

## 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:** Hydrocarbon Window Defining Standard (1X1 mL)
- **Part number:** MSM-105-1
- **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 identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Dermal) – Category 2

H310 Fatal in contact with skin.

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Carcinogenicity – Category 2

H351 Suspected of causing cancer.

Reproductive Toxicity - Category 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure - Category 1

H372 Causes damage to the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

- **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:

trichloromethane

#### · Hazard statements

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

H331 Toxic if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to the central nervous system, the kidneys, the liver and the respiratory system 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.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

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

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

P240 Ground and bond container and receiving equipment.

P262 Do not get in eyes, on skin, or on clothing.

P242 Use non-sparking tools.

P243 Take actions to prevent static discharges.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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

P310 Immediately call a poison center/doctor.

P322 Specific measures (see on this label).

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

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

P363 Wash contaminated clothing before reuse.

P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.

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.

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P330 Rinse mouth.  
P370+P378 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.  
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.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



### 3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

67-66-3	trichloromethane	80-100% w/w *
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\* Actual concentration ranges are withheld as a trade secret.

### 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.

· **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:** Immediately call a doctor.

· **Information for doctor:**

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

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

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### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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 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 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.

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· **Specific end use(s)** No further relevant information available.

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## 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:**
**67-66-3 trichloromethane**

EL TWA: 2 ppm

IARC 2B; R

EV TWA: 49 mg/m<sup>3</sup>, 10 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: &gt;4 hours

· **Eye protection:**


Tightly sealed goggles

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### 9 Physical and chemical properties

#### · Information on basic physical and chemical properties

##### · General Information

##### · Appearance:

Form: Fluid  
Color: Colorless

· Odor: Pleasant

· Odor threshold: Not determined.

· pH-value: Not determined.

##### · Change in condition

Melting point/Melting range: -63 °C

Boiling point/Boiling range: 62 °C

· Flash point: 0 °C

· Flammability (solid, gaseous): Highly flammable.

· Auto igniting: 982 °C

· Decomposition temperature: Not determined.

· Ignition temperature: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

##### · Explosion limits:

Lower: Not determined.

Upper: Not determined.

· Vapor pressure at 20 °C: 213.3 hPa

· Density at 20 °C: 1.492 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: 8 g/l

· Partition coefficient (n-octanol/water): Not determined.

##### · Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

##### · Solvent content:

Organic solvents: 0.1 %

Solids content: 0.5 %

· Other information: No further relevant information available.

### 10 Stability and reactivity

· Reactivity: No further relevant information available.

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- **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	919 mg/kg (rat)
Dermal	LD50	75.9 mg/kg (rat)
Inhalative	LC50/4 h	3.04 mg/L

### 67-66-3 trichloromethane

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

- **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:

Toxic

Harmful

Irritant

- **Carcinogenic categories**

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

67-66-3	trichloromethane	2B
91-20-3	naphthalene	2B

- **NTP (National Toxicology Program)**

67-66-3	trichloromethane	R
91-20-3	naphthalene	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 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

- |   |  |
|---|--|
| · <b>Not Regulated, De minimis Quantities</b>                                       | -  |
| · <b>UN-Number</b>  |  |
| · <b>DOT/TDG, ADR, IMDG, IATA</b>   | UN1992   |
| · <b>UN proper shipping name</b>  |  |
| · <b>DOT/TDG</b>  | Flammable liquids, toxic, n.o.s. (Chloroform)      |
| · <b>ADR</b>  | 1992 Flammable liquids, toxic, n.o.s. (Chloroform) |
| · <b>IMDG, IATA</b>   | FLAMMABLE LIQUID, TOXIC, N.O.S. (CHLOROFORM)       |
| · <b>Transport hazard class(es)</b>   |  |
| · <b>DOT/TDG (Transport dangerous goods):</b>                                       |  |
|  |  |
| · <b>Class</b>  | 3 Flammable liquids                                |
| · <b>Label</b>  | 3, 6.1   |
| · <b>ADR</b>  |  |
|  |  |
| · <b>Class</b>  | 3 Flammable liquids                                |

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· **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/TDG, ADR, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids  
· **Hazard identification number (Kemler code):** 336  
· **EMS Number:** F-E,S-D  
· **Segregation groups** (SGG10) Liquid halogenated hydrocarbons  
· **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/TDG**  
· **Quantity limitations** On passenger aircraft/rail: 1 L  
On cargo aircraft only: 60 L

· **ADR**  
· **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

· **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 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (CHLOROFORM), 3 (6.1), II

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**15 Regulatory information**

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

No further relevant information available.

· **Sara**

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

67-66-3	trichloromethane
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· **Section 313 (Specific toxic chemical listings):**

67-66-3	trichloromethane
91-20-3	naphthalene

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

67-66-3	trichloromethane	ACTIVE
91-20-3	naphthalene	ACTIVE
91-57-6	2-methylnaphthalene	ACTIVE
111-65-9	octane	ACTIVE
111-84-2	nonane	ACTIVE
112-40-3	dodecane	ACTIVE
112-95-8	icosane	ACTIVE
124-18-5	decane	ACTIVE
544-76-3	hexadecane	ACTIVE
544-85-4	dotriacontane	ACTIVE
593-45-3	octadecane	ACTIVE
629-50-5	tridecane	ACTIVE
629-59-4	tetradecane	ACTIVE
629-62-9	pentadecane	ACTIVE
629-78-7	Heptadecane	ACTIVE
629-92-5	nonadecane	ACTIVE
629-94-7	heneicosane	ACTIVE
629-97-0	docosane	ACTIVE
629-99-2	pentacosane	ACTIVE
630-01-3	hexacosane	ACTIVE
630-02-4	octacosane	ACTIVE
630-03-5	n-nonacosane	ACTIVE
630-06-8	hexatriacontane	ACTIVE
638-67-5	tricosane	ACTIVE
638-68-6	triacontane	ACTIVE
646-31-1	tetracosane	ACTIVE
1120-21-4	undecane	ACTIVE
1921-70-6	2,6,10,10-tetramethylpentadecane	ACTIVE
4181-95-7	tetracontane	ACTIVE
7194-84-5	n-heptatriacontane	INACTIVE

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**· Canadian substance listings:**
**· Canadian Domestic Substances List (DSL)**

67-66-3	trichloromethane
91-20-3	naphthalene
91-57-6	2-methylnaphthalene
111-65-9	octane
111-84-2	nonane
112-40-3	dodecane
112-95-8	icosane
124-18-5	decane
544-76-3	hexadecane
544-85-4	dotriacontane
593-45-3	octadecane
629-59-4	tetradecane
630-01-3	hexacosane
630-02-4	octacosane
630-06-8	hexatriacontane
646-31-1	tetracosane
1120-21-4	undecane
1921-70-6	2,6,10,10-tetramethylpentadecane

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

629-50-5	tridecane
629-62-9	pentadecane
629-78-7	Heptadecane
629-92-5	nonadecane
629-94-7	heneicosane
629-97-0	docosane
629-99-2	pentacosane
630-03-5	n-nonacosane
638-67-5	tricosane
638-68-6	triacontane
4181-95-7	tetracontane
7194-84-5	n-heptatriacontane
7194-85-6	octatriacontane

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

All ingredients are listed.

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

None of the ingredients is listed.

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

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### 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
- **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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