

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/29/2019

Version Number 2

Reviewed on 03/29/2019

1 Identification

- **Product identifier**
- **Trade name: VOC Liquids Standard (1X1 mL)**
- **Part number: DWM-524A-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.



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1A H350 May cause cancer.

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

STOT SE 1 H370 Causes damage to organs.

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



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

Skin Sens. 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).

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· Hazard pictograms

· Signal word Danger

· Hazard-determining components of labeling:

methanol
 benzene
 acrylonitrile
 carbon disulphide
 carbon tetrachloride
 (Z)-1,3-dichloropropene
 trans-1,3-dichloropropene
 ethyl methacrylate
 methacrylonitrile
 methyl acrylate
 methyl methacrylate
 tetrachloroethylene

· Hazard statements

Highly flammable liquid and vapor.
 Harmful in contact with skin.
 Toxic if inhaled.
 May cause an allergic skin reaction.
 May cause genetic defects.
 May cause cancer.
 May damage fertility or the unborn child.
 Causes damage to organs.
 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.
 Do not eat, drink or smoke when using this product.
 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 exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 Call a poison center/doctor if you feel unwell.
 Get medical advice/attention if you feel unwell.
 Take off contaminated clothing and wash it before reuse.

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If skin irritation or rash occurs: 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 = 1

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *1

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:**

87-68-3	hexachlorobuta-1,3-diene
87-61-6	1,2,3-trichlorobenzene
120-82-1	1,2,4-trichlorobenzene

· **vPvB:**

87-68-3	hexachlorobuta-1,3-diene
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3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

67-56-1	methanol	80.787%
107-13-1	acrylonitrile	0.253%
107-05-1	3-chloropropene	0.253%
71-43-2	benzene	0.253%
75-15-0	carbon disulphide	0.253%
56-23-5	carbon tetrachloride	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%
106-46-7	1,4-dichlorobenzene	0.253%
107-06-2	1,2-dichloroethane	0.253%
10061-01-5	(Z)-1,3-dichloropropene	0.253%

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10061-02-6	trans-1,3-dichloropropene	0.253%
100-41-4	ethylbenzene	0.253%
97-63-2	ethyl methacrylate	0.253%
87-68-3	hexachlorobuta-1,3-diene	0.253%
591-78-6	hexan-2-one	0.253%
98-82-8	cumene	0.253%
126-98-7	methacrylonitrile	0.253%
96-33-3	methyl acrylate	0.253%
75-09-2	dichloromethane	0.253%
74-88-4	methyl iodide	0.253%
80-62-6	methyl methacrylate	0.253%
108-10-1	4-methylpentan-2-one	0.253%
91-20-3	naphthalene	0.253%
98-95-3	nitrobenzene	0.253%
79-46-9	2-nitropropane	0.253%
76-01-7	pentachloroethane	0.253%
103-65-1	propylbenzene	0.253%
100-42-5	styrene	0.253%
630-20-6	1,1,1,2-Tetrachloroethane	0.253%
79-34-5	1,1,2,2-tetrachloroethane	0.253%
79-01-6	trichloroethylene	0.253%
109-99-9	tetrahydrofuran	0.253%
108-88-3	toluene	0.253%
87-61-6	1,2,3-trichlorobenzene	0.253%
120-82-1	1,2,4-trichlorobenzene	0.253%
71-55-6	1,1,1-trichloroethane	0.253%
79-00-5	1,1,2-trichloroethane	0.253%
127-18-4	tetrachloroethylene	0.253%
96-18-4	1,2,3-trichloropropane	0.253%
75-27-4	bromodichloromethane	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.

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.

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- **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
- **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:**

67-56-1	methanol	530 ppm
67-64-1	acetone	200 ppm
107-13-1	acrylonitrile	0.15 ppm
107-05-1	3-chloropropene	2.8 ppm
71-43-2	benzene	52 ppm
108-86-1	bromobenzene	0.96 ppm
74-97-5	bromochloromethane	600 ppm
75-25-2	bromoform	1.5 ppm
78-93-3	butanone	200 ppm
104-51-8	butylbenzene	3.6 ppm
135-98-8	2-Phenylbutane	1.2 ppm

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98-06-6	tert-butylbenzene	1.7 ppm
75-15-0	carbon disulphide	13 ppm
56-23-5	carbon tetrachloride	1.2 ppm
107-14-2	chloroacetonitrile	0.45 ppm
108-90-7	chlorobenzene	10 ppm
67-66-3	trichloromethane	2 ppm
95-49-8	2-chlorotoluene	75 ppm
106-43-4	4-chlorotoluene	1.2 ppm
124-48-1	dibromochloromethane	1.1 mg/m ³
96-12-8	1,2-dibromo-3-chloropropane	0.003 ppm
106-93-4	1,2-dibromoethane	17 ppm
74-95-3	dibromomethane	3 ppm
95-50-1	1,2-dichlorobenzene	50 ppm
541-73-1	1,3-dichlorobenzene	6 ppm
106-46-7	1,4-dichlorobenzene	30 ppm
110-57-6	trans-2,3-dichlorobut-2-ene	0.078 ppm
75-34-3	1,1-dichloroethane	300 ppm
107-06-2	1,2-dichloroethane	50 ppm
75-35-4	1,1-dichloroethylene	45 ppm

· PAC-2:

67-56-1	methanol	2,100 ppm
67-64-1	acetone	3200* ppm
107-13-1	acrylonitrile	1.7 ppm
107-05-1	3-chloropropene	54 ppm
71-43-2	benzene	800 ppm
108-86-1	bromobenzene	11 ppm
74-97-5	bromochloromethane	830 ppm
75-25-2	bromoform	6.8 ppm
78-93-3	butanone	2700* ppm
104-51-8	butylbenzene	40 ppm
135-98-8	2-Phenylbutane	13 ppm
98-06-6	tert-butylbenzene	18 ppm
75-15-0	carbon disulphide	160 ppm
56-23-5	carbon tetrachloride	13 ppm
107-14-2	chloroacetonitrile	5.0 ppm
108-90-7	chlorobenzene	150 ppm
67-66-3	trichloromethane	64 ppm
95-49-8	2-chlorotoluene	310 ppm
106-43-4	4-chlorotoluene	13 ppm
124-48-1	dibromochloromethane	12 mg/m ³
96-12-8	1,2-dibromo-3-chloropropane	2.2 ppm

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106-93-4	1,2-dibromoethane	24 ppm
74-95-3	dibromomethane	33 ppm
95-50-1	1,2-dichlorobenzene	170 ppm
541-73-1	1,3-dichlorobenzene	66 ppm
106-46-7	1,4-dichlorobenzene	170 ppm
110-57-6	trans-2,3-dichlorobut-2-ene	0.86 ppm
75-34-3	1,1-dichloroethane	670 ppm
107-06-2	1,2-dichloroethane	200 ppm
75-35-4	1,1-dichloroethylene	500 ppm

PAC-3:

67-56-1	methanol	7200* ppm
67-64-1	acetone	5700* ppm
107-13-1	acrylonitrile	28 ppm
107-05-1	3-chloropropene	140 ppm
71-43-2	benzene	4000* ppm
108-86-1	bromobenzene	240 ppm
74-97-5	bromochloromethane	5,000 ppm
75-25-2	bromoform	41 ppm
78-93-3	butanone	4000* ppm
104-51-8	butylbenzene	240 ppm
135-98-8	2-Phenylbutane	81 ppm
98-06-6	tert-butylbenzene	110 ppm
75-15-0	carbon disulphide	480 ppm
56-23-5	carbon tetrachloride	340 ppm
107-14-2	chloroacetonitrile	15 ppm
108-90-7	chlorobenzene	400 ppm
67-66-3	trichloromethane	3,200 ppm
95-49-8	2-chlorotoluene	1,800 ppm
106-43-4	4-chlorotoluene	80 ppm
124-48-1	dibromochloromethane	73 mg/m ³
96-12-8	1,2-dibromo-3-chloropropane	4.3 ppm
106-93-4	1,2-dibromoethane	46 ppm
74-95-3	dibromomethane	200 ppm
95-50-1	1,2-dichlorobenzene	1,000 ppm
541-73-1	1,3-dichlorobenzene	400 ppm
106-46-7	1,4-dichlorobenzene	1,000 ppm
110-57-6	trans-2,3-dichlorobut-2-ene	3.8 ppm
75-34-3	1,1-dichloroethane	4,000 ppm
107-06-2	1,2-dichloroethane	300 ppm

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75-35-4 1,1-dichloroethylene

1,000 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.
- **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:

67-56-1 methanol

PEL	Long-term value: 260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 328 mg/m ³ , 250 ppm Long-term value: 262 mg/m ³ , 200 ppm Skin; BEI

107-13-1 acrylonitrile

PEL	Long-term value: 2 ppm Ceiling limit value: 10 ppm Skin; see 29 CFR 1910.1045
REL	Long-term value: 1 ppm Ceiling limit value: 10* ppm *15-min; Skin; See Pocket Guide App. A
TLV	Long-term value: 4.3 mg/m ³ , 2 ppm Skin

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107-05-1 3-chloropropene

PEL	Long-term value: 3 mg/m ³ , 1 ppm
REL	Short-term value: 6 mg/m ³ , 2 ppm Long-term value: 3 mg/m ³ , 1 ppm
TLV	Short-term value: 6 mg/m ³ , 2 ppm Long-term value: 3 mg/m ³ , 1 ppm Skin

71-43-2 benzene

PEL	Short-term value: 15* mg/m ³ , 5* ppm Long-term value: 3* mg/m ³ , 1* ppm *table Z-2 for exclusions in 29CFR1910.1028(d)
REL	Short-term value: 1 ppm Long-term value: 0.1 ppm See Pocket Guide App. A
TLV	Short-term value: 8 mg/m ³ , 2.5 ppm Long-term value: 1.6 mg/m ³ , 0.5 ppm Skin; BEI

75-15-0 carbon disulphide

PEL	Long-term value: 20 ppm Ceiling limit value: 30; 100* ppm *30-min peak per 8-hr shift
REL	Short-term value: 30 mg/m ³ , 10 ppm Long-term value: 3 mg/m ³ , 1 ppm Skin
TLV	Long-term value: 3.13 mg/m ³ , 1 ppm Skin, 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/m ³ , 2* ppm *60-min; See Pocket Guide App. A
TLV	Short-term value: 63 mg/m ³ , 10 ppm Long-term value: 31 mg/m ³ , 5 ppm Skin

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

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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

106-46-7 1,4-dichlorobenzene

PEL	Long-term value: 450 mg/m ³ , 75 ppm
REL	See Pocket Guide App. A
TLV	Long-term value: 60 mg/m ³ , 10 ppm

107-06-2 1,2-dichloroethane

PEL	Long-term value: 50 ppm Ceiling limit value: 100; 200* ppm *5-min peak in any 3 hrs
REL	Short-term value: 8 mg/m ³ , 2 ppm Long-term value: 4 mg/m ³ , 1 ppm See Pocket Guide Apps. A and C
TLV	Long-term value: 40 mg/m ³ , 10 ppm

100-41-4 ethylbenzene

PEL	Long-term value: 435 mg/m ³ , 100 ppm
REL	Short-term value: 545 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV	Long-term value: 87 mg/m ³ , 20 ppm BEI

87-68-3 hexachlorobuta-1,3-diene

REL	Long-term value: 0.24 mg/m ³ , 0.02 ppm Skin; See Pocket Guide App. A
TLV	Long-term value: 0.21 mg/m ³ , 0.02 ppm Skin

591-78-6 hexan-2-one

PEL	Long-term value: 410 mg/m ³ , 100 ppm
REL	Long-term value: 4 mg/m ³ , 1 ppm
TLV	Short-term value: 40 mg/m ³ , 10 ppm Long-term value: 20 mg/m ³ , 5 ppm Skin, BEI

98-82-8 cumene

PEL	Long-term value: 245 mg/m ³ , 50 ppm Skin
REL	Long-term value: 245 mg/m ³ , 50 ppm Skin
TLV	Long-term value: (246) NIC-0.5 mg/m ³ , (50) NIC-0.1 ppm NIC-A3

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126-98-7 methacrylonitrile

 REL Long-term value: 3 mg/m³, 1 ppm
 Skin

 TLV Long-term value: 2.7 mg/m³, 1 ppm
 Skin

96-33-3 methyl acrylate

 PEL Long-term value: 35 mg/m³, 10 ppm
 Skin

 REL Long-term value: 35 mg/m³, 10 ppm
 Skin

 TLV Long-term value: 7 mg/m³, 2 ppm
 Skin; DSEN

75-09-2 dichloromethane

 PEL Short-term value: 125 ppm
 Long-term value: 25 ppm
 see 29 CFR 1910.1052

REL See Pocket Guide App. A

 TLV Long-term value: 174 mg/m³, 50 ppm
 BEI

74-88-4 methyl iodide

 PEL Long-term value: 28 mg/m³, 5 ppm
 Skin

 REL Long-term value: 10 mg/m³, 2 ppm
 Skin; See Pocket Guide App. A

 TLV Long-term value: 12 mg/m³, 2 ppm
 Skin

80-62-6 methyl methacrylate

 PEL Long-term value: 410 mg/m³, 100 ppm

 REL Long-term value: 410 mg/m³, 100 ppm

 TLV Short-term value: 410 mg/m³, 100 ppm
 Long-term value: 205 mg/m³, 50 ppm
 DSEN

108-10-1 4-methylpentan-2-one

 PEL Long-term value: 410 mg/m³, 100 ppm

 REL Short-term value: 300 mg/m³, 75 ppm
 Long-term value: 205 mg/m³, 50 ppm

 TLV Short-term value: 307 mg/m³, 75 ppm
 Long-term value: 82 mg/m³, 20 ppm
 BEI

91-20-3 naphthalene

 PEL Long-term value: 50 mg/m³, 10 ppm

 REL Short-term value: 75 mg/m³, 15 ppm
 Long-term value: 50 mg/m³, 10 ppm

 TLV Long-term value: 52 mg/m³, 10 ppm
 Skin; BEI

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98-95-3 nitrobenzene

PEL	Long-term value: 5 mg/m ³ , 1 ppm Skin
REL	Long-term value: 5 mg/m ³ , 1 ppm Skin
TLV	Long-term value: 5 mg/m ³ , 1 ppm Skin; BEIm

79-46-9 2-nitropropane

PEL	Long-term value: 90 mg/m ³ , 25 ppm
REL	See Pocket Guide App. A
TLV	Long-term value: 36 mg/m ³ , 10 ppm

76-01-7 pentachloroethane

REL	Handle with caution; See Pocket Guide App. C
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100-42-5 styrene

PEL	Long-term value: 100 ppm Ceiling limit value: 200; 600* ppm *5-min peak in any 3 hrs
REL	Short-term value: 425 mg/m ³ , 100 ppm Long-term value: 215 mg/m ³ , 50 ppm
TLV	Short-term value: (170) mg/m ³ , (40) ppm Long-term value: (85) NIC-8.5 mg/m ³ , (20) NIC-2 ppm BEI, NIC-A3, NIC-OTO

630-20-6 1,1,1,2-Tetrachloroethane

REL	Handle with caution; See Pocket Guide App. C
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79-34-5 1,1,2,2-tetrachloroethane

PEL	Long-term value: 35 mg/m ³ , 5 ppm Skin
REL	Long-term value: 7 mg/m ³ , 1 ppm Skin; See Pocket Guide Apps. A and C
TLV	Long-term value: 6.9 mg/m ³ , 1 ppm Skin

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/m ³ , 25 ppm Long-term value: 54 mg/m ³ , 10 ppm BEI

109-99-9 tetrahydrofuran

PEL	Long-term value: 590 mg/m ³ , 200 ppm
REL	Short-term value: 735 mg/m ³ , 250 ppm Long-term value: 590 mg/m ³ , 200 ppm
TLV	Short-term value: 295 mg/m ³ , 100 ppm Long-term value: 147 mg/m ³ , 50 ppm Skin

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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)

71-43-2 benzene

BEI 25 µg/g creatinine
 Medium: urine
 Time: end of shift
 Parameter: S-Phenylmercapturic acid (background)

500 µg/g creatinine
 Medium: urine
 Time: end of shift
 Parameter: t,t-Muconic acid (background)

75-15-0 carbon disulphide

BEI 0.5 mg/g creatinine
 Medium: urine
 Time: end of shift
 Parameter: 2-Thioxothiazolidine-4-carboxylic acid (background, nonspecific)

100-41-4 ethylbenzene

BEI 0.7 g/g creatinine
 Medium: urine
 Time: end of shift at end of workweek
 Parameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative)

-
 Medium: end-exhaled air
 Time: not critical
 Parameter: Ethyl benzene (semi-quantitative)

591-78-6 hexan-2-one

BEI 0.4 mg/L
 Medium: urine
 Time: end of shift at end of workweek
 Parameter: 2.5-Hexanedione without hydrolysis

75-09-2 dichloromethane

BEI 0.3 mg/L
 Medium: urine
 Time: end of shift
 Parameter: Dichloromethane (semi-quantitative)

108-10-1 4-methylpentan-2-one

BEI 1 mg/L
 Medium: urine
 Time: end of shift
 Parameter: MIBK

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98-95-3 nitrobenzene

BEI 5 mg/g creatinine
 Medium: urine
 Time: end of shift at end of workweek
 Parameter: Total p-nitrophenol (nonspecific)

1.5 % of hemoglobin
 Medium: blood
 Time: end of shift
 Parameter: Methemoglobin (background, nonspecific, semi-quantitative)

100-42-5 styrene

BEI 400 mg/g creatinine
 Medium: urine
 Time: end of shift
 Parameter: Mandelic acid plus phenylglyoxylic acid (nonspecific)

0.2 mg/L
 Medium: venous blood
 Time: end of shift
 Parameter: Styrene (semi-quantitative)

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)

109-99-9 tetrahydrofuran

BEI 2 mg/L
 Medium: urine
 Time: end of shift
 Parameter: Tetrahydrofuran

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108-88-3 toluene

BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

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)

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

· **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.

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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 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: 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: 64.7 °C (148.5 °F)

· **Flash point:** 9 °C (48.2 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 455 °C (851 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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· 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):	0.88528 g/cm ³ (7.38766 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:	89.6 %
VOC content:	88.62 %
	784.6 g/l / 6.55 lb/gal
Solids content:	1.0 %
· 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)		
Oral	LD50	2,794 mg/kg
Dermal	LD50	>1,101 mg/kg
Inhalative	LC50/4 h	3.54 mg/L

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67-56-1 methanol		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)
107-13-1 acrylonitrile		
Oral	LD50	82 mg/kg (rat)
Dermal	LD50	226 mg/kg (rabbit)
Inhalative	LC50/4 h	2.09 mg/L (rat)
107-05-1 3-chloropropene		
Oral	LD50	275 mg/kg (rat)
Dermal	LD50	398 mg/kg (rabbit)
71-43-2 benzene		
Oral	LD50	3,340 mg/kg (rat)
Dermal	LD50	48 mg/kg (mouse) >8,260 mg/kg (rabbit)
Inhalative	LC50/4 h	9,980 mg/L (mouse)
75-15-0 carbon disulphide		
Oral	LD50	1,200 mg/kg (rat)
Inhalative	LC50/4 h	10.35 mg/L (rat)
56-23-5 carbon tetrachloride		
Oral	LD50	2,350 mg/kg (rat)
Dermal	LD50	5,070 mg/kg (rat)
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)
95-50-1 1,2-dichlorobenzene		
Oral	LD50	500 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rabbit)
106-46-7 1,4-dichlorobenzene		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>5.07 mg/L (rat)

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107-06-2 1,2-dichloroethane

Oral	LD50	670 mg/kg (rat)
Dermal	LD50	2,800 mg/kg (rat)
		2,800 mg/kg (rabbit)

10061-01-5 (Z)-1,3-dichloropropene

Oral	LD50	250 mg/kg (rat)
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10061-02-6 trans-1,3-dichloropropene

Oral	LD50	250 mg/kg (rat)
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100-41-4 ethylbenzene

Oral	LD50	3,500 mg/kg (rat)
Dermal	LD50	15,354 mg/kg (rabbit)
Inhalative	LC50/4 h	17.2 mg/L (rat)

97-63-2 ethyl methacrylate

Oral	LD50	1,223 mg/kg (rat)
Inhalative	LC50/4 h	8,300 mg/L (rat)

87-68-3 hexachlorobuta-1,3-diene

Oral	LD50	82 mg/kg (rat)
Dermal	LD50	100 mg/kg (rabbit)
Inhalative	LC50/4 h	370 mg/L (mouse)

591-78-6 hexan-2-one

Oral	LD50	2,590 mg/kg (rat)
Dermal	LD50	4,800 mg/kg (rabbit)
Inhalative	LC50/4 h	8,000 mg/L (rat)

98-82-8 cumene

Oral	LD50	1,400 mg/kg (rat)
Dermal	LD50	>3,160 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/L (mouse)

126-98-7 methacrylonitrile

Oral	LD50	250 mg/kg (rat)
Dermal	LD50	320 mg/kg (rabbit)

96-33-3 methyl acrylate

Oral	LD50	300 mg/kg (rat)
Dermal	LD50	1,243 mg/kg (rabbit)

75-09-2 dichloromethane

Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)

74-88-4 methyl iodide

Oral	LD50	76 mg/kg (rat)
Inhalative	LC50/4 h	1,300 mg/L (rat)

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80-62-6 methyl methacrylate

Oral	LD50	7,900 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	78,000 mg/L (rat)

108-10-1 4-methylpentan-2-one

Oral	LD50	2,080 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab) >16,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>8.2 mg/L (rat)

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5,000 mg/kg (rat) 20,000 mg/kg (rabbit)

98-95-3 nitrobenzene

Oral	LD50	390 mg/kg (rat)
Dermal	LD50	2,100 mg/kg (rat)
Inhalative	LC50/4 h	556 mg/L (rat)

79-46-9 2-nitropropane

Oral	LD50	500 mg/kg (rat)
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103-65-1 propylbenzene

Oral	LD50	6,040 mg/kg (rat)
------	------	-------------------

100-42-5 styrene

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	11.8 mg/L (rat)

630-20-6 1,1,1,2-Tetrachloroethane

Oral	LD50	670 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
Inhalative	LC50/4 h	2,100 mg/L (rat)

79-34-5 1,1,2,2-tetrachloroethane

Oral	LD50	200 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)

109-99-9 tetrahydrofuran

Oral	LD50	2,500 mg/kg (rat)
------	------	-------------------

108-88-3 toluene

Oral	LD50	5,580 mg/kg (rat)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/L (mouse)

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		28.1 mg/L (rat)
87-61-6 1,2,3-trichlorobenzene		
Oral	LD50	1,830 mg/kg (rat)
120-82-1 1,2,4-trichlorobenzene		
Oral	LD50	756 mg/kg (rat)
Dermal	LD50	6,139 mg/kg (rat)
71-55-6 1,1,1-trichloroethane		
Oral	LD50	10,300 mg/kg (rat)
79-00-5 1,1,2-trichloroethane		
Oral	LD50	836 mg/kg (rat)
127-18-4 tetrachloroethylene		
Oral	LD50	2,629 mg/kg (rat)
Inhalative	LC50/4 h	4,000 mg/L (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)
75-27-4 bromodichloromethane		
Oral	LD50	450 mg/kg (mouse)

- **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

Harmful

Irritant

The product can cause inheritable damage.

- **Carcinogenic categories**

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

107-13-1	acrylonitrile	2B
107-05-1	3-chloropropene	3
71-43-2	benzene	1
75-25-2	bromoform	3
56-23-5	carbon tetrachloride	2B
107-14-2	chloroacetonitrile	3
67-66-3	trichloromethane	2B
124-48-1	dibromochloromethane	3
96-12-8	1,2-dibromo-3-chloropropane	2B
106-93-4	1,2-dibromoethane	2A
95-50-1	1,2-dichlorobenzene	3
541-73-1	1,3-dichlorobenzene	3

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106-46-7	1,4-dichlorobenzene	2B
110-57-6	trans-2,3-dichlorobut-2-ene	3
107-06-2	1,2-dichloroethane	2B
75-35-4	1,1-dichloroethylene	3
78-87-5	1,2-dichloropropane	1
100-41-4	ethylbenzene	2B
87-68-3	hexachlorobuta-1,3-diene	3
98-82-8	cumene	2B
96-33-3	methyl acrylate	3
75-09-2	dichloromethane	2A
74-88-4	methyl iodide	3
80-62-6	methyl methacrylate	3
108-10-1	4-methylpentan-2-one	2B
1634-04-4	tert-butyl methyl ether	3
91-20-3	naphthalene	2B
98-95-3	nitrobenzene	2B
79-46-9	2-nitropropane	2B
76-01-7	pentachloroethane	3

· NTP (National Toxicology Program)

107-13-1	acrylonitrile	R
71-43-2	benzene	K
56-23-5	carbon tetrachloride	R
67-66-3	trichloromethane	R
96-12-8	1,2-dibromo-3-chloropropane	R
106-93-4	1,2-dibromoethane	R
106-46-7	1,4-dichlorobenzene	R
107-06-2	1,2-dichloroethane	R
98-82-8	cumene	R
75-09-2	dichloromethane	R
91-20-3	naphthalene	R
98-95-3	nitrobenzene	R
79-46-9	2-nitropropane	R
100-42-5	styrene	R
79-01-6	trichloroethylene	K
127-18-4	tetrachloroethylene	R
96-18-4	1,2,3-trichloropropane	R
75-27-4	bromodichloromethane	R

· OSHA-Ca (Occupational Safety & Health Administration)

107-13-1	acrylonitrile	
71-43-2	benzene	
96-12-8	1,2-dibromo-3-chloropropane	

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75-09-2	dichloromethane
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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:**

87-68-3	hexachlorobuta-1,3-diene
87-61-6	1,2,3-trichlorobenzene
120-82-1	1,2,4-trichlorobenzene

- **vPvB:**

87-68-3	hexachlorobuta-1,3-diene
---------	--------------------------

- **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	UN1230
· UN proper shipping name	
· DOT	Methanol
· IMDG, IATA	METHANOL

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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

 · **Danger code (Kemler):** 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, 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):

107-13-1	acrylonitrile
75-15-0	carbon disulphide
67-66-3	trichloromethane
110-57-6	trans-2,3-dichlorobut-2-ene
75-34-3	1,1-dichloroethane
126-98-7	methacrylonitrile
98-95-3	nitrobenzene
107-12-0	propionitrile

· Section 313 (Specific toxic chemical listings):

67-56-1	methanol
107-13-1	acrylonitrile
107-05-1	3-chloropropene
71-43-2	benzene
75-25-2	bromoform
78-93-3	butanone
75-15-0	carbon disulphide
56-23-5	carbon tetrachloride
108-90-7	chlorobenzene
67-66-3	trichloromethane
96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
74-95-3	dibromomethane
95-50-1	1,2-dichlorobenzene
541-73-1	1,3-dichlorobenzene
106-46-7	1,4-dichlorobenzene
110-57-6	trans-2,3-dichlorobut-2-ene
75-34-3	1,1-dichloroethane
107-06-2	1,2-dichloroethane
75-35-4	1,1-dichloroethylene
78-87-5	1,2-dichloropropane
10061-02-6	trans-1,3-dichloropropene
100-41-4	ethylbenzene
87-68-3	hexachlorobuta-1,3-diene

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98-82-8	cumene
126-98-7	methacrylonitrile
96-33-3	methyl acrylate
75-09-2	dichloromethane
74-88-4	methyl iodide
80-62-6	methyl methacrylate

· TSCA (Toxic Substances Control Act):

67-56-1	methanol
67-64-1	acetone
107-13-1	acrylonitrile
107-05-1	3-chloropropene
71-43-2	benzene
108-86-1	bromobenzene
74-97-5	bromochloromethane
75-25-2	bromoform
78-93-3	butanone
104-51-8	butylbenzene
135-98-8	2-Phenylbutane
98-06-6	tert-butylbenzene
75-15-0	carbon disulphide
56-23-5	carbon tetrachloride
107-14-2	chloroacetonitrile
108-90-7	chlorobenzene
67-66-3	trichloromethane
95-49-8	2-chlorotoluene
106-43-4	4-chlorotoluene
124-48-1	dibromochloromethane
96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
74-95-3	dibromomethane
95-50-1	1,2-dichlorobenzene
541-73-1	1,3-dichlorobenzene
106-46-7	1,4-dichlorobenzene
110-57-6	trans-2,3-dichlorobut-2-ene
75-34-3	1,1-dichloroethane
107-06-2	1,2-dichloroethane
75-35-4	1,1-dichloroethylene

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

96-12-8	1,2-dibromo-3-chloropropane
10061-01-5	(Z)-1,3-dichloropropene
10061-02-6	trans-1,3-dichloropropene

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87-68-3	hexachlorobuta-1,3-diene
591-78-6	hexan-2-one
126-98-7	methacrylonitrile
75-27-4	bromodichloromethane

· Proposition 65
· Chemicals known to cause cancer:

107-13-1	acrylonitrile
71-43-2	benzene
75-25-2	bromoform
56-23-5	carbon tetrachloride
67-66-3	trichloromethane
96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
106-46-7	1,4-dichlorobenzene
75-34-3	1,1-dichloroethane
107-06-2	1,2-dichloroethane
75-35-4	1,1-dichloroethylene
78-87-5	1,2-dichloropropane
100-41-4	ethylbenzene
87-68-3	hexachlorobuta-1,3-diene
98-82-8	cumene
75-09-2	dichloromethane
74-88-4	methyl iodide
108-10-1	4-methylpentan-2-one
91-20-3	naphthalene
98-95-3	nitrobenzene
79-46-9	2-nitropropane
100-42-5	styrene
630-20-6	1,1,1,2-Tetrachloroethane
79-34-5	1,1,2,2-tetrachloroethane
79-01-6	trichloroethylene
79-00-5	1,1,2-trichloroethane
127-18-4	tetrachloroethylene
96-18-4	1,2,3-trichloropropane
75-27-4	bromodichloromethane

· Chemicals known to cause reproductive toxicity for females:

75-15-0	carbon disulphide
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· Chemicals known to cause reproductive toxicity for males:

71-43-2	benzene
75-15-0	carbon disulphide
96-12-8	1,2-dibromo-3-chloropropane

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106-93-4	1,2-dibromoethane
591-78-6	hexan-2-one
98-95-3	nitrobenzene
79-01-6	trichloroethylene

· Chemicals known to cause developmental toxicity:

67-56-1	methanol
71-43-2	benzene
75-15-0	carbon disulphide
67-66-3	trichloromethane
106-93-4	1,2-dibromoethane
591-78-6	hexan-2-one
108-10-1	4-methylpentan-2-one
79-01-6	trichloroethylene
108-88-3	toluene

· Carcinogenic categories
· EPA (Environmental Protection Agency)

67-64-1	acetone	I
107-13-1	acrylonitrile	B1
107-05-1	3-chloropropene	C
71-43-2	benzene	A, K/L
108-86-1	bromobenzene	II
74-97-5	bromochloromethane	D
75-25-2	bromoform	B2
78-93-3	butanone	I
56-23-5	carbon tetrachloride	L
108-90-7	chlorobenzene	D
67-66-3	trichloromethane	B2, L, NL
124-48-1	dibromochloromethane	C
106-93-4	1,2-dibromoethane	L
95-50-1	1,2-dichlorobenzene	D
541-73-1	1,3-dichlorobenzene	D
75-34-3	1,1-dichloroethane	C
107-06-2	1,2-dichloroethane	B2
75-35-4	1,1-dichloroethylene	C, S (inh.), I (oral)
156-59-2	cis-dichloroethylene	II
156-60-5	trans-dichloroethylene	II
100-41-4	ethylbenzene	D
87-68-3	hexachlorobuta-1,3-diene	C
591-78-6	hexan-2-one	II
98-82-8	cumene	D, CBD
96-33-3	methyl acrylate	D

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75-09-2	dichloromethane	L
80-62-6	methyl methacrylate	E, NL
108-10-1	4-methylpentan-2-one	I
91-20-3	naphthalene	C, CBD
98-95-3	nitrobenzene	L

TLV (Threshold Limit Value established by ACGIH)

67-64-1	acetone	A4
107-13-1	acrylonitrile	A3
107-05-1	3-chloropropene	A3
71-43-2	benzene	A1
75-25-2	bromoform	A3
75-15-0	carbon disulphide	A4
56-23-5	carbon tetrachloride	A2
108-90-7	chlorobenzene	A3
67-66-3	trichloromethane	A3
106-93-4	1,2-dibromoethane	A3
95-50-1	1,2-dichlorobenzene	A4
106-46-7	1,4-dichlorobenzene	A3
75-34-3	1,1-dichloroethane	A4
107-06-2	1,2-dichloroethane	A4
75-35-4	1,1-dichloroethylene	A4
78-87-5	1,2-dichloropropane	A4
100-41-4	ethylbenzene	A3
87-68-3	hexachlorobuta-1,3-diene	A3
96-33-3	methyl acrylate	A4
75-09-2	dichloromethane	A3
80-62-6	methyl methacrylate	A4
1634-04-4	tert-butyl methyl ether	A3
91-20-3	naphthalene	A4
98-95-3	nitrobenzene	A3
79-46-9	2-nitropropane	A3
100-42-5	styrene	A4
79-34-5	1,1,2,2-tetrachloroethane	A3
79-01-6	trichloroethylene	A2
109-99-9	tetrahydrofuran	A3
108-88-3	toluene	A4

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

107-13-1	acrylonitrile
71-43-2	benzene
56-23-5	carbon tetrachloride
67-66-3	trichloromethane

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96-12-8	1,2-dibromo-3-chloropropane
106-93-4	1,2-dibromoethane
106-46-7	1,4-dichlorobenzene
107-06-2	1,2-dichloroethane
75-35-4	1,1-dichloroethylene
78-87-5	1,2-dichloropropane
87-68-3	hexachlorobuta-1,3-diene
75-09-2	dichloromethane
74-88-4	methyl iodide
79-46-9	2-nitropropane
79-34-5	1,1,2,2-tetrachloroethane
79-01-6	trichloroethylene
79-00-5	1,1,2-trichloroethane
127-18-4	tetrachloroethylene
96-18-4	1,2,3-trichloropropane

- **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.

- **Date of preparation / last revision** 03/29/2019 / 1

- **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

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Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1A: Carcinogenicity – Category 1A
Repr. 1A: Reproductive toxicity – Category 1A
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

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