

Safety Data Sheet

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

Printing date 14.07.2025

Revision: 14.07.2025

1 Identification of the hazardous chemical and of the supplier

- **Product identifier**

- **Trade name:** Custom Standard (1X1 mL)

- **Part number:** CUS-14491

- **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:** CHEMTRAC®: +(60) 3-9212 5794

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 flame

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



GHS08 health hazard

Asp. Haz. H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

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).

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· Hazard pictograms

GHS02 GHS07 GHS08 GHS09

· Signal word Danger**· Hazard-determining components of labelling:**

cyclohexane
propanone
ethyl acetate

· Hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

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.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P391 Collect spillage.
P321 Specific treatment (see on this label).
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.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P331 Do NOT induce vomiting.
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.
P362+P364 Take off contaminated clothing and wash it before reuse.
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.

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<ul style="list-style-type: none"> · Other hazards · Results of PBT and vPvB assessment · PBT: Not applicable. · vPvB: Not applicable. 	(Contd. of page 2)
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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:

67-64-1	propanone	◆ Flam. Liq. 2, H225; ◆ Eye Irrit. 2, H319; STOT SE 3, H336	48.4673%
141-78-6	ethyl acetate	◆ Flam. Liq. 2, H225; ◆ Eye Irrit. 2, H319; STOT SE 3, H336	27.6347%
110-82-7	cyclohexane	◆ Flam. Liq. 2, H225; ◆ Asp. Haz., H304; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H336	23.8656%
56-38-2	O,O-diethyl O-4-nitrophenyl phosphorothioate	◆ Acute Tox. 2, H300; Acute Tox. 3, H311; Acute Tox. 2, H330; ◆ STOT RE 1, H372; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0012%
298-00-0	O,O-dimethyl O-4-nitrophenyl phosphorothioate	◆ Flam. Liq. 3, H226; ◆ Acute Tox. 2, H300; Acute Tox. 3, H311; Acute Tox. 2, H330; ◆ STOT RE 2, H373; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.0012%
732-11-6	phosmet (ISO)	◆ Acute Tox. 3, H301; ◆ Repr. 2, H361; STOT SE 1, H370; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Acute Tox. 4, H312; Acute Tox. 4, H332	0.0012%
2310-17-0	phosalone	◆ Acute Tox. 3, H301; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Sens. 1, H317	0.0012%
2597-03-7	phenthoate (ISO)	◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Acute Tox. 4, H302; Acute Tox. 4, H312	0.0012%
23103-98-2	pirimicarb	◆ Acute Tox. 3, H301; Acute Tox. 3, H331; ◆ Carc. 2, H351; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Skin Sens. 1, H317	0.0012%
29232-93-7	pirimiphos-methyl (ISO)	◆ STOT RE 1, H372; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Acute Tox. 4, H302	0.0012%
40487-42-1	pendimethalin (ISO)	◆ Repr. 2, H361; ◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Acute Tox. 4, H302	0.0012%
52645-53-1	permethrin (ISO)	◆ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ◆ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1, H317	0.0012%

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

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4 First-aid measures

- Description of first aid measures**
- General information:** Immediately remove any clothing soiled by the product.
- After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- 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.
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.

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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:**

67-64-1 propanone

PEL (Malaysia)	Long-term value: 1187 mg/m ³ , 500 ppm
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141-78-6 ethyl acetate

PEL (Malaysia)	Long-term value: 1440 mg/m ³ , 400 ppm
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110-82-7 cyclohexane

PEL (Malaysia)	Long-term value: 1030 mg/m ³ , 300 ppm
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298-00-0 O,O-dimethyl O-4-nitrophenyl phosphorothioate

PEL (Malaysia)	Long-term value: 0.2 mg/m ³ (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 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

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· 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:

According to product specification

· Odour:

Characteristic

· Odour threshold:

Not determined.

· pH-value:

Not determined.

· Change in condition**Melting point/freezing point**

Undetermined.

Initial boiling point and boiling range 55.8-56.6 °C**· Flash point:**

-20 °C

· Flammability

Highly flammable.

· Auto-ignition temperature

260 °C

· Decomposition temperature:

Not determined.

· Ignition temperature:

Product is not selfigniting.

· Explosive properties:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:**Lower:**

1.2 Vol %

Upper:

13 Vol %

· Vapour pressure at 20 °C:

175 hPa

· Vapour pressure at 50 °C:

800 hPa

· Density:

Not determined.

· Relative density

Not determined.

· Vapour 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.

· Viscosity:**Dynamic:**

Not determined.

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Kinematic:	Not determined.
Solvent content:	
Organic solvents:	100.0 %
VOC (EC)	99.97 %
Solids content:	0.0 %
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 relevant for classification:**

ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	58.2 mg/L (rat)
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67-64-1 propanone

Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)

141-78-6 ethyl acetate

Oral	LD50	5,620 mg/kg (rabbit)
Inhalative	LC50/4 h	1,600 mg/L (rat)

110-82-7 cyclohexane

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	13.9 mg/L (rat)

56-38-2 O,O-diethyl O-4-nitrophenyl phosphorothioate

Oral	LD50	2 mg/kg (rat)
Dermal	LD50	6.8 mg/kg (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)

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732-11-6 phosmet (ISO)		
Oral	LD50	92.5 mg/kg (rat)
Dermal	LD50	1,150 mg/kg (rat)
		>3,160 mg/kg (rabbit)
Inhalative	LC50/4 h	54 mg/L (rat)
2310-17-0 phosalone		
Oral	LD50	85 mg/kg (rat)
Dermal	LD50	1,000 mg/kg (rabbit)
2597-03-7 phentoate (ISO)		
Oral	LD50	71 mg/kg (rat)
Dermal	LD50	700 mg/kg (rat)
Inhalative	LC50/4 h	59 mg/L (rat)
23103-98-2 pirimicarb		
Oral	LD50	>500 mg/kg (rat)
29232-93-7 pirimiphos-methyl (ISO)		
Oral	LD50	1,414 mg/kg (ATE)
		1,250 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
40487-42-1 pendimethalin (ISO)		
Oral	LD50	1,050 mg/kg (rat)
Dermal	LD50	2,260 mg/kg (rabbit)

- Primary irritant effect:

- Skin corrosion or irritation Irritant to skin and mucous membranes.

- Serious eye damage or eye irritation Irritating effect.

- Respiratory / skin sensitization No sensitising effects known.

- 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:

- 29232-93-7 pirimiphos-methyl (ISO)**

LC50 (96h) - for fish	0.4 mg/L/96h (Oncorhynchus mykiss (rainbow trout))
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- 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 2 (German Regulation) (Self-assessment): hazardous for water

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Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even 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**

UN1993

- **UN proper shipping name**

- **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, CYCLOHEXANE), ENVIRONMENTALLY HAZARDOUS

- **IMDG**

FLAMMABLE LIQUID, N.O.S. (ACETONE, CYCLOHEXANE), MARINE POLLUTANT

- **IATA**

FLAMMABLE LIQUID, N.O.S. (ACETONE, CYCLOHEXANE)

- **Transport hazard class(es)**

- **ADR, IMDG**



- **Class**

- **Label**

3 Flammable liquids.

3

- **IATA**



- **Class**

3 Flammable liquids.

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· Label	3
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: cyclohexane
· 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-E
· 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 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, CYCLOHEXANE), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· EHS reference list	
67-64-1	propanone
141-78-6	ethyl acetate
110-82-7	cyclohexane
56-38-2	O,O-diethyl O-4-nitrophenyl phosphorothioate
298-00-0	O,O-dimethyl O-4-nitrophenyl phosphorothioate
732-11-6	phosmet (ISO)
2310-17-0	phosalone
2597-03-7	phenthoate (ISO)
23103-98-2	pirimicarb

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29232-93-7	pirimiphos-methyl (ISO)
40487-42-1	pendimethalin (ISO)
52645-53-1	permethrin (ISO)

- 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. 2: Acute toxicity - oral – Category 2

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

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

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

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

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

Asp. Haz.: Aspiration hazard – Category 1

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

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

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