

Safety Data Sheet

according to WHS Regulations

Date of issue: 28.01.2026

Revision: 28.01.2026

1 Identification

- **Product identifier**
- **Trade name:** Chlorinated Herbicides Standard (1 x 1 mL)
- **Part number:** HBM-545-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) 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 - oral – Category 3

H301 Toxic if swallowed.

Acute toxicity - dermal – Category 3

H311 Toxic in contact with skin.

Acute toxicity - inhalation – Category 3

H331 Toxic if inhaled.



GHS08 health hazard

Carcinogenicity – Category 2

H351 Suspected of causing cancer.

Specific target organ toxicity (single exposure) – Category 1

H370 Causes damage to the central nervous system and the visual organs.



GHS07

Skin corrosion/irritation – Category 2

H315 Causes skin irritation.

Eye damage/irritation – Category 2A

H319 Causes serious eye irritation.

- **Label elements**

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

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· Hazard pictograms

· Signal word Danger
· Hazard-determining components of labelling:

methanol (96.4604 %)
 2-(4-chloro-2-methylphenoxy)propionic acid (1.2642 %)
 MCPA (ISO) (1.2642 %)
 dinoseb (0.1264 %)

· Hazard statements

H225 Highly flammable liquid and vapour.
 H301 Toxic if swallowed.
 H311 Toxic in contact with skin.
 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

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/sparks/open flames/hot surfaces. No smoking.
P260	Do not breathe vapours.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
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.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P330	Rinse mouth.
P370+P378	In case of fire: Use CO ₂ , powder or water spray to extinguish.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.
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:** Not applicable
- **vPvB:** Not applicable

3 Composition and Information on Ingredients

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

· **Dangerous components:**

67-56-1	methanol	96.4604%
93-65-2	2-(4-chloro-2-methylphenoxy)propionic acid	1.2642%
94-74-6	MCPA (ISO)	1.2642%
88-85-7	dinoseb	0.1264%
94-75-7	2,4-D (ISO)	0.1264%
94-82-6	2,4-DB	0.1264%

· **SVHC**

88-85-7	dinoseb
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- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **General information:**
Immediately remove any clothing soiled by the product.

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Remove breathing equipment 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:** Do not induce vomiting; call for medical help immediately.

· **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

· **Suitable extinguishing agents:**

CO₂, 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.

· **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 fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

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- **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 container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Appropriate engineering controls** No further data; see section 7.

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

67-56-1 methanol

WES	Short-term value: 328 mg/m ³ , 250 ppm
	Long-term value: 262 mg/m ³ , 200 ppm
	Sk

94-75-7 2,4-D (ISO)

WES	Long-term value: 10 mg/m ³
	Sen

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

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· Eye protection:



Tightly sealed goggles

9 Physical and Chemical Properties

· General Information

· Appearance:

· Form:	Fluid
· Colour:	Colourless
· Odour:	Alcohol-like
· Odour threshold:	Not determined
· pH-value:	Not determined

· Change in condition

· Melting point/freezing point:	-98 °C
· Initial boiling point and boiling range:	64.7 °C
· Flash point:	9 °C
· Flammability	Highly flammable.
· Auto-ignition temperature:	455 °C
· Decomposition temperature:	Not determined
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	5.5 Vol %
· Upper:	44 Vol %
· Vapour pressure at 20 °C:	100 hPa
· Density at 20 °C:	0.8 g/cm ³
· Relative density	Not determined
· Vapour 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:	96.5 %
· VOC (EC)	96.46 %
· Solids content:	3.4 %

· Other information

· Particle characteristics	Not applicable
· Physical state	Liquid

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10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **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**

Toxic if swallowed.

Toxic in contact with skin.

Toxic if inhaled.

· **LD/LC50 values relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	102 mg/kg
Dermal	LD50	309 mg/kg
Inhalative	LC50/4 h	2.88 mg/L

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)

88-85-7 dinoseb

Oral	LD50	27 mg/kg (rat)
Dermal	LD50	217.5 mg/kg (rat)

94-75-7 2,4-D (ISO)

Oral	LD50	375 mg/kg (rat)
Dermal	LD50	1,500 mg/kg (rat) 1,400 mg/kg (rabbit)

94-82-6 2,4-DB

Oral	LD50	700 mg/kg (rat)
Dermal	LD50	800 mg/kg (rat) >10,000 mg/kg (rabbit)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Causes skin irritation.

· **Serious eye damage/irritation** Causes serious eye irritation.

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- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Causes damage to the central nervous system and the visual organs.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (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**
Dispose of contents/container in accordance with local/regional/national/international regulations.
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| · Not Regulated, De minimus Quantities | - |
| · UN-Number
· ADG, IMDG, IATA | UN1230 |
| · UN proper shipping name
· ADG
· IMDG, IATA | 1230 METHANOL, ENVIRONMENTALLY
HAZARDOUS
METHANOL |

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· Transport hazard class(es)
· ADG

· 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
· ADG, IMDG, IATA

II

· Environmental hazards:
· Marine pollutant:

Symbol (fish and tree)

· Special marking (ADG):

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 Marpol and the IBC Code

Not applicable

· Transport/Additional information:
· ADG
· 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

· Transport category

2

· Tunnel restriction code

D/E

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- | | |
|--|---|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN 1230 METHANOL, 3 (6.1), II,
ENVIRONMENTALLY HAZARDOUS</p> |

15 Regulatory information

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

- **Australian Inventory of Industrial Chemicals**

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

- **Standard for the Uniform Scheduling of Medicines and Poisons**

67-56-1	methanol	S5, S6, S10
93-65-2	2-(4-chloro-2-methylphenoxy)propionic acid	S5, S6
94-74-6	MCPA (ISO)	S5, S6
88-85-7	dinoseb	S7
93-72-1	silvex (2,4,5-TP)	S5
93-76-5	2,4,5-T (ISO)	S6
94-75-7	2,4-D (ISO)	S5, S6
94-82-6	2,4-DB	S5
120-36-5	dichlorprop (ISO)	S6
1918-00-9	dicamba(ISO)	S5, S6

- **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

- **Directive 2012/18/EU**

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

- **Seveso category**

H2 ACUTE TOXIC

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

- **National regulations:**

- **Other regulations, limitations and prohibitive regulations**

- **Substances of very high concern (SVHC) according to REACH, Article 57**

88-85-7	dinoseb
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- **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.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H370 Causes damage to organs.

· **Contact:**

· **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
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flammable liquids – Category 2: Flammable liquids – Category 2
Acute toxicity - oral – Category 3: Acute toxicity – Category 3
Acute toxicity - dermal – Category 4: Acute toxicity – Category 4
Skin corrosion/irritation – Category 1A: Skin corrosion/irritation – Category 1A
Skin corrosion/irritation – Category 2: Skin corrosion/irritation – Category 2
Eye damage/irritation – Category 1: Serious eye damage/eye irritation – Category 1
Eye damage/irritation – Category 2A: Serious eye damage/eye irritation – Category 2A
Respiratory sensitisation – Category 1: Respiratory sensitisation – Category 1
Skin sensitisation – Category 1: Skin sensitisation – Category 1
Carcinogenicity – Category 2: Carcinogenicity – Category 2
Reproductive toxicity – Category 1B: Reproductive toxicity – Category 1B
Specific target organ toxicity (single exposure) – Category 1: Specific target organ toxicity (single exposure) – Category 1
Specific target organ toxicity (single exposure) – Category 3: Specific target organ toxicity (single exposure) – Category 3

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

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