1 Identification

· Product identifier

· Trade name: 2,4-D Methyl Ester

· Part number: PST-150

· CAS Number: 1928-38-7

· EC number: 217-670-7

· Index number: 607-308-00-X

· 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

![Warning]

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· Label elements

· GHS label elements
  The substance is classified and labelled according to the Globally Harmonised System (GHS).

· Hazard pictograms

![Warning]

GHS07

· Signal word Warning

· Hazard-determining components of labelling:
  methyl 2,4-dichlorophenoxyacetate

· Hazard statements
  Harmful if swallowed.
  Causes serious eye irritation.
  May cause an allergic skin reaction.
· Precautionary statements
  If medical advice is needed, have product container or label at hand.
  Keep out of reach of children.
  Read label before use.
  Avoid breathing dust/fume/gas/mist/vapours/spray.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Contaminated work clothing should not be allowed out of the workplace.
  Wear protective gloves / eye protection / face protection.
  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  Rinse mouth.
  IF ON SKIN: Wash with plenty of water.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  IF skin irritation or rash occurs: Get medical advice/attention.
  Specific treatment (see on this label).
  IF eye irritation persists: Get medical advice/attention.
  Wash contaminated clothing before reuse.
  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: Substances
  · CAS No. Description
    1928-38-7 methyl 2,4-dichlorophenoxyacetate
  · Identification number(s)
    · EC number: 217-670-7
    · Index number: 607-308-00-X

4 First Aid Measures

· Description of first aid measures
  · General information:
    Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
  · After inhalation:
    Supply fresh air and to be sure call for a 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:
    Call for a doctor immediately.
  · Information for doctor:
    · Most important symptoms and effects, both acute and delayed
      No further relevant information available.
Trade name: 2,4-D Methyl Ester

- 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 extinguishing methods suitable to surrounding conditions.
  - Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures Not required.
- 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:
  Dispose contaminated material as waste according to item 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.
  - Information about fire - and explosion protection: No special measures required.
- 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.
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.
Avoid contact with the eyes.
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
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and
varies from manufacturer to manufacturer.

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

9 Physical and Chemical Properties

Information on basic physical and chemical properties

General Information

Appearance:
Form: Solid
Colour: Not determined.
Odour: Characteristic
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition
Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: Undetermined.

Flash point: Not applicable.
Trade name: 2,4-D Methyl Ester

10 Stability and Reactivity

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

11 Toxicological Information

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

- **LD/LC50 values relevant for classification**
  - ATE (Acute Toxicity Estimates)
  - Oral LD50 500 mg/kg

- **Primary irritant effect**
  - **Skin corrosion/irritation**: No irritant effect.
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 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.
- **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 together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
  - **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
  - ADG, IMDG, IATA: UN3348
- **UN proper shipping name**
  - ADG: 3348 PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC (methyl 2,4-dichlorophenoxyacetate), ENVIRONMENTALLY HAZARDOUS
  - IMDG, IATA: PHENOXYACETIC ACID DERIVATIVE PESTICIDE, LIQUID, TOXIC (methyl 2,4-dichlorophenoxyacetate)
### Transport hazard class(es)
- **ADG**

#### IMDG, IATA
- **Packing group**
  - **ADG, IMDG, IATA**
  - **Class**
    - III

### Environmental hazards:
- **Special marking (ADG):** Symbol (fish and tree)

#### Special precautions for user
- **Warning:** Toxic substances.
- **Danger code (Kemler):** 60
- **EMS Number:** 6.1-02
- **Stowage Category**
  - A
- **Stowage Code**
  - SW2 Clear of living quarters.

#### Transport in bulk according to Annex II of Marpol and the IBC Code
- **Transport category**
  - 2
- **Tunnel restriction code**
  - E

### Transport/Additional information:
- **ADG**
  - **Limited quantities (LQ):** 5L
  - **Excepted quantities (EQ):** Code: E1
    - Maximum net quantity per inner packaging: 30 g
    - Maximum net quantity per outer packaging: 1000 g
- **IMDG**
  - **Limited quantities (LQ):** 5L
  - **Excepted quantities (EQ):** Code: E1
    - Maximum net quantity per inner packaging: 30 g
    - Maximum net quantity per outer packaging: 1000 g
Safety Data Sheet
according to WHS Regulations

Printing date 24.03.2019
Revision: 24.03.2019
Version number 2

Trade name: 2,4-D Methyl Ester

(Contd. of page 7)

<table>
<thead>
<tr>
<th>UN &quot;Model Regulation&quot;:</th>
<th>UN 3348 PHENOXYACETIC ACID DERIVATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PESTICIDE, LIQUID, TOXIC (METHYL 2,4-</td>
</tr>
<tr>
<td></td>
<td>DICHLOROPHENOXYACETATE), 6.1, III,</td>
</tr>
<tr>
<td></td>
<td>ENVIRONMENTALLY HAZARDOUS</td>
</tr>
</tbody>
</table>

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Australian Inventory of Chemical Substances
  - Substance is listed.
- Standard for the Uniform Scheduling of Medicines and Poisons
  - Substance is not listed.
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I Substance is not listed.
- Seveso category E1 Hazardous to the Aquatic Environment
- Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- 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: regulatory@ultrasci.com
- Abbreviations and acronyms:
  ADR: Accord européen sur le transport 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
  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
  Acute Tox. 4: Acute toxicity – Category 4
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  Skin Sens. 1: Skin sensitisation – Category 1