

Safety Data Sheet


acc. to OSHA HCS

Revision date 08/23/2024

1 Identification

- **Product identifier**
- **Product Name:** USP-467 Calibration Standard (1X1 mL)
- **Part number:** USPM-467A-1
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**
Flammable Liquids 4 H227 Combustible liquid.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** Void
- **Signal word** Warning
- **Hazard statements**
H227 Combustible liquid.
- **Precautionary statements**
P210 Keep away from flames and hot surfaces. – No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**
 Health = 0
Fire = 2
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**

HEALTH	*0	Health = *0
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.



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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

67-68-5	dimethyl sulfoxide
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99.5914%

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

67-68-5	dimethyl sulfoxide	150 ppm
71-43-2	benzene	52 ppm
75-09-2	dichloromethane	200 ppm
79-01-6	trichloroethylene	130 ppm
123-91-1	1,4-dioxane	17 ppm

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67-66-3	trichloromethane	2 ppm
· PAC-2:		
67-68-5	dimethyl sulfoxide	290 ppm
71-43-2	benzene	800 ppm
75-09-2	dichloromethane	560 ppm
79-01-6	trichloroethylene	450 ppm
123-91-1	1,4-dioxane	320 ppm
67-66-3	trichloromethane	64 ppm
· PAC-3:		
67-68-5	dimethyl sulfoxide	1,800 ppm
71-43-2	benzene	4000* ppm
75-09-2	dichloromethane	6,900 ppm
79-01-6	trichloroethylene	3,800 ppm
123-91-1	1,4-dioxane	760 ppm
67-66-3	trichloromethane	3,200 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

Control parameters

- **Components with limit values that require monitoring at the workplace:**

67-68-5 dimethyl sulfoxide

WEEL Long-term value: 250 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

Breathing equipment:

When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

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· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

· **Eye protection:** Goggles recommended during refilling.**9 Physical and chemical properties**· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

Form: Fluid

Color: Colorless

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: 16-19 °C (60.8-66.2 °F)

Boiling point/Boiling range: 189 °C (372.2 °F)

· **Flash point:** 87 °C (188.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto igniting:** 270 °C (518 °F)

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

Lower: 1.8 Vol %

Upper: 63 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0.41 hPa (0.3 mm Hg)

· **Density at 20 °C (68 °F):** 1.10043 g/cm³ (9.18309 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

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- | | |
|----------------------------|--|
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 100.0 % |
| VOC content: | 99.86 % |
| | 1,098.9 g/l / 9.17 lb/gal |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

67-68-5 dimethyl sulfoxide

Oral	LD50	14,500 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	40,250 mg/L (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

71-43-2	benzene	1
75-09-2	dichloromethane	2A
79-01-6	trichloroethylene	1
123-91-1	1,4-dioxane	2B
67-66-3	trichloromethane	2B

- **NTP (National Toxicology Program)**

71-43-2	benzene	K
75-09-2	dichloromethane	R

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79-01-6	trichloroethylene	K
123-91-1	1,4-dioxane	R
67-66-3	trichloromethane	R
· OSHA-Ca (Occupational Safety & Health Administration)		
71-43-2	benzene	
75-09-2	dichloromethane	

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimis Quantities	-
· UN-Number · DOT, ADN, IMDG, IATA	not regulated
· UN proper shipping name · DOT, ADN, IMDG, IATA	not regulated
· Transport hazard class(es) · DOT, ADN, IMDG, IATA · Class	not regulated

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- | | |
|---|-----------------|
| · Packing group | |
| · DOT, IMDG, IATA | not regulated |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | not regulated |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

-
- Section 355 (extremely hazardous substances):**

67-66-3 trichloromethane

-
- Section 313 (Specific toxic chemical listings):**

71-43-2 benzene

75-09-2 dichloromethane

79-01-6 trichloroethylene

123-91-1 1,4-dioxane

67-66-3 trichloromethane

-
- TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

-
- Hazardous Air Pollutants**

71-43-2 benzene

75-09-2 dichloromethane

79-01-6 trichloroethylene

123-91-1 1,4-dioxane

67-66-3 trichloromethane

-
- Proposition 65**

-
- Chemicals known to cause cancer:**

71-43-2 benzene

75-09-2 dichloromethane

79-01-6 trichloroethylene

123-91-1 1,4-dioxane

67-66-3 trichloromethane

-
- Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

-
- Chemicals known to cause reproductive toxicity for males:**

71-43-2 benzene

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79-01-6 trichloroethylene

· Chemicals known to cause developmental toxicity:

71-43-2 benzene

79-01-6 trichloroethylene

67-66-3 trichloromethane

· Carcinogenic categories
· EPA (Environmental Protection Agency)

71-43-2 benzene

A, K/L

75-09-2 dichloromethane

L

79-01-6 trichloroethylene

CaH

123-91-1 1,4-dioxane

L

67-66-3 trichloromethane

B2, L, NL

· TLV (Threshold Limit Value)

71-43-2 benzene

A1

75-09-2 dichloromethane

A3

79-01-6 trichloroethylene

A2

123-91-1 1,4-dioxane

A3

67-66-3 trichloromethane

A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

71-43-2 benzene

75-09-2 dichloromethane

79-01-6 trichloroethylene

123-91-1 1,4-dioxane

67-66-3 trichloromethane

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Department issuing SDS: Document Control / Regulatory

· Contact: pdl-acg-regulatory-cq@agilent.com

· Date of preparation / last revision 08/23/2024 / 3

· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flammable Liquids 4: Flammable liquids – Category 4

· *** Data compared to the previous version altered.**

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