

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

1 Identification of the hazardous chemical and of the supplier

- **Product identifier**
- **Trade name:** Chlorinated Extractables Standard (1X1 mL)
- **Part number:** MISA-231-1
- **Recommended use of the chemical and restrictions on use**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Deutschland GmbH
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
- **Further information obtainable from:**
Telephone: 0800 603 1000
pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(60) 3-9212 5794

2 Hazard identification

- **Classification of the substance or mixture**



Carc. 1B H350 May cause cancer.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
methylene chloride
hexachlorobenzene
- **Hazard statements**
H315 Causes skin irritation.

(Contd. on page 2)

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 1)

H319 Causes serious eye irritation.
 H350 May cause cancer.
 H335 May cause respiratory irritation.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P260 Do not breathe vapours.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P273 Avoid release to the environment.
 P264 Wash thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 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 victim to fresh air and keep at rest in a position comfortable for breathing.
 P312 Call a POISON CENTER/doctor if you feel unwell.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P314 Get medical advice/attention if you feel unwell.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards
· Results of PBT and vPvB assessment

· PBT:	
87-61-6	1,2,3-trichlorobenzene
87-68-3	hexachlorobuta-1,3-diene
120-82-1	1,2,4-trichlorobenzene
· vPvB:	
87-68-3	hexachlorobuta-1,3-diene

3 Composition and information of the ingredients of the hazardous chemical

· Chemical characterisation: Mixtures
· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:		
75-09-2	methylene chloride ⚠ Carc. 2, H351; STOT RE 2, H373; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	98.1904%
67-72-1	hexachloroethane ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.1508%

(Contd. on page 3)

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 2)

77-47-4	hexachlorocyclopentadiene ⚠ Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0.1508%
87-61-6	1,2,3-trichlorobenzene ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315 PBT	0.1508%
87-68-3	hexachlorobuta-1,3-diene ⚠ Acute Tox. 3, H301; Acute Tox. 2, H310; ⚠ Carc. 2, H351; ⚠ Skin Irrit. 2, H315 PBT; vPvB	0.1508%
95-94-3	1,2,4,5-tetrachlorobenzene ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.1508%
118-74-1	hexachlorobenzene ⚠ Carc. 1B, H350; STOT RE 1, H372; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.1508%
120-82-1	1,2,4-trichlorobenzene ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315 PBT	0.1508%
608-93-5	pentachlorobenzene ⚠ Flam. Sol. 1, H228; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0.1508%
634-66-2	1,2,3,4-tetrachlorobenzene ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0.1508%
634-90-2	1,2,3,5-tetrachlorobenzene ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0.1508%
29082-74-4	octachlorostyrene ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.1508%

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

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:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

MY

(Contd. on page 4)

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 3)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **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.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see section 7.
- **Control parameters**

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

75-09-2 methylene chloride

PEL (Malaysia) Long-term value: 50 ppm
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(Contd. on page 5)

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 4)

67-72-1 hexachloroethane	
PEL (Malaysia)	Long-term value: 9.7 mg/m ³ , 1 ppm (kulit)
77-47-4 hexachlorocyclopentadiene	
PEL (Malaysia)	Long-term value: 0.11 mg/m ³ , 0.01 ppm
87-68-3 hexachlorobuta-1,3-diene	
PEL (Malaysia)	Long-term value: 0.21 mg/m ³ , 0.02 ppm (kulit)
118-74-1 hexachlorobenzene	
PEL (Malaysia)	Long-term value: 0.002 mg/m ³ (kulit)
120-82-1 1,2,4-trichlorobenzene	
PEL (Malaysia)	Ceiling limit: 37 mg/m ³ , 5 ppm

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes and skin.

· **Respiratory protection:**

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

- For normal use: nitrile rubber, 11-13 mil thickness
- For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

- For normal use: nitrile rubber: 1 hour
- For direct contact with the chemical: butyl rubber: > 4 hours

· **Eye protection:**

- Safety glasses

(Contd. on page 6)

-MY-

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 5)



Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form:	Fluid
Colour:	Colourless
· Odour:	Like chlorine
· Odour threshold:	Not determined.

- pH-value: Not determined.

- Change in condition

Melting point/freezing point	-95.1 °C
Initial boiling point and boiling range	40 °C

- Flash point: Not applicable.

- Flammability (solid, gas) Not applicable.

- Auto-ignition temperature 605 °C

- Decomposition temperature: Not determined.

- Auto-ignition temperature Product is not selfigniting.

- Explosive properties: Product does not present an explosion hazard.

- Explosion limits:

Lower:	13 Vol %
Upper:	22 Vol %

- Vapour pressure at 20 °C: 360 hPa

· Density at 20 °C:	1.3 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

- Solubility in / Miscibility with water at 20 °C: 20 g/l

- Partition coefficient: n-octanol/water Not determined.

- Viscosity:

Dynamic at 20 °C:	0.43 mPas
Kinematic:	Not determined.

- Solvent content:

Organic solvents:	98.5 %
VOC (EC)	98.49 %

(Contd. on page 7)

MY

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 6)

Solids content:	0.0 %
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Other information	No further relevant information available.
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10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

LD/LC50 values relevant for classification:
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ATE (Acute Toxicity Estimates)

Oral	LD50	54,377 mg/kg (rat)
Dermal	LD50	53,801 mg/kg (rabbit)
Inhalative	LC50/4 h	1,326 mg/L (rat)

75-09-2 methylene chloride

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

67-72-1 hexachloroethane

Dermal	LD50	32,000 mg/kg (rabbit)
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77-47-4 hexachlorocyclopentadiene
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Oral	LD50	315 mg/kg (rat)
Dermal	LD50	430 mg/kg (rabbit)
Inhalative	LC50/4 h	2 mg/L (rat)

87-61-6 1,2,3-trichlorobenzene

Oral	LD50	1,830 mg/kg (rat)
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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)

95-94-3 1,2,4,5-tetrachlorobenzene

Oral	LD50	1,500 mg/kg (rat)
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(Contd. on page 8)

-MY

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 7)

118-74-1 hexachlorobenzene		
Oral	LD50	10,000 mg/kg (rat)
Inhalative	LC50/4 h	3,600 mg/L (rat)
120-82-1 1,2,4-trichlorobenzene		
Oral	LD50	756 mg/kg (rat)
Dermal	LD50	6,139 mg/kg (rat)
608-93-5 pentachlorobenzene		
Oral	LD50	1,080 mg/kg (rat)
Dermal	LD50	>2,500 mg/kg (rat)
634-66-2 1,2,3,4-tetrachlorobenzene		
Oral	LD50	1,167 mg/kg (rat)
634-90-2 1,2,3,5-tetrachlorobenzene		
Oral	LD50	1,727 mg/kg (rat)
29082-74-4 octachlorostyrene		
Oral	LD50	3,710 mg/kg (rat)

- **Primary irritant effect:**

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

- **Serious eye damage or eye irritation** Irritating effect.

- **Respiratory / skin sensitization** No sensitising effects known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Carc. 1B

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** Harmful to fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (German Regulation) (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.

Harmful to aquatic organisms

- **Results of PBT and vPvB assessment**

· PBT:	
87-61-6	1,2,3-trichlorobenzene
87-68-3	hexachlorobuta-1,3-diene

(Contd. on page 9)

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 8)

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 information

· **Waste treatment methods**· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.

14 Transportation information

· **Not Regulated, De minimus Quantities**

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· **UN-Number**· **ADR, IMDG, IATA**

UN1593

· **UN proper shipping name**· **ADR**

1593 DICHLOROMETHANE

· **IMDG, IATA**

DICHLOROMETHANE

· **Transport hazard class(es)**· **ADR, IMDG, IATA**· **Class**

6.1 Toxic substances.

· **Label**

6.1

· **Packing group**· **ADR, IMDG, IATA**

III

· **Environmental hazards:**

Not applicable.

· **Special precautions for user**

Warning: Toxic substances.

· **Hazard identification number (Kemler code):**

60

· **EMS Number:**

F-A,S-A

· **Segregation groups**

(SGG10) Liquid halogenated hydrocarbons

· **Stowage Category**

A

· **Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

(Contd. on page 10)

MY

Safety Data Sheet

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

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 9)

· Transport/Additional information:
· ADR

- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· Transport category
· Tunnel restriction code

2
E

· IMDG

- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN 1593 DICHLOROMETHANE, 6.1, III

15 Regulatory information

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

75-09-2	methylene chloride
77-47-4	hexachlorocyclopentadiene
118-74-1	hexachlorobenzene
120-82-1	1,2,4-trichlorobenzene
608-93-5	pentachlorobenzene

· Directive 2012/18/EU

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· National regulations:
· Additional classification according to Decree on Hazardous Materials, Annex II:

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:** pdl-acg-regulatory-cq@agilent.com

· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

(Contd. on page 11)

-MY-

Safety Data Sheet
according to P.U.(A) 310/2013

Printing date 23.03.2025

Revision: 23.03.2025

Trade name: Chlorinated Extractables Standard (1X1 mL)

(Contd. of page 10)

EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Sol. 1: Flammable solids – Category 1
Acute Tox. 4: Acute toxicity - oral – Category 4
Acute Tox. 3: Acute toxicity - oral – Category 3
Acute Tox. 2: Acute toxicity - oral – Category 2
Skin Corr. 1B: Skin corrosion or irritation – Category 1B
Skin Irrit. 2: Skin corrosion or irritation – Category 2
Eye Dam. 1: Serious eye damage or eye irritation – Category 1
Eye Irrit. 2: Serious eye damage or eye irritation – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - chronic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - chronic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - chronic hazard – Category 3

MY