

Safety Data Sheet

according to HPR, Schedule 1

Printing date: 07/14/2025

Revision date: 07/14/2025

1 Identification

- **Product identifier**
- **Product Name: Custom Standard (1X1 mL)**
- **Part no. :** CUS-14489
- **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 identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Aspiration Hazard - Category 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

 Specific Target Organ Toxicity - Single Exposure -
 Category 3

H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

cyclohexane
 acetone
 ethyl acetate

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· 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.

· Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
- P261 Avoid breathing vapours.
- P280 Wear protective gloves / protective clothing.
- P240 Ground and bond container and receiving equipment.
- P242 Use non-sparking tools.
- P243 Take actions to prevent static discharges.
- 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.
- P321 Specific treatment (see on this label).
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 Call a poison center/doctor if you feel unwell.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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 to extinguish.
- 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.

· Classification system:
· NFPA ratings (scale 0 - 4)

· HMIS-ratings (scale 0 - 4)


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3 Composition/Information on ingredients

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

Dangerous components:

67-64-1	acetone	30-60% w/w *
141-78-6	ethyl acetate	10-30% w/w *
110-82-7	cyclohexane	10-30% w/w *

* Actual concentration ranges are withheld as a trade secret.

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, extinguishing 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 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.

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See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
 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 receptacle tightly sealed.
 Store in cool, dry conditions in well sealed receptacles.
- **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:**

67-64-1 acetone

EL	STEL: 500 ppm TWA: 250 ppm
EV	STEL: 750 ppm TWA: 500 ppm

141-78-6 ethyl acetate

EL	TWA: 150 ppm
EV	TWA: 1,440 mg/m ³ , 400 ppm

110-82-7 cyclohexane

EL	TWA: 100 ppm
EV	TWA: 100 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:**
 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.

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· 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.

· 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:


Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties
· General Information
· Appearance:

Form: Fluid

Color: According to product specification

· Odor: Characteristic

· Odor threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 55.8-56.6 °C

· Flash point: -20 °C

· Flammability: Highly flammable.

· Auto igniting: 260 °C

· Decomposition temperature: Not determined.

· Ignition temperature: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower: 1.2 Vol %

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Upper:	13 Vol %
· Vapor pressure at 20 °C:	175 hPa
· Vapor pressure at 50 °C:	800 hPa
· Density:	Not determined.
· 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.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	100.0 %
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 that are relevant for classification:
ATE (Acute Toxicity Estimate)

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

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)

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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)

· Primary irritant effect:

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· Carcinogenic categories
· IARC (International Agency for Research on Cancer)

76-44-8	heptachlor (ISO)	2B
118-74-1	hexachlorobenzene	2B
319-84-6	alpha-BHC (alpha-HCH)	2B
319-85-7	(1alpha,2β,3alpha,4β,5alpha,6β)-1,2,3,4,5,6-hexachlorocyclohexane	2B
1024-57-3	heptachlor epoxide - isomer B	2B

· NTP (National Toxicology Program)

118-74-1	hexachlorobenzene	R
319-84-6	alpha-BHC (alpha-HCH)	R
319-85-7	(1alpha,2β,3alpha,4β,5alpha,6β)-1,2,3,4,5,6-hexachlorocyclohexane	R
319-86-8	delta-BHC (delta-HCH)	R

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 2 (Self-assessment): hazardous for water
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.

· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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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	UN1993
· DOT/TDG, ADR, IMDG, IATA	UN1993
· UN proper shipping name	Flammable liquids, n.o.s. (Acetone, Cyclohexane) 1993 Flammable liquids, n.o.s. (Acetone, Cyclohexane), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (ACETONE, CYCLOHEXANE), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (ACETONE, CYCLOHEXANE)
· DOT/TDG	
· ADR	
· IMDG	
· IATA	FLAMMABLE LIQUID, N.O.S. (ACETONE, CYCLOHEXANE)
· Transport hazard class(es)	
· DOT/TDG (Transport dangerous goods):	
	
· Class	3 Flammable liquids
· Label	3
· ADR, IMDG	
	
· Class	3 Flammable liquids
· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3

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<ul style="list-style-type: none"> · Packing group · DOT/TDG, ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (ADR): 	Product contains environmentally hazardous substances: cyclohexane Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category 	Warning: Flammable liquids 33 F-E, <u>S-E</u> B
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: · DOT/TDG · Quantity limitations 	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> · 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**
No further relevant information available.
- **Sara**

<ul style="list-style-type: none"> · Section 355 (extremely hazardous substances): 	
122-14-5	fenitrothion (ISO)
2540-82-1	formothion (ISO)
<ul style="list-style-type: none"> · Section 313 (Specific toxic chemical listings): 	
110-82-7	cyclohexane
55-38-9	fenthion (ISO)
76-44-8	heptachlor (ISO)
118-74-1	hexachlorobenzene
133-07-3	folpet (ISO)

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319-84-6	alpha-BHC (alpha-HCH)
39515-41-8	alpha-cyano-3-phenoxybenzyl 2,2,3,3-tetramethylcyclopropanecarboxylate
51235-04-2	3-cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione
60168-88-9	fenarimol (ISO)

· TSCA (Toxic Substances Control Act):

67-64-1	acetone	ACTIVE
141-78-6	ethyl acetate	ACTIVE
110-82-7	cyclohexane	ACTIVE
118-74-1	hexachlorobenzene	ACTIVE
133-07-3	folpet (ISO)	ACTIVE
319-84-6	alpha-BHC (alpha-HCH)	ACTIVE
319-85-7	(1alpha,2β,3alpha,4β,5alpha,6β)-1,2,3,4,5,6-hexachlorocyclohexane	ACTIVE
319-86-8	delta-BHC (delta-HCH)	ACTIVE
51235-04-2	3-cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione	ACTIVE
60168-88-9	fenarimol (ISO)	ACTIVE

· Canadian substance listings:
· Canadian Domestic Substances List (DSL)

67-64-1	acetone
141-78-6	ethyl acetate
110-82-7	cyclohexane
118-74-1	hexachlorobenzene

· Canadian Non-Domestic Substances List (NDSL)

319-86-8	delta-BHC (delta-HCH)
51235-04-2	3-cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione
60168-88-9	fenarimol (ISO)

· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

All ingredients are listed.

· Per- and polyfluoroalkyl substances (PFAS)

None of the ingredients is listed.

· 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:
· Date of the latest revision of the safety data sheet 07/14/2025 / 3

· Abbreviations and acronyms:

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

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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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
· *** Data compared to the previous version altered.**

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