrical Resistivity	1.3 x 109 Ohm*m
Specific Gravity	1.47 g/mL @ 25°C	Electrical Conductivity	7.7 x 10-4 MS/m @ 23C
Vapor Pressure	232 mmHg @25°C	Dielectric Breakdown Voltage	39.5 kV @ 23C
Surface Tension	16.4 dynes/cm @ 25°C		

INDUSTRY APPROVALS & CONFORMANCE

Full test report available upon request

LOX Mechanical Impact Sensitivity (LOXMIS)

Test Standard: ASTM G86, (2017) - Standard Test Method for Determining Ignition Sensitivity of Materials to Mechanical Impact in Ambient Liquid Oxygen and Pressurized Liquid and Gaseous Oxygen Environments.

Test Sample Details: Test samples were prepared using clean tools. The average mass was 1.162g. The bulk liquid sample was pre-chilled prior to pouring into pre-chilled sample cups (to minimize evaporation).

Test Conditions:

- Test type: Pass/Fail using methods in ASTM G86
- Energy level: 98 joules

Test Results:

- 98 joule energy level: 0 reactions out of 60 impacts
- Test Reaction Frequency: 0%
- Test Reaction Probability Range (see Appendix LOXMIS §5): 0 – 6%

Heat of Combustion (HoC)

Test Standard: ASTM D4809: 2018 – Standard Test Method for Heat of Combustion of Liquid Hydrocarbon fuels by Bomb Calorimeter.

Material Preparation: Approximately 500 mg of the test material was placed inside and at the bottom of the sample cup using clean tools. Samples were pre-chilled prior to testing.

Material Cleaning: Material tested as recieved.

Test Description: The HoC testing was performed using an automated isoperibol calorimeter. The samples were pre-chilled prior to testing. A sample of material was inserted in a small cup and positioned in a stainless steel “bomb”. An igniter wire was placed across the sample and the “bomb” was sealed and pressurized with 99.5% (minimum) oxygen to approximately 300 psig. The “bomb” was submerged into a water jacket and the electrical current was applied to the igniter wire to ignite the sample inside the bomb. The automated calorimeter then accurately measured the temperature rises and calculated the ΔHc.

Test Results:

Heat of Combustion, (cal/g)			
Material	Test 1	Test 2	Test 3
SolVantage Final Rinse	1377	1379	1331

Average HoC ± σ = 1362 ± 27 cal/g

ASTM G72: AIT

Test A01 1.1 Mass .228g		Test A01 1.2 Mass .230g		Test A01 1.3 Mass .219g	
AIT	260°C	AIT	258°C	AIT	260 °C
Pressure at AIT	1901 psig	Pressure at AIT	1984 psig	Pressure at AIT	1972 psig

TEST COMPLIANCE

- **ASTM F 945-12:** Titanium Stress
- **ASTM F 519:** Hydrogen Embrittlement
- **ASTM F2111-01A:** IGA/EGP
- **ARP 1755:** Cat 12

SHIPPING, STORAGE, DISPOSAL & PREVENTION

Please refer to the Safety Data Sheet for shipping, storage, disposal and prevention guidance.

AVAILABILITY

- 5 Gal (19L) - 50 Lbs (23KG)
- 55 Gal (208L) - 551 Lbs (250KG)

Product #: 304045

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