

Safety Data Sheet

acc. to OSHA HCS

Revision date: 08/26/2025

1 Identification

- **Product identifier**
- **Product Name:** Haloacetic Acid Standard (1X1 mL)
- **Part no. :** PHM-535-1
- **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**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3

H331 Toxic if inhaled.



GHS08 Health hazard

Carcinogenicity 1B

H350 May cause cancer.

Specific Target Organ Toxicity - Single Exposure 1

H370 Causes damage to the central nervous system and the visual organs.



GHS07

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS06



GHS07



GHS08

- **Signal word** Danger

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Product Name: Haloacetic Acid Standard (1X1 mL)

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Hazard-determining components of labeling:

methanol
tribromoacetic acid
bromoacetic acid
dibromochloroacetic acid

Hazard statements

H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H370 Causes damage to the central nervous system and the visual organs.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe vapours.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P280 Wear protective gloves / protective clothing.
P240 Ground/bond container and receiving equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see on this label).
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363 Wash contaminated clothing before reuse.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.
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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- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

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

· **Dangerous components:**

67-56-1	methanol	98.8624%
75-96-7	tribromoacetic acid	0.1264%
76-03-9	trichloroacetic acid	0.1264%
79-08-3	bromoacetic acid	0.1264%
79-11-8	chloroacetic acid	0.1264%
79-43-6	dichloroacetic acid	0.1264%
631-64-1	dibromoacetic acid	0.1264%
5278-95-5	dibromochloroacetic acid	0.1264%
5589-96-8	bromochloroacetic acid	0.1264%
71133-14-7	bromodichloroacetic acid	0.1264%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
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. Then 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

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- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
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.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

67-56-1	methanol	530 ppm
76-03-9	trichloroacetic acid	1.5 ppm
79-08-3	bromoacetic acid	0.15 mg/m3
79-11-8	chloroacetic acid	1.5 ppm
79-43-6	dichloroacetic acid	1.5 ppm

· PAC-2:

67-56-1	methanol	2100 ppm
76-03-9	trichloroacetic acid	16 ppm
79-08-3	bromoacetic acid	1.7 mg/m3
79-11-8	chloroacetic acid	6.6 ppm
79-43-6	dichloroacetic acid	93 mg/m3

· PAC-3:

67-56-1	methanol	7200 ppm
76-03-9	trichloroacetic acid	99 ppm
79-08-3	bromoacetic acid	9.9 mg/m3
79-11-8	chloroacetic acid	15 ppm
79-43-6	dichloroacetic acid	560 mg/m3

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

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Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

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:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

67-56-1 methanol

PEL Long-term value: 260 mg/m³, 200 ppm

REL Short-term value: 325 mg/m³, 250 ppm

Long-term value: 260 mg/m³, 200 ppm

Skin

TLV Short-term value: 328 mg/m³, 250 ppm

Long-term value: 262 mg/m³, 200 ppm

Skin; BEI

76-03-9 trichloroacetic acid

REL Long-term value: 7 mg/m³, 1 ppm

TLV Long-term value: 3.34 mg/m³, 0.5 ppm

A3

79-11-8 chloroacetic acid

TLV Long-term value: 2* mg/m³, 0.5* ppm

Skin;*as inhalable fraction and vapor, A4

WEEL Long-term value: 0.5 ppm

Skin

79-43-6 dichloroacetic acid

TLV Long-term value: 2.6 mg/m³, 0.5 ppm

Skin, A3

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Ingredients with biological limit values:
67-56-1 methanol

BEI	15 mg/L
	Medium: urine
	Time: end of shift
	Parameter: Methanol (background, nonspecific)

· **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.
Store protective clothing separately.
Do not inhale gases / fumes / aerosols.

· **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: Liquid

Color: Colorless

· **Odor:** Alcohol-like

· **Odor threshold:** Not determined.

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· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	-98 °C (-144.4 °F)
Boiling point/Boiling range:	64.7 °C (148.5 °F)
· Flash point:	9 °C (48.2 °F)
· Flammability:	Highly flammable.
· Auto igniting:	455 °C (851 °F)
· 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:	5.5 Vol %
Upper:	44 Vol %
· Vapor pressure at 20 °C (68 °F):	100 hPa (75 mm Hg)
· Density at 20 °C (68 °F):	0.8 g/cm ³ (6.676 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.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	98.9 %
VOC content:	98.86 %
	988.6 g/l / 8.25 lb/gal
Solids content:	0.9 %
· 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 that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Oral	LD50	23,860 mg/kg (rat)
Dermal	LD50	37,274 mg/kg
Inhalative	LC50/4 h	2.95 mg/L

67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

76-03-9 trichloroacetic acid

Oral	LD50	3,320 mg/kg (rat)
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79-08-3 bromoacetic acid

Oral	LD50	50 mg/kg (rat)
Dermal	LD50	59.9 mg/kg (rabbit)

79-11-8 chloroacetic acid

Oral	LD50	76 mg/kg (rat)
Dermal	LD50	305 mg/kg (rat)
Inhalative	LC50/4 h	0.18 mg/L (rat)

79-43-6 dichloroacetic acid

Oral	LD50	2,820 mg/kg (rat)
Dermal	LD50	799 mg/kg (rabbit)

631-64-1 dibromoacetic acid

Oral	LD50	1,737 mg/kg (rat)
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· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

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

Toxic

Irritant

· **Carcinogenic categories**

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

76-03-9	trichloroacetic acid	2B
79-43-6	dichloroacetic acid	2B
631-64-1	dibromoacetic acid	2B
5589-96-8	bromochloroacetic acid	2B

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· NTP (National Toxicology Program)

75-96-7	tribromoacetic acid	R
631-64-1	dibromoacetic acid	R
5278-95-5	dibromochloroacetic acid	R
5589-96-8	bromochloroacetic acid	R
71133-14-7	bromodichloroacetic acid	R

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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, IMDG, IATA	UN1230
· UN proper shipping name	
· DOT	Methanol solution
· IMDG, IATA	METHANOL solution

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· Transport hazard class(es)
· DOT

· Class

3 Flammable liquids

· Label

3, 6.1

· IMDG

· Class

3 Flammable liquids

· Label

3/6.1

· IATA

· Class

3 Flammable liquids

· Label

3 (6.1)

· Packing group
· DOT, IMDG, IATA

II

· Environmental hazards:

Not applicable.

· Special precautions for user

Warning: Flammable liquids

· Hazard identification number (Kemler code):

336

· EMS Number:

F-E,S-D

· Stowage Category

B

· Stowage Code

SW2 Clear of living quarters.

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:
· DOT
· Quantity limitations

On passenger aircraft/rail: 1 L

On cargo aircraft only: 60 L

· 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

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· UN "Model Regulation": UN 1230 METHANOL SOLUTION, 3 (6.1), II

15 Regulatory information

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

· Section 355 (extremely hazardous substances):

79-11-8 chloroacetic acid

· Section 313 (Specific toxic chemical listings):

67-56-1 methanol

79-11-8 chloroacetic acid

· TSCA (Toxic Substances Control Act):

67-56-1 methanol

ACTIVE

75-96-7 tribromoacetic acid

ACTIVE

76-03-9 trichloroacetic acid

ACTIVE

79-08-3 bromoacetic acid

ACTIVE

79-11-8 chloroacetic acid

ACTIVE

79-43-6 dichloroacetic acid

ACTIVE

631-64-1 dibromoacetic acid

ACTIVE

· Hazardous Air Pollutants

67-56-1 methanol

79-11-8 chloroacetic acid

· Proposition 65

· Chemicals known to cause cancer:

76-03-9 trichloroacetic acid

79-43-6 dichloroacetic acid

631-64-1 dibromoacetic acid

5589-96-8 bromochloroacetic acid

71133-14-7 bromodichloroacetic acid

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

79-43-6 dichloroacetic acid

· Chemicals known to cause developmental toxicity:

67-56-1 methanol

79-43-6 dichloroacetic acid

· Carcinogenic categories

· EPA (Environmental Protection Agency)

76-03-9 trichloroacetic acid

SC

79-43-6 dichloroacetic acid

L

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Product Name: Haloacetic Acid Standard (1X1 mL)

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· TLV (Threshold Limit Value)		
76-03-9	trichloroacetic acid	A3
79-11-8	chloroacetic acid	A4
79-43-6	dichloroacetic acid	A3
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.

· **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 preparation / last revision** 08/26/2025 / 4

· **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
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
BEI: Biological Exposure Limit
Flammable Liquids 2: Flammable liquids – Category 2
Acute Toxicity - Inhalation 3: Acute toxicity – Category 3
Sensitization - Skin 1: Skin sensitisation – Category 1
Carcinogenicity 1B: Carcinogenicity – Category 1B
Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1

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