

**Material Safety Data Sheet****Section 1 - Product and Company Identification**

Product Name: **HP Headspace OQ/PV Std**  
Agilent Part Number: **G1888A, 5182-9733**  
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Manufacturer's Name: **AGILENT TECHNOLOGIES, INC.**  
**2850 Centerville Road**  
**Wilmington, Delaware 19808**

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USA Information Telephone Number: 1-877-4Agilent  
European Information Telephone Number: (7243) 602-2  
European Emergency Telephone Number: 0049(0) 6151/722440  
When Calling from Outside the USA You May Also Dial Your International Access Code for the USA, then 1, then 302 633 8777

**Section 2 - Composition/Information on Ingredients**

**A 1 ml. ampoule containing the following in ethyl alcohol [64-17-5]:**  
**1,2-Diclorobenzene [95-50-1] 0.2535% Wt.**  
**Nitrobenzene [98-95-3] 0.2535% Wt.**  
**tert-Butyl disulfide [110-06-5] 0.2535% Wt.**

**Chemical Families:** Substituted aliphatic and aromatic hydrocarbons in an alcohol  
**Chemical Synonyms:** Ethyl alcohol is also known as *Absolute ethanol; Alcohol; Anhydrous alcohol; Alcohol dehydrated; Ethanol; Ethyl alcohol anhydrous; Ethyl hydrate; Ethyl hydroxide; Fermentation alcohol; Grain alcohol; and Methylcarbinol*

**Section 3 - Hazards Identification**

Flammable Liquid. Irritating to eyes, respiratory system and skin.

**Section 4 - First-Aid Measures**

**Inhalation:** If large amounts are inhaled, remove the victim to fresh air. If breathing is difficult give oxygen. If breathing has stopped begin resuscitation measures. Keep the affected person warm and at rest. Contact Physician.

**Eye Contact:** Contamination of the eyes should be treated by irrigation with copious amounts of water by separating the eyelids with fingers. Contact Physician.

**Skin Contact:** In case of contact, immediately wash skin with soap and water. **Ingestion:** If swallowed, wash out mouth with water provided person is conscious. Contact physician.

**Section 5 - Fire-Fighting Measures**

**Extinguishing Media:** Carbon dioxide, dry chemical powder, water spray of standard foam.

**Special Fire Fighting Procedures:** Wear full protective clothing and self-contained positive pressure breathing apparatus certified by NIOSH when fighting chemically related fires.

**Unusual Fire and Explosion Hazards:** Volatile and highly flammable. Vapor may travel a considerable distance to a source of ignition and flash back. Containers may explode in heat of fire. Move containers from fire if safe to do so, otherwise cool with water until well after fire is out.

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**Section 6 - Accidental Release Measures**

Shut off all sources of ignition. Use noncombustible absorbent to absorb the spill. Due to the small quantity involved, a leaking ampoule may be placed in a plastic bag containing absorbent and disposed of as hazardous waste according to local regulations. Used absorbent should be disposed of in a similar manner. See Section 15.

Personal protective equipment should be worn during remediation of accidental releases according to the nature and quantity of the material involved. See Section 8 for a description of recommended personal protective equipment.

**Section 7 - Handling and Storage**

Do not breathe vapor and avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Store in a cool dry place. Keep away from oxidizing agents and other incompatibles. Proper storage must be determined based on other materials stored and their hazards and potential chemical incompatibility. Store in an acceptable protected and secure flammable liquid storage cabinet or room.

**Section 8 - Exposure Controls/Personal Protection**

**Ventilation:** Adequate ventilation is required to protect personnel from exposure to chemical vapors exceeding PEL and to minimize fire hazards. See Section 15 for regulatory standards of exposure.

**Respiratory:** Use NIOSH approved respirator equipment or organic mask filter. **Eyes:** Safety glasses are considered minimum protection. Chemical safety goggles or face shield may be necessary depending on quantity of material and conditions of use. Emergency eye wash fountains should be available in the vicinity of any possible exposure.

**Skin:** Chemical-resistant protective gloves and clothing are recommended. The choice of protective gloves or clothing must be based on chemical resistance and other user requirements. Generally BUNA-N offers acceptable chemical resistance. Individuals who are acutely and specifically sensitive to this chemical may require additional protective clothing.

**Section 9 - Physical and Chemical Properties (100% ethanol)**

Flash Point (Method Used): **12.7°C (ND)**

Explosion Potential: **LEL(3.3%)/UEL (19%)**

Autoignition Temperature: **422°C (95% Solution)**

Specific Gravity (H<sub>2</sub>O = 1): **0.7893**

Melting Point (Degree C): **130**

Evaporation Rate (n-butyl acetate=1) **>4**

Boiling Point (Degree C): **78.3 @ 760 mm Hg**

Vapor Pressure (mm Hg at 20°C): **43**

Freezing Point(Degree C): **-117.3**

Vapor Density (Air =1): **1.7**

Odor Threshold: **0.7%**

Octanol/Water Partition Coefficient: **-0.31**

Miscible in Water: **100%**

Appearance and Odor: **Clear, colorless liquid with an ethereal vinous odor**

**Section 10 - Stability and Reactivity**

**Stability:** Stable ( x ) / Unstable ( )

**Conditions to Avoid:** Heat, open flame, open containers, and poor ventilation.

**Incompatibility (Materials to Avoid):** Ethanol is incompatible with strong oxidizers; peroxides; acids; acid chlorides; acid anhydrides; alkali metals and ammonia.

**Hazardous Decomposition or Byproducts:** Incomplete combustion may generate hydrogen chloride gas, oxides of nitrogen and sulfur; and carbon monoxide.

**Hazardous Polymerization:** May Occur ( ) / Will Not Occur ( x)

**Section 11 - Toxicological Information**

**Route(s) of Entry:** Inhalation? **Yes** Skin? **Yes** Ingestion? **Yes**

**Ethyl alcohol** is harmful if swallowed in large amounts and is irritating to the eyes and skin.

**Health Hazard Acute/Chronic:** Ethyl alcohol can cause central nervous system (CNS) depression. Overexposure to ethyl alcohol can cause nausea; headache and vomiting. Ethyl alcohol is classified as a depressant drug and may cause heart, liver and nerve damage. Ingestion of large amounts of ethyl alcohol may cause loss of motor nerve control, shallow respiration and in extreme cases unconsciousness and death. Exposure to ethyl alcohol during pregnancy may cause fetal alcohol syndrome and/or congenital heart disease.

**Carcinogenicity:** NTP? **No** IARC Monographs? **No** OSHA Regulated? **No** OTHER? **No**

**Medical Conditions Generally Aggravated by Exposure:** NA

**Section 12 - Ecological Information**

**Persistence/Degradability:** Ethanol's estimated half-life in the atmosphere ranges from 4 days to 5.9 days. A smog chamber test with 2 ppm ethanol and 1 ppm nitrogen resulted in a 20% degradation in 5 hrs. Ethanol is considered to have low reactivity in photochemical smog situations having ozone forming potential slightly higher than that of toluene. When spilled on soil, ethanol will both evaporate and leach into the ground.

**Biodegradability:** Ethanol is biodegraded in aerobic systems using activated sludge, sewage, wastewater and soil test media. The 5 day BOD theoretical values range from 37% to 86%. Formaldehyde and acetic acid are biodegradation products in soil. If biodegradation is not rapid ethanol may leach into groundwater.

**Bioaccumulation:** The low octanol/water partition coefficient of ethanol indicates that it will not bioaccumulate in fish. Reaction with hydroxyl radicals in aquatic media is not predicted to be a significant process.

**Section 13 - Disposal Considerations**

Burn in a chemical incinerator equipped with an afterburner and scrubber. Comply fully with all Federal, State, and local regulations.

**Section 14 - Transport Information**
**DOT Regulations:**

**Shipping Name:** Chemical Kits  
**Hazard Class:** 9 UN 3316  
**Packing Group:** II  
**Label:** Class 9  
**Aircraft: Passenger/Cargo:** 10L/pkg.  
**RID/ADR:** 3/3b **ADNR:** ND

**IATA-DGR Regulations:**

**Shipping Name:** Chemical Kit  
**Hazard Class:** 9 UN 3316  
**Packing Group:** II  
**Label:** Class 9  
**Aircraft: Passenger/Cargo:** 1kg/pkg.  
 (Y915); 10 kg/pkg. (915)

**Section 15 - Regulatory Information**
**Exposure Limits:**

Chemical Name	CAS Number	OSHA PEL/TWA	ACGIH TLV/TWA	NIOSH TLV/TWA	%Weight/ Weight
Ethanol	[64-17-5]	1000 ppm 1900 mg/m3	1000 ppm 1880 mg/m3	1000 ppm	99.2395

**SARA Reporting:** Section 302: **No** Section 304: **No** Section 313: **No**

**OSHA Labeling Requirements:** Flammable Liquid

**Section 16 - Other Information**

Unless otherwise noted, the above information pertains only for the solvent and similar types of components in the sample. When no toxicity data is provided, it is prudent to handle this chemical as hazardous. Furthermore, since individual chemical hypersensitivity cannot be predicted, every chemical should be handled with due respect.

OEL-AUSTRALIA:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-BELGIUM:TWA 1000 PPM (1880 MG/M3) JAN 1993  
OEL-DENMARK:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-FINLAND:TWA 1000 PPM (1900 MG/M3);STEL 1250 PPM (2400 MG/M3) JAN 1993  
OEL-FRANCE:TWA 1000 PPM (1900 MG/M3);STEL 5000 PPM JAN 1993  
OEL-GERMANY:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-HUNGARY:TWA 1000 MG/M3;STEL 3000 MG/M3 JAN 1993  
OEL-THE NETHERLANDS:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-THE PHILIPPINES:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-POLAND:TWA 1000 MG/M3 JAN 1993  
OEL-RUSSIA:STEL 1000 MG/M3 JAN 1993  
OEL-SWEDEN:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-SWITZERLAND:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-THAILAND:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-TURKEY:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL-UNITED KINGDOM:TWA 1000 PPM (1900 MG/M3) JAN 1993  
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV  
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV

**European Information**

EC Index No: 603-002-00-5  
Highly Flammable  
Irritant  
R 11  
Highly Flammable  
S 7  
Keep container Tightly Closed.  
S 16  
Keep Away From sources of Ignition- No Smoking

**KEY TO ABBREVIATIONS**

**ACGIH** - American Conference of Governmental Industrial Hygienists` **CAS** - Chemical Abstract Service **CFR** - Code of Federal Regulations **DOT** - U.S. Department of Transportation 49 Code of Federal Regulations **IARC** - International Agency for Research on Cancer **IATA-DGR** - International Air Transport Association- Dangerous Goods Regulation **LEL** - Lower Explosion Limit **NA** - Not Applicable **ND** - No Data **NIOSH** - National Institute for Occupational Safety and Health **NTP** - National Toxicology Program **OSHA** - Occupational Safety and Health Administration **PEL** - Permissible Exposure Limit **RID/ADR** - Regulations Concerning the International Carriage of Dangerous Goods by Rail/European Agreement Concerning the International Carriage of Dangerous Goods by Road **TLV** - Threshold Limit Value **TWA** - Time Weighted Average **UEL** - Upper Explosion Limit  
[ ] - Indicates CAS Number