

Safety Data Sheet

according to P.U.(A) 310/2013

Printing date 25.03.2025

Revision: 25.03.2025

1 Identification of the hazardous chemical and of the supplier

- **Product identifier**
- **Trade name:** Organophosphorus Pesticides Standard (1X1 mL)
- **Part number:** SPM-825-1
- **Recommended use of the chemical and restrictions on use**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(60) 3-9212 5794

2 Hazard identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



- **Signal word** Danger
- **Hazard-determining components of labelling:**
ethyl acetate

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· Hazard statements

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking.
- P241 Use explosion-proof electrical/ ventilating/lighting equipment.
- P261 Avoid breathing vapours.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P240 Ground/bond container and receiving equipment.
- P242 Use only non-sparking tools.
- P273 Avoid release to the environment.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P391 Collect spillage.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- P303+P361+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P370+P378 In case of fire: Use CO₂, powder or water spray for extinction.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards
· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition and information of the ingredients of the hazardous chemical

· Chemical characterisation: Mixtures
· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

141-78-6	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	99.556%
55-38-9	fenthion (ISO) ⚠ Acute Tox. 3, H331; ⚠ Muta. 2, H341; STOT RE 1, H372; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312	0.0222%
62-73-7	2,2-dichlorovinyl dimethyl phosphate ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ Aquatic Acute 1, H400; ⚠ Skin Sens. 1, H317	0.0222%

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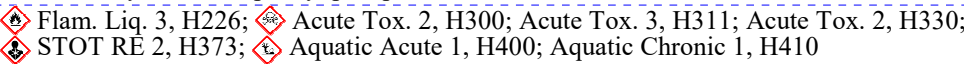
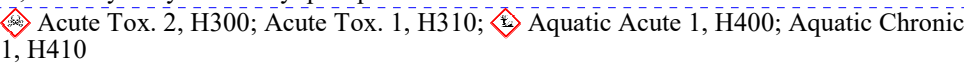
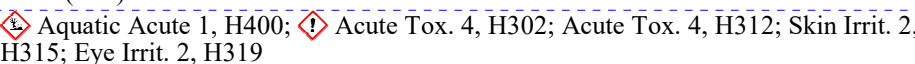
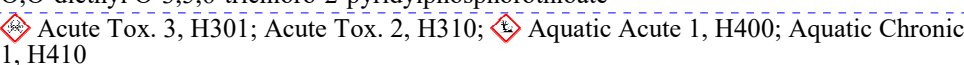
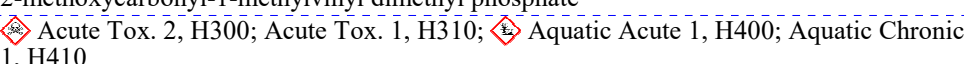
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298-00-0	O,O-dimethyl O-4-nitrophenyl phosphorothioate 	0.0222%
298-02-2	O,O-diethyl ethylthiomethyl phosphorodithioate 	0.0222%
300-76-5	naled (ISO) 	0.0222%
2921-88-2	O,O-diethyl O-3,5,6-trichloro-2-pyridylphosphorothioate 	0.0222%
7786-34-7	2-methoxycarbonyl-1-methylvinyl dimethyl phosphate 	0.0222%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **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, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.

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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.

Ensure adequate ventilation.

· **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.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

141-78-6 ethyl acetate

PEL (Malaysia) Long-term value: 1440 mg/m³, 400 ppm

62-73-7 2,2-dichlorovinyl dimethyl phosphate

PEL (Malaysia) Long-term value: 0.90 mg/m³, 0.1 ppm
(kulit)

298-00-0 O,O-dimethyl O-4-nitrophenyl phosphorothioate

PEL (Malaysia) Long-term value: 0.2 mg/m³
(kulit)

298-02-2 O,O-diethyl ethylthiomethyl phosphorodithioate

PEL (Malaysia) Long-term value: 0.05 mg/m³
(kulit)

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2921-88-2 O,O-diethyl O-3,5,6-trichloro-2-pyridylphosphorothioate

PEL (Malaysia)	Long-term value: 0.2 mg/m ³ (kulit)
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7786-34-7 2-methoxycarbonyl-1-methylvinyl dimethyl phosphate

PEL (Malaysia)	Long-term value: 0.09 mg/m ³ , 0.01 ppm (kulit)
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· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

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.

· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil 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:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Colourless

· **Odour:** Fruit-like

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· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/freezing point Initial boiling point and boiling range	-83.57 °C 77-78 °C
· Flash point:	-4 °C
· Flammability (solid, gas)	Highly flammable.
· Auto-ignition temperature	460 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits: Lower: Upper:	2.1 Vol % 11.5 Vol %
· Vapour pressure at 20 °C: · Vapour pressure at 50 °C:	75 hPa 360 hPa
· Density at 20 °C: · Relative density · Vapour density · Evaporation rate	0.9 g/cm ³ Not determined. Not determined. Not determined.
· Solubility in / Miscibility with water at 20 °C:	79 g/l
· Partition coefficient: n-octanol/water	Not determined.
· Viscosity: Dynamic at 20 °C: Kinematic:	0.44 mPas Not determined.
· Solvent content: Organic solvents: VOC (EC)	99.7 % 99.71 %
Solids content:	0.2 %
· 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.

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· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity**

· **LD/LC50 values relevant for classification:**

141-78-6 ethyl acetate

Oral LD50 5,620 mg/kg (rabbit)

Inhalative LC50/4 h 1,600 mg/L (rat)

55-38-9 fenthion (ISO)

Oral LD50 180 mg/kg (rat)

Dermal LD50 330 mg/kg (rat)

Inhalative LC50/4 h 800 mg/L (rat)

62-73-7 2,2-dichlorovinyl dimethyl phosphate

Oral LD50 25 mg/kg (rat)

Dermal LD50 107 mg/kg (rat)

107 mg/kg (rabbit)

Inhalative LC50/4 h 15 mg/L (rat)

298-00-0 O,O-dimethyl O-4-nitrophenyl phosphorothioate

Oral LD50 6.01 mg/kg (rat)

Dermal LD50 67 mg/kg (rat)

300 mg/kg (rabbit)

298-02-2 O,O-diethyl ethylthiomethyl phosphorodithioate

Oral LD50 1.6 mg/kg (rat)

Dermal LD50 2.5 mg/kg (rat)

300-76-5 naled (ISO)

Oral LD50 92 mg/kg (rat)

Dermal LD50 800 mg/kg (rat)

1,100 mg/kg (rabbit)

2921-88-2 O,O-diethyl O-3,5,6-trichloro-2-pyridylphosphorothioate

Oral LD50 60 mg/kg (mouse)

135 mg/kg (rat)

Dermal LD50 120 mg/kg (mouse)

202 mg/kg (rat)

Inhalative LC50/4 h >200 mg/L (rat)

7786-34-7 2-methoxycarbonyl-1-methylvinyl dimethyl phosphate

Oral LD50 3 mg/kg (rat)

Dermal LD50 4 mg/kg (rat)

· **Primary irritant effect:**

· **Skin corrosion or irritation** No irritant effect.

· **Serious eye damage or eye irritation** Irritating effect.

· **Respiratory / skin sensitization** No sensitising effects known.

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· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information

· Toxicity
· Aquatic toxicity: No further relevant information available.

· Persistence and degradability No further relevant information available.

· Behaviour in environmental systems:
· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Ecotoxicological effects:
· Remark: Very toxic for fish

· Additional ecological information:
· General notes:

Water hazard class 3 (German Regulation) (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.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

· Results of PBT and vPvB assessment
· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects No further relevant information available.

13 Disposal information

· Waste treatment methods
· Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:
· Recommendation: Disposal must be made according to official regulations.

14 Transportation information

· Not Regulated, De minimus Quantities

-

· UN-Number
· ADR, IMDG, IATA

UN1173

· UN proper shipping name
· ADR

1173 ETHYL ACETATE solution,
ENVIRONMENTALLY HAZARDOUS

· IMDG
· IATA

ETHYL ACETATE solution, MARINE POLLUTANT
ETHYL ACETATE solution

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· **Transport hazard class(es)**

· **ADR, IMDG**

· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**

· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**

· **ADR, IMDG, IATA**

II

· **Environmental hazards:**

Product contains environmentally hazardous substances:
azinphos-methyl (ISO), chlorpyrifos (ISO)

· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Flammable liquids.

· **Hazard identification number (Kemler code):**

33

· **EMS Number:**

F-E,S-D

· **Stowage Category**

B

· **Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

D/E

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1173 ETHYL ACETATE SOLUTION, 3, II,
ENVIRONMENTALLY HAZARDOUS

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **EHS reference list**

141-78-6	ethyl acetate
55-38-9	fenthion (ISO)
62-73-7	2,2-dichlorovinyl dimethyl phosphate
298-00-0	O,O-dimethyl O-4-nitrophenyl phosphorothioate
298-02-2	O,O-diethyl ethylthiomethyl phosphorodithioate
300-76-5	naled (ISO)
2921-88-2	O,O-diethyl O-3,5,6-trichloro-2-pyridylphosphorothioate
7786-34-7	2-methoxycarbonyl-1-methylvinyl dimethyl phosphate

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

E1 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **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.

· **Contact:**

· **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

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity - oral – Category 4

Acute Tox. 1: Acute toxicity - oral – Category 1

Acute Tox. 2: Acute toxicity - oral – Category 2

Acute Tox. 3: Acute toxicity - oral – Category 3

Skin Irrit. 2: Skin corrosion or irritation – Category 2

Eye Irrit. 2: Serious eye damage or eye irritation – Category 2

Skin Sens. 1: Skin sensitization – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - chronic hazard – Category 1