

Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

1 Identification

- **Product identifier**
- **Trade name:** Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)
- **Part number:** HCM-551D-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

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



GHS08 Health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Repr. 1A H360 May damage fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 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

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 1)

· Hazard-determining components of labeling:

acetone

1,2-dibromo-3-chloropropane

carbon tetrachloride

1,2-dibromoethane

tetrachloroethylene

· Hazard statements

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

May damage fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Health = 2

Fire = 3

Reactivity = 0

(Contd. on page 3)

US

Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 2)

· HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = *2
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **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:

67-64-1	acetone	95.197%
75-27-4	bromodichloromethane	0.253%
67-66-3	trichloromethane	0.253%
96-12-8	1,2-dibromo-3-chloropropane	0.253%
106-93-4	1,2-dibromoethane	0.253%
3252-43-5	dibromoacetonitrile	0.253%
96-18-4	1,2,3-trichloropropane	0.253%
79-00-5	1,1,2-trichloroethane	0.253%
127-18-4	tetrachloroethylene	0.253%
56-23-5	carbon tetrachloride	0.253%
71-55-6	1,1,1-trichloroethane	0.253%
79-01-6	trichloroethylene	0.253%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a 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. 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.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 3)

- **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**
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 item 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:

67-64-1	acetone	200 ppm
75-27-4	bromodichloromethane	1.3 mg/m ³
75-25-2	bromoform	1.5 ppm
67-66-3	trichloromethane	2 ppm
96-12-8	1,2-dibromo-3-chloropropane	0.003 ppm
124-48-1	dibromochloromethane	1.1 mg/m ³
106-93-4	1,2-dibromoethane	17 ppm
96-18-4	1,2,3-trichloropropane	0.015 ppm
79-00-5	1,1,2-trichloroethane	30 ppm
76-06-2	trichloronitromethane	0.050 ppm
127-18-4	tetrachloroethylene	35 ppm
56-23-5	carbon tetrachloride	1.2 ppm
71-55-6	1,1,1-trichloroethane	230 ppm
79-01-6	trichloroethylene	130 ppm

(Contd. on page 5)

Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 4)

· PAC-2:

67-64-1	acetone	3200* ppm
75-27-4	bromodichloromethane	14 mg/m ³
75-25-2	bromoform	6.8 ppm
67-66-3	trichloromethane	64 ppm
96-12-8	1,2-dibromo-3-chloropropane	2.2 ppm
124-48-1	dibromochloromethane	12 mg/m ³
106-93-4	1,2-dibromoethane	24 ppm
96-18-4	1,2,3-trichloropropane	170 ppm
79-00-5	1,1,2-trichloroethane	180 ppm
76-06-2	trichloronitromethane	0.15 ppm
127-18-4	tetrachloroethylene	230 ppm
56-23-5	carbon tetrachloride	13 ppm
71-55-6	1,1,1-trichloroethane	600 ppm
79-01-6	trichloroethylene	450 ppm

· PAC-3:

67-64-1	acetone	5700* ppm
75-27-4	bromodichloromethane	85 mg/m ³
75-25-2	bromoform	41 ppm
67-66-3	trichloromethane	3,200 ppm
96-12-8	1,2-dibromo-3-chloropropane	4.3 ppm
124-48-1	dibromochloromethane	73 mg/m ³
106-93-4	1,2-dibromoethane	46 ppm
96-18-4	1,2,3-trichloropropane	1,000 ppm
79-00-5	1,1,2-trichloroethane	500 ppm
76-06-2	trichloronitromethane	1.4 ppm
127-18-4	tetrachloroethylene	1,200 ppm
56-23-5	carbon tetrachloride	340 ppm
71-55-6	1,1,1-trichloroethane	4,200 ppm
79-01-6	trichloroethylene	3,800 ppm

7 Handling and storage

· Handling:
· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
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.

(Contd. on page 6)

Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 5)

- **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 item 7.
- **Control parameters**

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

67-64-1 acetone

PEL	Long-term value: 2400 mg/m ³ , 1000 ppm
REL	Long-term value: 590 mg/m ³ , 250 ppm
TLV	Short-term value: 1187 mg/m ³ , 500 ppm
	Long-term value: 594 mg/m ³ , 250 ppm
	BEI

67-66-3 trichloromethane

PEL	Ceiling limit value: 240 mg/m ³ , 50 ppm
REL	Short-term value: 9.78* mg/m ³ , 2* ppm
	*60-min; See Pocket Guide App. A
TLV	Long-term value: 49 mg/m ³ , 10 ppm

96-12-8 1,2-dibromo-3-chloropropane

PEL	Long-term value: 0.001 ppm
	see 29 CFR 1910.1044
REL	See Pocket Guide App. A

106-93-4 1,2-dibromoethane

PEL	Long-term value: 20 ppm
	Ceiling limit value: 30; 50* ppm
	*5-min peak per 8-hr shift
REL	Long-term value: 0.045 ppm
	Ceiling limit value: 0.13* ppm
	*15-min; See Pocket Guide App. A
TLV	Skin

3252-43-5 dibromoacetonitrile

PEL	Long-term value: 5 mg/m ³
	as CN; Skin

96-18-4 1,2,3-trichloropropane

PEL	Long-term value: 300 mg/m ³ , 50 ppm
REL	Long-term value: 60 mg/m ³ , 10 ppm
	Skin, See Pocket Guide App. A

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 6)

TLV Long-term value: 0.03 mg/m³, 0.005 ppm

79-00-5 1,1,2-trichloroethane

PEL Long-term value: 45 mg/m³, 10 ppm
Skin

REL Long-term value: 45 mg/m³, 10 ppm
Skin; See Pocket Guide Apps.A and C

TLV Long-term value: 55 mg/m³, 10 ppm
Skin

127-18-4 tetrachloroethylene

PEL Long-term value: 100 ppm
Ceiling limit value: 200; 300* ppm
*5-min peak in any 3 hrs

REL Minimize workplace exp. concs.; Pocket Guide App. A

TLV Short-term value: 685 mg/m³, 100 ppm
Long-term value: 170 mg/m³, 25 ppm
BEI

56-23-5 carbon tetrachloride

PEL Long-term value: 10 ppm
Ceiling limit value: 25; 200* ppm
*5-min peak in any 4 hrs

REL Short-term value: 12.6* mg/m³, 2* ppm
*60-min; See Pocket Guide App. A

TLV Short-term value: 63 mg/m³, 10 ppm
Long-term value: 31 mg/m³, 5 ppm
Skin

71-55-6 1,1,1-trichloroethane

PEL Long-term value: 1900 mg/m³, 350 ppm

REL Ceiling limit value: 1900* mg/m³, 350* ppm
*15-min; See Pocket Guide App. C

TLV Short-term value: 2460 mg/m³, 450 ppm
Long-term value: 1910 mg/m³, 350 ppm
BEI

79-01-6 trichloroethylene

PEL Long-term value: 100 ppm
Ceiling limit value: 200; 300* ppm
*5-min peak in any 2 hrs

REL See Pocket Guide Apps. A and C

TLV Short-term value: 135 mg/m³, 25 ppm
Long-term value: 54 mg/m³, 10 ppm
BEI

Ingredients with biological limit values:
67-64-1 acetone

BEI 50 mg/L
Medium: urine
Time: end of shift
Parameter: Acetone (nonspecific)

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 7)

127-18-4 tetrachloroethylene

BEI 3 ppm
Medium: end-exhaled air
Time: prior to shift
Parameter: Tetrachloroethylene

0.5 mg/L
Medium: blood
Time: prior to shift
Parameter: Tetrachloroethylene

71-55-6 1,1,1-trichloroethane

BEI 40 ppm
Medium: end-exhaled air
Time: prior to last shift of workweek
Parameter: Methyl chloroform

10 mg/L
Medium: urine
Time: end of workweek
Parameter: Trichloroacetic acid (nonspecific, semi-quantitative)

30 mg/L
Medium: urine
Time: end of shift at end of workweek
Parameter: Total trichloroethanol (nonspecific, semi-quantitative)

1 mg/L
Medium: blood
Time: end of shift at end of workweek
Parameter: Total trichloroethanol (nonspecific)

79-01-6 trichloroethylene

BEI 15 mg/L
Medium: urine
Time: end of shift at end of workweek
Parameter: Trichloroacetic acid (nonspecific)

0.5 mg/L
Medium: blood
Time: end of shift at end of workweek
Parameter: Trichloroethanol without hydrolysis (nonspecific)

-
Medium: blood
Time: end of shift at end of workweek
Parameter: Trichloroethylene (semi-quantitative)

-
Medium: end-exhaled air
Time: end of shift at end of workweek
Parameter: Trichloroethylene (semi-quantitative)

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 8)

· **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.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **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: Colorless

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: -94.7 °C (-138.5 °F)

Boiling point/Boiling range: 55 °C (131 °F)

· **Flash point:** -17 °C (1.4 °F)

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 9)

· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	465 °C (869 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	2.6 Vol %
Upper:	13 Vol %
· Vapor pressure at 20 °C (68 °F):	245.3 hPa (184 mm Hg)
· Density at 20 °C (68 °F):	0.791 g/cm ³ (6.6009 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:	96.7 %
VOC content:	1.01 %
	10.1 g/l / 0.08 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.

US
(Contd. on page 11)

Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 10)

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral	LD50	9,853 mg/kg
Dermal	LD50	8,900 mg/kg
Inhalative	LC50/4 h	108 mg/L

67-64-1 acetone

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

75-27-4 bromodichloromethane

Oral	LD50	450 mg/kg (mouse)
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67-66-3 trichloromethane

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)
		>20,000 mg/kg (rabbit)

96-12-8 1,2-dibromo-3-chloropropane

Oral	LD50	170 mg/kg (rat)
Dermal	LD50	1,420 mg/kg (rat)
		1,400 mg/kg (rabbit)

106-93-4 1,2-dibromoethane

Oral	LD50	108 mg/kg (rat)
		55 mg/kg (rabbit)
Dermal	LD50	300 mg/kg (rabbit)

3252-43-5 dibromoacetone

Oral	LD50	245 mg/kg (rat)
------	------	-----------------

96-18-4 1,2,3-trichloropropane

Oral	LD50	152 mg/kg (rat)
Dermal	LD50	523 mg/kg (rabbit)
Inhalative	LC50/4 h	4,800 mg/L (rat)

79-00-5 1,1,2-trichloroethane

Oral	LD50	836 mg/kg (rat)
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76-06-2 trichloronitromethane

Oral	LD50	250 mg/kg (rat)
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127-18-4 tetrachloroethylene

Oral	LD50	2,629 mg/kg (rat)
Inhalative	LC50/4 h	4,000 mg/L (rat)

56-23-5 carbon tetrachloride

Oral	LD50	2,350 mg/kg (rat)
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(Contd. on page 12)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 11)

Dermal	LD50	5,070 mg/kg (rat)
71-55-6 1,1,1-trichloroethane		
Oral	LD50	10,300 mg/kg (rat)
79-01-6 trichloroethylene		
Oral	LD50	2,402 mg/kg (mouse) 4,290 mg/kg (rat)
Dermal	LD50	8,450 mg/kg (mouse)

· **Primary irritant effect:**

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

· **on the eye:** 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:
Irritant

The product can cause inheritable damage.

· **Carcinogenic categories**

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

75-27-4	bromodichloromethane	2B
75-25-2	bromoform	3
67-66-3	trichloromethane	2B
96-12-8	1,2-dibromo-3-chloropropane	2B
3018-12-0	dichloromethyl cyanide	3
124-48-1	dibromochloromethane	3
106-93-4	1,2-dibromoethane	2A
3252-43-5	dibromoacetonitrile	2B
96-18-4	1,2,3-trichloropropane	2A
545-06-2	trichloroacetonitrile	3
79-00-5	1,1,2-trichloroethane	3
127-18-4	tetrachloroethylene	2A
56-23-5	carbon tetrachloride	2B
71-55-6	1,1,1-trichloroethane	3
79-01-6	trichloroethylene	1
83463-62-1	bromochloroacetonitrile	3

· **NTP (National Toxicology Program)**

75-27-4	bromodichloromethane	R
67-66-3	trichloromethane	R
96-12-8	1,2-dibromo-3-chloropropane	R
106-93-4	1,2-dibromoethane	R
96-18-4	1,2,3-trichloropropane	R
127-18-4	tetrachloroethylene	R
56-23-5	carbon tetrachloride	R
79-01-6	trichloroethylene	K

(Contd. on page 13)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 12)

· **OSHA-Ca (Occupational Safety & Health Administration)**

96-12-8 | 1,2-dibromo-3-chloropropane


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 minimus Quantities** -
- **UN-Number**
- **DOT, IMDG, IATA** UN1090
- **UN proper shipping name**
- **DOT** Acetone solution
- **IMDG, IATA** ACETONE solution
- **Transport hazard class(es)**
- **DOT, IMDG, IATA**
- 
- **Class** 3 Flammable liquids

(Contd. on page 14)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 13)

· Label	3
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· 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: 5 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
· UN "Model Regulation":	UN 1090 ACETONE SOLUTION, 3, II

15 Regulatory information

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

· **Sara**

· Section 355 (extremely hazardous substances):	
67-66-3	trichloromethane
· Section 313 (Specific toxic chemical listings):	
75-27-4	bromodichloromethane
75-25-2	bromoform
67-66-3	trichloromethane
96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
96-18-4	1,2,3-trichloropropane
79-00-5	1,1,2-trichloroethane
76-06-2	trichloronitromethane
127-18-4	tetrachloroethylene
56-23-5	carbon tetrachloride
71-55-6	1,1,1-trichloroethane
79-01-6	trichloroethylene

(Contd. on page 15)

Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 14)

· TSCA (Toxic Substances Control Act):

67-64-1	acetone
75-27-4	bromodichloromethane
75-25-2	bromoform
67-66-3	trichloromethane
96-12-8	1,2-dibromo-3-chloropropane
124-48-1	dibromochloromethane
106-93-4	1,2-dibromoethane
3252-43-5	dibromoacetonitrile
96-18-4	1,2,3-trichloropropane
545-06-2	trichloroacetonitrile
79-00-5	1,1,2-trichloroethane
76-06-2	trichloronitromethane
127-18-4	tetrachloroethylene
56-23-5	carbon tetrachloride
71-55-6	1,1,1-trichloroethane
79-01-6	trichloroethylene

· TSCA new (21st Century Act): (Substances not listed)

75-27-4	bromodichloromethane
96-12-8	1,2-dibromo-3-chloropropane
3252-43-5	dibromoacetonitrile

· Proposition 65
· Chemicals known to cause cancer:

75-27-4	bromodichloromethane
75-25-2	bromoform
67-66-3	trichloromethane
96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
3252-43-5	dibromoacetonitrile
96-18-4	1,2,3-trichloropropane
79-00-5	1,1,2-trichloroethane
127-18-4	tetrachloroethylene
56-23-5	carbon tetrachloride
79-01-6	trichloroethylene

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
79-01-6	trichloroethylene

(Contd. on page 16)

Safety Data Sheet acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 15)

· Chemicals known to cause developmental toxicity:

67-66-3	trichloromethane
106-93-4	1,2-dibromoethane
79-01-6	trichloroethylene

· Carcinogenic categories
· EPA (Environmental Protection Agency)

67-64-1	acetone	I
75-27-4	bromodichloromethane	B2
75-25-2	bromoform	B2
67-66-3	trichloromethane	B2, L, NL
124-48-1	dibromochloromethane	C
106-93-4	1,2-dibromoethane	L
96-18-4	1,2,3-trichloropropane	L
79-00-5	1,1,2-trichloroethane	C
127-18-4	tetrachloroethylene	L
56-23-5	carbon tetrachloride	L
71-55-6	1,1,1-trichloroethane	II
79-01-6	trichloroethylene	CaH

· TLV (Threshold Limit Value established by ACGIH)

67-64-1	acetone	A4
75-25-2	bromoform	A3
67-66-3	trichloromethane	A3
106-93-4	1,2-dibromoethane	A3
96-18-4	1,2,3-trichloropropane	A3
79-00-5	1,1,2-trichloroethane	A3
76-06-2	trichloronitromethane	A4
127-18-4	tetrachloroethylene	A3
56-23-5	carbon tetrachloride	A2
71-55-6	1,1,1-trichloroethane	A4
79-01-6	trichloroethylene	A2

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

67-66-3	trichloromethane
96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
96-18-4	1,2,3-trichloropropane
79-00-5	1,1,2-trichloroethane
127-18-4	tetrachloroethylene
56-23-5	carbon tetrachloride
79-01-6	trichloroethylene

(Contd. on page 17)

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/28/2019

Version Number 3

Reviewed on 03/28/2019

Trade name: Disinfection Byproducts/Chlorinated Solvents Standard (1X1 mL)

(Contd. of page 16)

- **National regulations:**
- **Additional classification according to Decree on Hazardous Materials:**
Carcinogenic hazardous material group III (dangerous).
- **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.

- **Department issuing SDS:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of preparation / last revision** 03/28/2019 / 2
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport 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
ACGIH: American Conference of Governmental Industrial Hygienists
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
Flam. Liq. 2: Flammable liquids – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1A: Reproductive toxicity – Category 1A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- *** Data compared to the previous version altered.**

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