

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 07/05/2024

Version Number 4

Reviewed on 07/05/2024

### 1 Identification

- **Product identifier**
- **Trade name:** 4,4'-Methylene bis(2-chloroaniline) Standard (1X1 mL)
- **Part number:** CH-250-1
- **Restrictions**  
This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Agilent Technologies, Inc.  
5301 Stevens Creek Blvd.  
Santa Clara, CA 95051 USA
- **Information department:**  
Telephone: 800-227-9770  
e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

### 2 Hazard identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carcinogenicity - Category 1B

H350 May cause cancer.

Specific Target Organ Toxicity - Repeated Exposure - Category 2

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



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure - Category 3

H335 May cause respiratory irritation.

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



GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
dichloromethane
- **Hazard statements**  
H315 Causes skin irritation.

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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.

**Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

P308+P313 IF exposed or concerned: Get medical advice/attention.

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.

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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


Health = 2

Fire = 0

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**


Health = \*2

Fire = 0

Reactivity = 0

### 3 Composition/Information on ingredients

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

**Dangerous components:**

75-09-2 dichloromethane

80-100% w/w \*

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\* Actual concentration ranges are withheld as a trade secret.

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### 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.

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

- **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 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.

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- **Information about protection against explosions and fires:** 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 receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/ Personal protection

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

**Components with limit values that require monitoring at the workplace:****75-09-2 dichloromethane**EL TWA: 25 ppm  
IARC 2AEV TWA: 175 mg/m<sup>3</sup>, 50 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - 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

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**· Eye protection:**

Safety glasses



Tightly sealed goggles

## 9 Physical and chemical properties

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

Fluid

**Color:**

Colorless

**· Odor:**

Like chlorine

**· Odor threshold:**

Not determined.

**· pH-value:**

Not determined.

**· Change in condition**
**Melting point/Melting range:**

-95.1 °C

**Boiling point/Boiling range:**

40 °C

**· Flash point:**

Not applicable.

**· Flammability (solid, gaseous):**

Not applicable.

**· Auto igniting:**

605 °C

**· Decomposition temperature:**

Not determined.

**· Ignition temperature:**

Product is not selfigniting.

**· Danger of explosion:**

Product does not present an explosion hazard.

**· Explosion limits:**
**Lower:**

13 Vol %

**Upper:**

22 Vol %

**· Vapor pressure at 20 °C:**

360 hPa

**· Density at 20 °C:**

1.30011 g/cm<sup>3</sup>
**· Relative density**

Not determined.

**· Vapor 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:**

99.9 %

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<b>Solids content:</b>	0.1 %
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· <b>Other information</b>	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 that are relevant for classification:

##### 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)

#### · Primary irritant effect:

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

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

#### · Additional toxicological information:

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

#### · Carcinogenic categories

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

75-09-2	dichloromethane	2A
101-14-4	2,2'-dichloro-4,4'-methylenedianiline	1

#### · NTP (National Toxicology Program)

All components have the value R.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

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- **Additional ecological information:**
- **General notes:**  
 Water hazard class 2 (Self-assessment): hazardous for water  
 Do not allow product to reach ground water, water course or sewage system.  
 Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 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

- |   |                      |
|---|----------------------|
| · <b>Not Regulated, De minimis Quantities</b>                                       | -                    |
| · <b>UN-Number</b>  | UN1593               |
| · <b>DOT/TDG, ADR, IMDG, IATA</b>   | UN1593               |
| · <b>UN proper shipping name</b>  | Dichloromethane      |
| · <b>DOT/TDG</b>  | 1593 Dichloromethane |
| · <b>ADR</b>  | DICHLOROMETHANE      |
| · <b>IMDG, IATA</b>   | DICHLOROMETHANE      |
| · <b>Transport hazard class(es)</b>   |                      |
| · <b>DOT/TDG (Transport dangerous goods):</b>                                       |                      |
|  |                      |
| · <b>Class</b>  | 6.1 Toxic substances |
| · <b>Label</b>  | 6.1                  |
| · <b>ADR, IMDG, IATA</b>  |                      |
|  |                      |
| · <b>Class</b>  | 6.1 Toxic substances |
| · <b>Label</b>  | 6.1                  |
| · <b>Packing group</b>  |                      |
| · <b>DOT/TDG, ADR, IMDG, IATA</b>   | III                  |

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· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Warning: Toxic substances
· <b>Hazard identification number (Kemler code):</b> 60	
· <b>EMS Number:</b>	F-A,S-A
· <b>Segregation groups</b>	(SGG10) Liquid halogenated hydrocarbons
· <b>Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT/TDG</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1593 DICHLOROMETHANE, 6.1, III

## 15 Regulatory information

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

### · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

### · Section 313 (Specific toxic chemical listings):

All ingredients are listed.

### · TSCA (Toxic Substances Control Act):

This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.

All components have the value ACTIVE.

### · Canadian substance listings:

#### · Canadian Domestic Substances List (DSL)

All ingredients are listed.

#### · Canadian Non-Domestic Substances List (NDSL)

None of the ingredients is listed.

#### · Canadian Ingredient Disclosure list (limit 0.1%)

All ingredients are listed.

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**· Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

**· National regulations:****· Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

The information contained in this document is based on Agilent's state of knowledge at the time of preparation.  
No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

**· Contact:****· Date of the latest revision of the safety data sheet 07/05/2024 / 3****· Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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