Safety Data Sheet
acc. to OSHA HCS

Revision date 08/23/2024

*
1 Identification

· **Product identifier**

· **Product Name: Chlorinated Herbicides Standard (1X1 mL)**

· **Part number:** HBM-8151A-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

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2 Hazard(s) identification

· **Classification of the substance or mixture**


GHS02 Flame

Flammable Liquids 2	H225 Highly flammable liquid and vapor.


GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3	H331 Toxic if inhaled.


GHS08 Health hazard

Carcinogenicity 2	H351 Suspected of causing cancer.
Specific Target Organ Toxicity - Single Exposure 1	H370 Causes damage to the central nervous system and the visual organs.


GHS07

Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.

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


GHS02 GHS06 GHS07 GHS08

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Product Name: Chlorinated Herbicides Standard (1X1 mL)

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· **Signal word** Danger

· **Hazard-determining components of labeling:**
methanol
2-(4-chloro-2-methylphenoxy)propionic acid

· **Hazard statements**
H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H370 Causes damage to the central nervous system and the visual organs.

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P240	Ground/bond container and receiving equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
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/ 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.
P321	Specific treatment (see on this label).
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P370+P378	In case of fire: Use CO2, 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)**

Health = 2
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = *2
Fire = 3
Reactivity = 0

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· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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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	97.27%
93-65-2	2-(4-chloro-2-methylphenoxy)propionic acid	1.2642%
94-74-6	MCPA (ISO)	1.2642%

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
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:** 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.

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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.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
67-56-1	methanol	530 ppm
87-86-5	pentachlorophenol	1 mg/m³
88-85-7	dinoseb	0.41 mg/m³
93-72-1	silvex (2,4,5-TP)	0.82 mg/m³
93-76-5	2,4,5-T (ISO)	30 mg/m³
94-75-7	2,4-D (ISO)	30 mg/m³
100-02-7	4-nitrophenol	0.69 mg/m³
133-90-4	chloramben	11 mg/m³

· **PAC-2:**		
67-56-1	methanol	2,100 ppm
87-86-5	pentachlorophenol	15 mg/m³
88-85-7	dinoseb	4.5 mg/m³
93-72-1	silvex (2,4,5-TP)	9 mg/m³
93-76-5	2,4,5-T (ISO)	42 mg/m³
94-75-7	2,4-D (ISO)	94 mg/m³
100-02-7	4-nitrophenol	7.6 mg/m³
133-90-4	chloramben	120 mg/m³

· **PAC-3:**		
67-56-1	methanol	7200* ppm
87-86-5	pentachlorophenol	150 mg/m³
88-85-7	dinoseb	5.4 mg/m³
93-72-1	silvex (2,4,5-TP)	130 mg/m³
93-76-5	2,4,5-T (ISO)	250 mg/m³
94-75-7	2,4-D (ISO)	500 mg/m³
100-02-7	4-nitrophenol	46 mg/m³
133-90-4	chloramben	690 mg/m³

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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.

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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:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

67-56-1 methanol	
PEL	Long-term value: 260 mg/m³, 200 ppm
REL	Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm Skin
TLV	Short-term value: 250 ppm Long-term value: 200 ppm Skin; BEIc

· **Ingredients with biological limit values:**	
67-56-1 methanol	
BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)

· **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

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	Colorless
· **Odor:**	Alcohol-like
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	-98 °C (-144.4 °F)
Boiling point/Boiling range:	64 °C (147.2 °F)
· **Flash point:**	9 °C (48.2 °F)
· **Flammability (solid, gaseous):**	Highly flammable.
· **Auto igniting:**	455 °C (851 °F)
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	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):**	0.8 g/cm³ (6.676 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:	97.3 %
VOC content:	97.27 % 972.7 g/l / 8.12 lb/gal
Solids content:	2.7 %
· **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.

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
ATE (Acute Toxicity Estimate)		
Oral	LD50	26,660 mg/kg (rat)
Dermal	LD50	71,191 mg/kg (rabbit)
Inhalative	LC50/4 h	2.86 mg/L

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67-56-1 methanol		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)
93-65-2 2-(4-chloro-2-methylphenoxy)propionic acid		
Oral	LD50	650 mg/kg (rat)
Dermal	LD50	900 mg/kg (rabbit)
94-74-6 MCPA (ISO)		
Oral	LD50	700 mg/kg (rat)
Dermal	LD50	>2,000 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
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
87-86-5	pentachlorophenol	1
93-76-5	2,4,5-T (ISO)	2B
94-75-7	2,4-D (ISO)	2B
1918-02-1	4-amino-3,5,6-trichloropyridine-2-carboxylicacid	3

· **NTP (National Toxicology Program)**		
87-86-5	pentachlorophenol	R

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

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 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.

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· **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.

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14 Transport information

· **Not Regulated, De minimis Quantities**	-
· **UN-Number**	
· **DOT, IMDG, IATA**	UN1230
· **UN proper shipping name**	
· **DOT**	Methanol solution
· **IMDG**	METHANOL solution, MARINE POLLUTANT
· **IATA**	METHANOL mixture
· **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

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· **Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	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
· **UN "Model Regulation":**	UN 1230 METHANOL SOLUTION, 3 (6.1), II, ENVIRONMENTALLY HAZARDOUS

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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):**	
88-85-7	dinoseb

· **Section 313 (Specific toxic chemical listings):**	
67-56-1	methanol
93-65-2	2-(4-chloro-2-methylphenoxy)propionic acid
94-74-6	MCPA (ISO)
87-86-5	pentachlorophenol
88-85-7	dinoseb
94-75-7	2,4-D (ISO)
94-82-6	2,4-DB
100-02-7	4-nitrophenol
120-36-5	dichlorprop (ISO)
133-90-4	chloramben
1918-00-9	dicamba(ISO)
1918-02-1	4-amino-3,5,6-trichloropyridine-2-carboxylicacid

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

67-56-1	methanol	ACTIVE
93-65-2	2-(4-chloro-2-methylphenoxy)propionic acid	ACTIVE
94-74-6	MCPA (ISO)	ACTIVE
51-36-5	3,5-dichlorobenzoic acid	ACTIVE
75-99-0	2,2-dichloropropionic acid	ACTIVE
87-86-5	pentachlorophenol	ACTIVE
88-85-7	dinoseb	ACTIVE
93-76-5	2,4,5-T (ISO)	ACTIVE
94-75-7	2,4-D (ISO)	ACTIVE
100-02-7	4-nitrophenol	ACTIVE
120-36-5	dichlorprop (ISO)	ACTIVE
133-90-4	chloramben	ACTIVE
1918-02-1	4-amino-3,5,6-trichloropyridine-2-carboxylicacid	ACTIVE
25057-89-0	bentazone (ISO)	ACTIVE
50594-66-6	5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoic acid	ACTIVE

· **Hazardous Air Pollutants**

67-56-1	methanol
87-86-5	pentachlorophenol
94-75-7	2,4-D (ISO)
100-02-7	4-nitrophenol
133-90-4	chloramben

· **Proposition 65**

· **Chemicals known to cause cancer:**

87-86-5	pentachlorophenol

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

88-85-7	dinoseb
94-82-6	2,4-DB

· **Chemicals known to cause developmental toxicity:**

67-56-1	methanol
88-85-7	dinoseb

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

87-86-5	pentachlorophenol	L
88-85-7	dinoseb	D
93-72-1	silvex (2,4,5-TP)	D
25057-89-0	bentazone (ISO)	E, NL

· **TLV (Threshold Limit Value)**

75-99-0	2,2-dichloropropionic acid	A4

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87-86-5	pentachlorophenol	A3
93-76-5	2,4,5-T (ISO)	A4
94-75-7	2,4-D (ISO)	A4
1918-02-1	4-amino-3,5,6-trichloropyridine-2-carboxylicacid	A4

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

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 preparation / last revision** 08/23/2024 / 3
· **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
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)
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
Flammable Liquids 2: Flammable liquids – Category 2
Acute Toxicity - Inhalation 3: Acute toxicity – Category 3
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Carcinogenicity 2: Carcinogenicity – Category 2
Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1
· *** Data compared to the previous version altered.**