



# Agilent Technologies

**Kit Name:** LC/MS Pesticide Standard Kit

**Kit PN:** 5190-0551

This product is a kit, composed of the following individual chemical components:

## Kit Components

Component Part Number	Component Name	Volume or mass/ container and unit	No. of component containers/ kit
5190-0551-1	LC/MS Pesticide Standard 1	1 mL	1
5190-0551-2	LC/MS Pesticide Standard 2	1 mL	1
5190-0551-3	LC/MS Pesticide Standard 3	1 mL	1
5190-0551-4	LC/MS Pesticide Standard 4	1 mL	1
5190-0551-5	LC/MS Pesticide Standard 5	1 mL	1
5190-0551-6	LC/MS Pesticide Standard 6	1 mL	1
5190-0551-7	LC/MS Pesticide Standard 7	1 mL	1
5190-0551-8	LC/MS Pesticide Standard 8	1 mL	1

SDSs for each component follow this cover sheet.

## Transportation Information for the Kit:

Proper Shipping Names:

DOT	IATA/ICAO	China
Not Regulated	Not Regulated	UN1648, Acetonitrile Solution, 3, II

Not regulated



**1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 1
- **Part number:** 5190-0551-1
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)



**Trade name: LC/MS Pesticide Standard 1**

(Contd. of page 1)

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- 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

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

75-05-8	acetonitrile	99.67%
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**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; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **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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**Trade name: LC/MS Pesticide Standard 1**

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- **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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
86-50-0	azinphos-methyl (ISO)	0.6 mg/m <sup>3</sup>
298-04-4	disulfoton	0.18 mg/m <sup>3</sup>
2642-71-9	azinphos-ethyl (ISO)	0.35 mg/m <sup>3</sup>
22224-92-6	fenamiphos (ISO)	0.15 mg/m <sup>3</sup>
10265-92-6	methamidophos (ISO)	0.11 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
86-50-0	azinphos-methyl (ISO)	0.7 mg/m <sup>3</sup>
298-04-4	disulfoton	2 mg/m <sup>3</sup>
2642-71-9	azinphos-ethyl (ISO)	3.9 mg/m <sup>3</sup>
22224-92-6	fenamiphos (ISO)	0.9 mg/m <sup>3</sup>
10265-92-6	methamidophos (ISO)	1.2 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
86-50-0	azinphos-methyl (ISO)	20 mg/m <sup>3</sup>
298-04-4	disulfoton	8.8 mg/m <sup>3</sup>
2642-71-9	azinphos-ethyl (ISO)	17 mg/m <sup>3</sup>
22224-92-6	fenamiphos (ISO)	3.1 mg/m <sup>3</sup>

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Trade name: LC/MS Pesticide Standard 1

10265-92-6 methamidophos (ISO)

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7.1 mg/m<sup>3</sup>

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

### 8 Exposure controls/personal protection

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

· **Components with limit values that require monitoring at the workplace:**

**75-05-8 acetonitrile**

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm Skin

- **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.  
Avoid contact with the eyes.  
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.

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- **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

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

- **Form:** Fluid
- **Color:** Colorless
- **Odor:** Aromatic
- **Odor threshold:** Not determined.

· **pH-value:** Not determined.

#### · Change in condition

- **Melting point/Melting range:** -46 °C (-50.8 °F)
- **Boiling point/Boiling range:** 81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 525 °C (977 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

#### · Explosion limits:

- **Lower:** 4.4 Vol %
- **Upper:** 16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 0.786 g/cm<sup>3</sup> (6.55917 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.

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**Trade name: LC/MS Pesticide Standard 1**

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- **Viscosity:**
  - Dynamic at 20 °C (68 °F):** 0.39 mPas
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 0.0 %
  - VOC content:** 0.01 %
  - 0.1 g/l / 0.00 lb/gl
- **Solids content:** 0.3 %
- **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.

### 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,324 mg/kg (rat)
Dermal	LD50	>2,007 mg/kg (rabbit)
Inhalative	LC50/4 h	3,599 mg/L (mouse)

**75-05-8 acetonitrile**

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

**2642-71-9 azinphos-ethyl (ISO)**

Dermal	LD50	250 mg/kg (rat)
Inhalative	LC50/4 h	390 mg/L (rat)

**22224-92-6 fenamiphos (ISO)**

Oral	LD50	10 mg/kg (rat)
Dermal	LD50	80 mg/kg (rat)
Inhalative	LC50/4 h	91 mg/L (rat)

**149961-52-4 dimoxystrobin (ISO)**

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	1,700 mg/L (rat)

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Trade name: LC/MS Pesticide Standard 1

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**142459-58-3 flufenacet (ISO)**

Oral	LD50	589 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>3,700 mg/L (rat)

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **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:  
Harmful  
Irritant

· **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.
- **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.









Trade name: LC/MS Pesticide Standard 1

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**14 Transport information**

· UN-Number	
· DOT, IMDG, IATA	UN1648
· UN proper shipping name	
· DOT	Acetonitrile solution
· IMDG	ACETONITRILE solution, MARINE POLLUTANT
· IATA	ACETONITRILE solution
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· IMDG	
 	
· Class	3 Flammable liquids
· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: azinphos-methyl (ISO)
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· 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: 5 L On cargo aircraft only: 60 L

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**Trade name: LC/MS Pesticide Standard 1**

(Contd. of page 8)

- **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 1648 ACETONITRILE SOLUTION, 3, II,  
ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

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

86-50-0	azinphos-methyl (ISO)
298-04-4	disulfoton
2642-71-9	azinphos-ethyl (ISO)
22224-92-6	fenamiphos (ISO)
10265-92-6	methamidophos (ISO)

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

75-05-8	acetonitrile
1134-23-2	cycloate
88671-89-0	myclobutanil
30560-19-1	acephate (ISO)

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

75-05-8	acetonitrile
50563-36-5	2-chloro-N-(2,6-dimethylphenyl)-N-(2-methoxyethyl)acetamide

· **Proposition 65**

· **Chemicals known to cause cancer:**

148477-71-8	spirodiclofen
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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

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

88671-89-0	myclobutanil
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· **Chemicals known to cause developmental toxicity:**

1134-23-2	cycloate
88671-89-0	myclobutanil

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

75-05-8	acetonitrile	CBD, D
67747-09-5	N-propyl-N-[2-(2,4,6-trichlorophenoxy)ethyl]-1H-imidazole-1-carboxamide	C

· **TLV (Threshold Limit Value established by ACGIH)**

75-05-8	acetonitrile	A4
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(Contd. on page 10)



**Trade name: LC/MS Pesticide Standard 1**

(Contd. of page 9)

86-50-0	azinphos-methyl (ISO)	A4
298-04-4	disulfoton	A4
22224-92-6	fenamiphos (ISO)	A4

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

acetonitrile

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

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

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

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

· **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.

· **Date of preparation / last revision** 08/13/2018 / 1

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

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**Trade name: LC/MS Pesticide Standard 1**

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ACGIH: American Conference of Governmental Industrial Hygienists  
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  
Flam. Liq. 2: Flammable liquids – Category 2  
Acute Tox. 4: Acute toxicity – Category 4  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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

US



**1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 2
- **Part number:** 5190-0551-2
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)



**Trade name: LC/MS Pesticide Standard 2**

(Contd. of page 1)

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- 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

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

· **Dangerous components:**

75-05-8	acetonitrile	99.606%
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**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; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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.

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 2

(Contd. of page 2)

· **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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
56-72-4	coumaphos (ISO)	0.27 mg/m <sup>3</sup>
470-90-6	chlorfenvinphos (ISO)	0.91 mg/m <sup>3</sup>
563-12-2	ethion (ISO)	1.2 mg/m <sup>3</sup>
2921-88-2	chlorpyrifos (ISO)	0.6 mg/m <sup>3</sup>
13194-48-4	ethoprophos (ISO)	0.14 mg/m <sup>3</sup>
62-73-7	dichlorvos (ISO)	1.8 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
56-72-4	coumaphos (ISO)	3 mg/m <sup>3</sup>
470-90-6	chlorfenvinphos (ISO)	10 mg/m <sup>3</sup>
563-12-2	ethion (ISO)	13 mg/m <sup>3</sup>
2921-88-2	chlorpyrifos (ISO)	15 mg/m <sup>3</sup>
13194-48-4	ethoprophos (ISO)	1.6 mg/m <sup>3</sup>
62-73-7	dichlorvos (ISO)	20 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
56-72-4	coumaphos (ISO)	13 mg/m <sup>3</sup>
470-90-6	chlorfenvinphos (ISO)	500 mg/m <sup>3</sup>

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Trade name: LC/MS Pesticide Standard 2

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563-12-2	ethion (ISO)	38 mg/m <sup>3</sup>
2921-88-2	chlorpyrifos (ISO)	44 mg/m <sup>3</sup>
13194-48-4	ethoprophos (ISO)	9.3 mg/m <sup>3</sup>
62-73-7	dichlorvos (ISO)	200 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

## 8 Exposure controls/personal protection

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

### Components with limit values that require monitoring at the workplace:

#### 75-05-8 acetonitrile

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
	Skin

- **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.  
Avoid contact with the eyes.  
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

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Trade name: LC/MS Pesticide Standard 2

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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

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

Form: Fluid

Color: Colorless

· **Odor:** Aromatic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: -46 °C (-50.8 °F)

Boiling point/Boiling range: 81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 525 °C (977 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

Lower: 4.4 Vol %

Upper: 16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 0.786 g/cm<sup>3</sup> (6.55917 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.

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**Trade name: LC/MS Pesticide Standard 2**

(Contd. of page 5)

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

· **Viscosity:**

**Dynamic at 20 °C (68 °F):** 0.39 mPas

**Kinematic:** Not determined.

· **Solvent content:**

**Organic solvents:** 0.1 %

**VOC content:** 0.06 %

0.6 g/l / 0.01 lb/gl

**Solids content:** 0.3 %

· **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.

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

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

### ATE (Acute Toxicity Estimate)

Oral	LD50	1,325 mg/kg (rat)
Dermal	LD50	>2,008 mg/kg (rabbit)
Inhalative	LC50/4 h	3,601 mg/L (mouse)

### 75-05-8 acetonitrile

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

### 563-12-2 ethion (ISO)

Oral	LD50	13 mg/kg (rat)
Dermal	LD50	62 mg/kg (rat)
Inhalative	LC50/4 h	864 mg/L (rat)

### 2921-88-2 chlorpyrifos (ISO)

Oral	LD50	60 mg/kg (mouse)
		135 mg/kg (rat)
Dermal	LD50	120 mg/kg (mouse)
		202 mg/kg (rat)

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Trade name: LC/MS Pesticide Standard 2

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Inhalative	LC50/4 h	>200 mg/L (rat)
<b>5598-13-0 chlorpyrifos-methyl</b>		
Oral	LD50	1,828 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>670 mg/L (rat)
<b>82657-04-3 bifenthrin</b>		
Oral	LD50	55 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
<b>62-73-7 dichlorvos (ISO)</b>		
Oral	LD50	25 mg/kg (rat)
Dermal	LD50	107 mg/kg (rat) 107 mg/kg (rabbit)
Inhalative	LC50/4 h	15 mg/L (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **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:  
Harmful  
Irritant

· **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>		
333-41-5	diazinon (ISO)	2A
62-73-7	dichlorvos (ISO)	2B

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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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Trade name: LC/MS Pesticide Standard 2





· Other adverse effects No further relevant information available.

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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

· UN-Number	UN1648
· DOT, IMDG, IATA	
· UN proper shipping name	Acetonitrile solution
· DOT	ACETONITRILE solution, MARINE POLLUTANT
· IMDG	ACETONITRILE solution
· IATA	
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· IMDG	
 	
· Class	3 Flammable liquids
· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	II
· DOT, IMDG, IATA	
· Environmental hazards:	Product contains environmentally hazardous substances: coumaphos (ISO), ethion (ISO)
· Marine pollutant:	Symbol (fish and tree)

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Trade name: LC/MS Pesticide Standard 2

(Contd. of page 8)

· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	33
· <b>EMS Number:</b>	F-E,S-D
· <b>Stowage Category</b>	B
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

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

56-72-4	coumaphos (ISO)
470-90-6	chlorfenvinphos (ISO)
563-12-2	ethion (ISO)
13194-48-4	ethoprophos (ISO)
62-73-7	dichlorvos (ISO)

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

75-05-8	acetonitrile
5598-13-0	chlorpyrifos-methyl
82657-04-3	bifenthrin
13194-48-4	ethoprophos (ISO)
60168-88-9	fenarimol (ISO)
35554-44-0	imazalil (ISO)
60207-90-1	propiconazole
333-41-5	diazinon (ISO)
62-73-7	dichlorvos (ISO)

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

75-05-8	acetonitrile
60168-88-9	fenarimol (ISO)
41814-78-2	5-methyl-1,2,4-triazolo(3,4-b)benzo-1,3-thiazole
333-41-5	diazinon (ISO)

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Trade name: LC/MS Pesticide Standard 2

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62-73-7	dichlorvos (ISO)
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· **Proposition 65**

· **Chemicals known to cause cancer:**

13194-48-4	ethoprophos (ISO)
35554-44-0	imazalil (ISO)
62-73-7	dichlorvos (ISO)

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

2921-88-2	chlorpyrifos (ISO)
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

75-05-8	acetonitrile	CBD, D
62-73-7	dichlorvos (ISO)	B2

· **TLV (Threshold Limit Value established by ACGIH)**

75-05-8	acetonitrile	A4
56-72-4	coumaphos (ISO)	A4
563-12-2	ethion (ISO)	A4
2921-88-2	chlorpyrifos (ISO)	A4
333-41-5	diazinon (ISO)	A4
62-73-7	dichlorvos (ISO)	A4

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

acetonitrile

· **Hazard statements**

Highly flammable liquid and vapor.  
Harmful if swallowed.  
Causes serious eye irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.

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**Trade name: LC/MS Pesticide Standard 2**

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- Take precautionary measures against static discharge.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- **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.

· **Date of preparation / last revision** 08/13/2018 / 1

· **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
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- 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
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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



\* **1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 3
- **Part number:** 5190-0551-3
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)





**Trade name: LC/MS Pesticide Standard 3**

(Contd. of page 1)

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

75-05-8	acetonitrile	99.441%
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**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; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **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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Trade name: LC/MS Pesticide Standard 3

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· **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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
121-75-5	malathion (ISO)	15 mg/m <sup>3</sup>
7786-34-7	mevinphos (ISO)	0.3 mg/m <sup>3</sup>
13171-21-6	phosphamidon	0.027 mg/m <sup>3</sup>
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	0.091 mg/m <sup>3</sup>
24017-47-8	triazophos (ISO)	0.25 mg/m <sup>3</sup>
950-37-8	methidathion	1.8 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
121-75-5	malathion (ISO)	120 mg/m <sup>3</sup>
7786-34-7	mevinphos (ISO)	4 mg/m <sup>3</sup>
13171-21-6	phosphamidon	0.3 mg/m <sup>3</sup>
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	1 mg/m <sup>3</sup>
24017-47-8	triazophos (ISO)	2.8 mg/m <sup>3</sup>
950-37-8	methidathion	20 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
121-75-5	malathion (ISO)	390 mg/m <sup>3</sup>
7786-34-7	mevinphos (ISO)	40 mg/m <sup>3</sup>

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13171-21-6	phosphamidon	21 mg/m <sup>3</sup>
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	2.2 mg/m <sup>3</sup>
24017-47-8	triazophos (ISO)	12 mg/m <sup>3</sup>
950-37-8	methidathion	160 mg/m <sup>3</sup>

\* **7 Handling and storage**

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

\* **8 Exposure controls/personal protection**

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

· **Components with limit values that require monitoring at the workplace:****75-05-8 acetonitrile**

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
	Skin

- **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.  
Avoid contact with the eyes.  
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

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**Trade name: LC/MS Pesticide Standard 3**

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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

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

Form: Fluid

Color: Colorless

· **Odor:** Aromatic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: -46 °C (-50.8 °F)

Boiling point/Boiling range: 81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 525 °C (977 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

Lower: 4.4 Vol %

Upper: 16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 0.786 g/cm<sup>3</sup> (6.55917 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.

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**Trade name: LC/MS Pesticide Standard 3**

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- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic at 20 °C (68 °F):** 0.39 mPas
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 0.1 %
  - VOC content:** 0.08 %
  - 0.8 g/l / 0.01 lb/gl
- **Solids content:** 0.4 %
- **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.

### 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,327 mg/kg (rat)
Dermal	LD50	>2,011 mg/kg (rabbit)
Inhalative	LC50/4 h	3,607 mg/L (mouse)

**75-05-8 acetonitrile**

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

**2597-03-7 phenthoate (ISO)**

Oral	LD50	71 mg/kg (rat)
Dermal	LD50	700 mg/kg (rat)
Inhalative	LC50/4 h	59 mg/L (rat)

**121-75-5 malathion (ISO)**

Oral	LD50	1,000 mg/kg (rat)
Dermal	LD50	8,790 mg/kg (rabbit)

**7786-34-7 mevinphos (ISO)**

Oral	LD50	3 mg/kg (rat)
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(Contd. on page 7)



**Trade name: LC/MS Pesticide Standard 3**

(Contd. of page 6)

Dermal	LD50	4 mg/kg (rat)
<b>2212-67-1 molinate (ISO)</b>		
Oral	LD50	369 mg/kg (rat)
Dermal	LD50	3,536 mg/kg (rabbit)
<b>2310-17-0 phosalone</b>		
Oral	LD50	85 mg/kg (rat)
Dermal	LD50	1,000 mg/kg (rabbit)
<b>80844-07-1 etofenprox</b>		
Oral	LD50	>42,800 mg/kg (rat)
Dermal	LD50	>2,140 mg/kg (rat)
<b>67129-08-2 Metazachlor (ISO)</b>		
Oral	LD50	1,000 mg/kg (rat)
Dermal	LD50	>6,810 mg/kg (rat)
<b>41198-08-7 O-(4-bromo-2-chlorophenyl) O-ethyl S-propyl phosphorothioate</b>		
Oral	LD50	620.5 mg/kg (rat)
Inhalative	LC50/4 h	>2.2 mg/L (rat)
<b>31218-83-4 trans-isopropyl-3-[(ethylamino)-methoxyfosfinothioyl]oxy]crotonate</b>		
Dermal	LD50	564 mg/kg (rat)
Inhalative	LC50/4 h	690 mg/L (rat)
<b>13593-03-8 quinalphos (ISO)</b>		
Oral	LD50	26 mg/kg (rat)
Dermal	LD50	300 mg/kg (rat)
Inhalative	LC50/4 h	330 mg/L (mouse)
<b>13071-79-9 S-tert-butylthiomethyl O,O-diethylphosphorodithioate</b>		
Oral	LD50	4.5 mg/kg (rat)
<b>24017-47-8 triazophos (ISO)</b>		
Oral	LD50	57 mg/kg (rat)
Dermal	LD50	1,100 mg/kg (rat)
Inhalative	LC50/4 h	28 mg/L (rat)
<b>141112-29-0 isoxaflutole (ISO)</b>		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	5,200 mg/L (rat)
<b>119168-77-3 tebufenpyrad</b>		
Oral	LD50	595 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **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:

Harmful

Irritant

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 7)

· **Carcinogenic categories**

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

121-75-5	malathion (ISO)	2A
122-42-9	propham	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.
- **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**

· **UN-Number**

· **DOT, IMDG, IATA** UN1648

· **UN proper shipping name**

· **DOT** Acetonitrile solution  
 · **IMDG** ACETONITRILE solution, MARINE POLLUTANT  
 · **IATA** ACETONITRILE solution

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 3

(Contd. of page 8)

· Transport hazard class(es)

· DOT



· Class 3 Flammable liquids  
· Label 3

· IMDG



· Class 3 Flammable liquids  
· Label 3

· IATA



· Class 3 Flammable liquids  
· Label 3

· Packing group

· DOT, IMDG, IATA II

· Environmental hazards: Product contains environmentally hazardous substances:  
phenthoate (ISO), malathion (ISO)

· Marine pollutant: Symbol (fish and tree)

· Special precautions for user Warning: Flammable liquids

· Danger code (Kemler): 33

· EMS Number: F-E,S-D

· Stowage Category B

· 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: 5 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

(Contd. on page 10)





Trade name: LC/MS Pesticide Standard 3

(Contd. of page 9)

· UN "Model Regulation": UN 1648 ACETONITRILE SOLUTION, 3, II,  
ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

· Section 355 (extremely hazardous substances):

7786-34-7	mevinphos (ISO)
13171-21-6	phosphamidon
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate
24017-47-8	triazophos (ISO)
950-37-8	methidathion

· Section 313 (Specific toxic chemical listings):

75-05-8	acetonitrile
121-75-5	malathion (ISO)
7786-34-7	mevinphos (ISO)
2212-67-1	molinate (ISO)
19666-30-9	3-[2,4-dichloro-5-(1-methylethoxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one
40487-42-1	pendimethalin (ISO)
29232-93-7	pirimiphos-methyl (ISO)
41198-08-7	O-(4-bromo-2-chlorophenyl) O-ethyl S-propyl phosphorothioate
31218-83-4	trans-isopropyl-3-[[[(ethylamino)-methoxyfosfinothioyl]oxy]crotonate
23950-58-5	propyzamide (ISO)
43121-43-3	triadimefon (ISO)

· TSCA (Toxic Substances Control Act):

75-05-8	acetonitrile
122-42-9	propham

· Proposition 65

· Chemicals known to cause cancer:

121-75-5	malathion (ISO)
19666-30-9	3-[2,4-dichloro-5-(1-methylethoxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one
23103-98-2	pirimicarb
32809-16-8	procymidone
23950-58-5	propyzamide (ISO)
141112-29-0	isoxaflutole (ISO)
110235-47-7	mepanipyrim

· Chemicals known to cause reproductive toxicity for females:

2212-67-1	molinate (ISO)
43121-43-3	triadimefon (ISO)

· Chemicals known to cause reproductive toxicity for males:

2212-67-1	molinate (ISO)
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(Contd. on page 11)



## Trade name: LC/MS Pesticide Standard 3

(Contd. of page 10)

43121-43-3 triadimefon (ISO)

## · Chemicals known to cause developmental toxicity:

2212-67-1 molinate (ISO)

19666-30-9 3-[2,4-dichloro-5-(1-methylethoxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one

43121-43-3 triadimefon (ISO)

## · Carcinogenic categories

## · EPA (Environmental Protection Agency)

75-05-8 acetonitrile

CBD, D

51218-45-2 metolachlor

C

## · TLV (Threshold Limit Value established by ACGIH)

75-05-8 acetonitrile

A4

121-75-5 malathion (ISO)

A4

7786-34-7 mevinphos (ISO)

A4

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

None of the ingredients is listed.

## · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

## · Hazard pictograms



GHS02 GHS07

## · Signal word Danger

## · Hazard-determining components of labeling:

acetonitrile

## · Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

## · Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

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

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store in a well-ventilated place. Keep cool.

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

(Contd. on page 12)



Trade name: LC/MS Pesticide Standard 3

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

(Contd. of page 11)

## 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.

· **Date of preparation / last revision** 08/13/2018 / 1

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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



**1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 4
- **Part number:** 5190-0551-4
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)



**Trade name: LC/MS Pesticide Standard 4**

(Contd. of page 1)

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- 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

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

· **Dangerous components:**

75-05-8	acetonitrile	99.365%
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**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; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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.

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 2)

· **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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
3878-19-1	fuberidazole	0.3 mg/m <sup>3</sup>
64902-72-3	2-chloro-N-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]benzenesulphonamide	3.9 mg/m <sup>3</sup>
6923-22-4	monocrotophos (ISO)	0.15 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
3878-19-1	fuberidazole	3.3 mg/m <sup>3</sup>
64902-72-3	2-chloro-N-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]benzenesulphonamide	43 mg/m <sup>3</sup>
6923-22-4	monocrotophos (ISO)	0.63 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
3878-19-1	fuberidazole	15 mg/m <sup>3</sup>
64902-72-3	2-chloro-N-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]benzenesulphonamide	260 mg/m <sup>3</sup>
6923-22-4	monocrotophos (ISO)	3.5 mg/m <sup>3</sup>



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 3)

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

## 8 Exposure controls/personal protection

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

### Components with limit values that require monitoring at the workplace:

#### 75-05-8 acetonitrile

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
	Skin

- **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.  
Avoid contact with the eyes.  
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

(Contd. on page 5)

US



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 4)

- **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:** Fluid
- **Color:** Colorless
- **Odor:** Aromatic
- **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

- **Melting point/Melting range:** -46 °C (-50.8 °F)
- **Boiling point/Boiling range:** 81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 525 °C (977 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

- **Lower:** 4.4 Vol %
- **Upper:** 16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 0.786 g/cm<sup>3</sup> (6.55917 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 at 20 °C (68 °F):** 0.39 mPas
- **Kinematic:** Not determined.

(Contd. on page 6)





Trade name: LC/MS Pesticide Standard 4

(Contd. of page 5)

- **Solvent content:**
- **VOC content:** 0.00 %  
0.0 g/l / 0.00 lb/gl
- **Solids content:** 0.5 %
- **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.

### 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,328 mg/kg (rat)
Dermal	LD50	>2,013 mg/kg (rabbit)
Inhalative	LC50/4 h	3,610 mg/L (mouse)

**75-05-8 acetonitrile**

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

**2312-35-8 propargite (ISO)**

Oral	LD50	2,800 mg/kg (rat)
Dermal	LD50	10,300 mg/kg (rabbit)

**14816-18-3 phoxim (ISO)**

Oral	LD50	300 mg/kg (rat)
Dermal	LD50	1,000 mg/kg (rat)

**120068-37-3 fipronil (ISO)**

Oral	LD50	97 mg/kg (rat)
Dermal	LD50	354 mg/kg (rabbit)
Inhalative	LC50/4 h	680 mg/L (rat)

**101463-69-8 flufenoxuron**

Oral	LD50	>3,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	5,000 mg/L (rat)

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 4

(Contd. of page 6)

**101200-48-0 methyl 2-(3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)3-methylureidosulphonyl)benzoate**

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)

**21087-64-9 metribuzin (ISO)**

Oral	LD50	1,090 mg/kg (rat)
Dermal	LD50	>20,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>860 mg/L (rat)

**74223-64-6 metsulfuron-methyl**

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>5,000 mg/L (rat)

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **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:  
Harmful  
Irritant

· **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.

· **Other adverse effects** No further relevant information available.

US

(Contd. on page 8)







Trade name: LC/MS Pesticide Standard 4

(Contd. of page 7)

**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>UN-Number</b>	
· <b>DOT, IMDG, IATA</b>	UN1648
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Acetonitrile solution
· <b>IMDG</b>	ACETONITRILE solution, MARINE POLLUTANT
· <b>IATA</b>	ACETONITRILE solution
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>IMDG</b>	
 	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>IATA</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	Product contains environmentally hazardous substances: linuron (ISO), phoxim (ISO)
· <b>Marine pollutant:</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	33

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Trade name: LC/MS Pesticide Standard 4

(Contd. of page 8)

· EMS Number:	F-E,S-D
· Stowage Category	B
· 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: 5 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 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

· Section 355 (extremely hazardous substances):	
3878-19-1	fuberidazole
6923-22-4	monocrotophos (ISO)

· Section 313 (Specific toxic chemical listings):	
75-05-8	acetonitrile
330-55-2	linuron (ISO)
2312-35-8	propargite (ISO)
101200-48-0	methyl 2-(3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)3-methylureidosulphonyl)benzoate
21087-64-9	metribuzin (ISO)
64902-72-3	2-chloro-N-[[[4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]benzenesulphonamide
35367-38-5	diflubenzuron

· TSCA (Toxic Substances Control Act):	
75-05-8	acetonitrile
134-62-3	N,N-diethyl-m-toluamide
330-55-2	linuron (ISO)
1610-18-0	prometon
1698-60-8	5-amino-4-chloro-2-phenylpyridazine-3-(2H)-one
57966-95-7	2-cyano-N-[(ethylamino)carbonyl]-2-(methoxyimino)acetamide
35367-38-5	diflubenzuron

· Proposition 65

· Chemicals known to cause cancer:	
2312-35-8	propargite (ISO)
143390-89-0	kresoxim-methyl (ISO)

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Trade name: LC/MS Pesticide Standard 4

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

330-55-2	linuron (ISO)
2312-35-8	propargite (ISO)

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

75-05-8	acetonitrile	CBD, D
74115-24-5	clofentezine	C
82558-50-7	isoxaben	C
21087-64-9	metribuzin (ISO)	D

· **TLV (Threshold Limit Value established by ACGIH)**

75-05-8	acetonitrile	A4
21087-64-9	metribuzin (ISO)	A4
6923-22-4	monocrotophos (ISO)	A4

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

acetonitrile

· **Hazard statements**

Highly flammable liquid and vapor.  
Harmful if swallowed.  
Causes serious eye irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Call a poison center/doctor if you feel unwell.  
Rinse mouth.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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**Trade name: LC/MS Pesticide Standard 4**

(Contd. of page 10)

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
Store in a well-ventilated place. Keep cool.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **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.

- **Date of preparation / last revision** 08/13/2018 / 1

- **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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



**1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 5
- **Part number:** 5190-0551-5
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

(Contd. on page 2)



**Trade name: LC/MS Pesticide Standard 5**

(Contd. of page 1)

- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- Specific treatment (see on this label).
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If skin irritation occurs: Get medical advice/attention.
- Take off contaminated clothing and wash it before reuse.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

· **Dangerous components:**

75-05-8	acetonitrile	86.194%
67-68-5	dimethyl sulfoxide	13.416%

**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:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

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**Trade name: LC/MS Pesticide Standard 5**

(Contd. of page 2)

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

**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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
67-68-5	dimethyl sulfoxide	150 ppm
16752-77-5	methomyl	0.91 mg/m <sup>3</sup>
23135-22-0	N',N'-dimethylcarbamoyl(methylthio)methylenamine N-methylcarbamate	0.15 mg/m <sup>3</sup>
39196-18-4	thiofanox	0.77 mg/m <sup>3</sup>
116-06-3	aldicarb (ISO)	0.027 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
67-68-5	dimethyl sulfoxide	290 ppm
16752-77-5	methomyl	10 mg/m <sup>3</sup>
23135-22-0	N',N'-dimethylcarbamoyl(methylthio)methylenamine N-methylcarbamate	1.7 mg/m <sup>3</sup>
39196-18-4	thiofanox	8.5 mg/m <sup>3</sup>
116-06-3	aldicarb (ISO)	0.3 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
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## Trade name: LC/MS Pesticide Standard 5

(Contd. of page 3)

67-68-5	dimethyl sulfoxide	1,800 ppm
16752-77-5	methomyl	23 mg/m <sup>3</sup>
23135-22-0	N',N'-dimethylcarbamoyl(methylthio)methylenamine N-methylcarbamate	4.7 mg/m <sup>3</sup>
39196-18-4	thiofanox	51 mg/m <sup>3</sup>
116-06-3	aldicarb (ISO)	1.8 mg/m <sup>3</sup>

\* **7 Handling and storage**

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

\* **8 Exposure controls/personal protection**

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

· **Components with limit values that require monitoring at the workplace:****75-05-8 acetonitrile**

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
	Skin

**67-68-5 dimethyl sulfoxide**

WEEL	Long-term value: 250 ppm
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- **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.  
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.

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Trade name: LC/MS Pesticide Standard 5

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· **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

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

· **Form:** Fluid

· **Color:** Colorless

· **Odor:** Aromatic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· **Melting point/Melting range:** -46 °C (-50.8 °F)

· **Boiling point/Boiling range:** 81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 270 °C (518 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

· **Lower:** 1.8 Vol %

· **Upper:** 63 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0.4 hPa (0.3 mm Hg)

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

(Contd. on page 6)



**Trade name: LC/MS Pesticide Standard 5**

(Contd. of page 5)

- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic at 20 °C (68 °F):** 0.39 mPas
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 13.4 %
  - VOC content:** 13.42 %  
134.2 g/l / 1.12 lb/gl
- **Solids content:** 0.4 %
- **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.

### 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,531 mg/kg (rat)
Dermal	LD50	>2,320 mg/kg (rabbit)
Inhalative	LC50/4 h	4,162 mg/L (mouse)

**75-05-8 acetonitrile**

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

**67-68-5 dimethyl sulfoxide**

Oral	LD50	14,500 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	40,250 mg/L (rat)

**16752-77-5 methomyl**

Oral	LD50	17 mg/kg (rat)
Dermal	LD50	5,880 mg/kg (rabbit)

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Trade name: LC/MS Pesticide Standard 5

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**96489-71-3 2-tert-butyl-5-(4-tert-butylbenzylthio)-4-chloropyridazin-3(2H)-one**

Oral	LD50	205 mg/kg (mouse)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	620 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:  
Harmful  
Irritant

· **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>		
116-06-3	aldicarb (ISO)	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.
- **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.



Trade name: LC/MS Pesticide Standard 5

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**14 Transport information**

· UN-Number · DOT, IMDG, IATA	UN1648
· UN proper shipping name · DOT · IMDG · IATA	Acetonitrile solution ACETONITRILE solution, MARINE POLLUTANT ACETONITRILE solution
· Transport hazard class(es) · DOT	
	
· Class · Label	3 Flammable liquids 3
· IMDG	
 	
· Class · Label	3 Flammable liquids 3
· IATA	
	
· Class · Label	3 Flammable liquids 3
· Packing group · DOT, IMDG, IATA	II
· Environmental hazards: · Marine pollutant:	Product contains environmentally hazardous substances: aldicarb (ISO), 2-tert-butyl-5-(4-tert-butylbenzylthio)-4-chloropyridazin-3(2H)-one Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category	Warning: Flammable liquids 33 F-E,S-D B
· 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: 5 L On cargo aircraft only: 60 L

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 8)

- **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 1648 ACETONITRILE SOLUTION, 3, II,  
ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

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

16752-77-5	methomyl
23135-22-0	N',N'-dimethylcarbamoyl(methylthio)methylenamine N-methylcarbamate
39196-18-4	thiofanox
116-06-3	aldicarb (ISO)

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

75-05-8	acetonitrile
5234-68-4	carboxin
59669-26-0	thiodicarb
330-54-1	diuron(ISO)
148-79-8	thiabendzol (ISO)
116-06-3	aldicarb (ISO)

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

75-05-8	acetonitrile
67-68-5	dimethyl sulfoxide
3766-81-2	2-butylphenyl methylcarbamate
39196-18-4	thiofanox
10605-21-7	carbendazim (ISO)
330-54-1	diuron(ISO)
148-79-8	thiabendzol (ISO)
116-06-3	aldicarb (ISO)

· **Proposition 65**

· **Chemicals known to cause cancer:**

140923-17-7	iprovalicarb
59669-26-0	thiodicarb
330-54-1	diuron(ISO)

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

None of the ingredients is listed.

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

None of the ingredients is listed.

(Contd. on page 10)



Trade name: LC/MS Pesticide Standard 5

(Contd. of page 9)

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

75-05-8	acetonitrile	CBD, D
116-06-3	aldicarb (ISO)	D

· **TLV (Threshold Limit Value established by ACGIH)**

75-05-8	acetonitrile	A4
16752-77-5	methomyl	A4
330-54-1	diuron(ISO)	A4

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

acetonitrile

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

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

Rinse mouth.

Specific treatment (see on this label).

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

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

(Contd. on page 11)





Trade name: LC/MS Pesticide Standard 5

(Contd. of page 10)

· **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.

· **Date of preparation / last revision** 08/13/2018 / 1

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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



**1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 6
- **Part number:** 5190-0551-6
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)



**Trade name: LC/MS Pesticide Standard 6**

(Contd. of page 1)

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

· **Dangerous components:**

75-05-8	acetonitrile	99.733%
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**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; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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.

(Contd. on page 3)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 2)

· **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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
63-25-2	carbaryl (ISO)	1.5 mg/m <sup>3</sup>
52-68-6	trichlorfon (ISO)	3 mg/m <sup>3</sup>
114-26-1	propoxur (ISO)	1.5 mg/m <sup>3</sup>
732-11-6	phosmet (ISO)	0.049 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
63-25-2	carbaryl (ISO)	100 mg/m <sup>3</sup>
52-68-6	trichlorfon (ISO)	13 mg/m <sup>3</sup>
114-26-1	propoxur (ISO)	6.7 mg/m <sup>3</sup>
732-11-6	phosmet (ISO)	0.54 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
63-25-2	carbaryl (ISO)	600 mg/m <sup>3</sup>
52-68-6	trichlorfon (ISO)	57 mg/m <sup>3</sup>
114-26-1	propoxur (ISO)	40 mg/m <sup>3</sup>
732-11-6	phosmet (ISO)	77 mg/m <sup>3</sup>

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 3)

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

**8 Exposure controls/personal protection**

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

**Components with limit values that require monitoring at the workplace:**

**75-05-8 acetonitrile**

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
	Skin

- **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.  
Avoid contact with the eyes.  
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

(Contd. on page 5)



**Trade name: LC/MS Pesticide Standard 6**

(Contd. of page 4)

- **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:** Fluid
- **Color:** Colorless
- **Odor:** Aromatic
- **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

- **Melting point/Melting range:** -46 °C (-50.8 °F)
- **Boiling point/Boiling range:** 81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 525 °C (977 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

- **Lower:** 4.4 Vol %
- **Upper:** 16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 0.786 g/cm<sup>3</sup> (6.55917 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 at 20 °C (68 °F):** 0.39 mPas
- **Kinematic:** Not determined.

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 5)

- **Solvent content:**
  - Organic solvents:** 0.0 %
  - VOC content:** 0.01 %
  - 0.1 g/l / 0.00 lb/gl
- **Solids content:** 0.2 %
- **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.

### 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,324 mg/kg (rat)
Dermal	LD50	>2,005 mg/kg (rabbit)
Inhalative	LC50/4 h	3,597 mg/L (mouse)

**75-05-8 acetonitrile**

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

**52-68-6 trichlorfon (ISO)**

Oral	LD50	882 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rat)

**65907-30-4 furathiocarb**

Oral	LD50	53 mg/kg (rat)
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**103361-09-7 flumioxazin (ISO)**

Oral	LD50	>5,000 mg/kg (rat)
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**156052-68-5 zoxamide (ISO)**

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

**732-11-6 phosmet (ISO)**

Oral	LD50	92.5 mg/kg (rat)
Dermal	LD50	1,150 mg/kg (rat)

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 6)

Inhalative	LC50/4 h	>3,160 mg/kg (rabbit) 54 mg/L (rat)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **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:  
Harmful  
Irritant

· **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>		
63-25-2	carbaryl (ISO)	3
52-68-6	trichlorfon (ISO)	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.
- **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.

(Contd. on page 8)








Trade name: LC/MS Pesticide Standard 6

(Contd. of page 7)

**14 Transport information**

· UN-Number	
· DOT, IMDG, IATA	UN1648
· UN proper shipping name	
· DOT	Acetonitrile solution
· IMDG	ACETONITRILE solution, MARINE POLLUTANT
· IATA	ACETONITRILE solution
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· IMDG	
	
· Class	3 Flammable liquids
· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: carbaryl (ISO), trichlorfon (ISO)
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· 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: 5 L On cargo aircraft only: 60 L

(Contd. on page 9)



**Trade name: LC/MS Pesticide Standard 6**

(Contd. of page 8)

· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1648 ACETONITRILE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

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

732-11-6	phosmet (ISO)
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· **Section 313 (Specific toxic chemical listings):**

75-05-8	acetonitrile
63-25-2	carbaryl (ISO)
52-68-6	trichlorfon (ISO)
114-26-1	propoxur (ISO)
2655-15-4	2,3,5-trimethacarb
72490-01-8	ethyl[2-(4-phenoxyphenoxy)ethyl]carbamate

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

75-05-8	acetonitrile
63-25-2	carbaryl (ISO)
1912-26-1	trietazine

· **Proposition 65**

· **Chemicals known to cause cancer:**

63-25-2	carbaryl (ISO)
114-26-1	propoxur (ISO)
72490-01-8	ethyl[2-(4-phenoxyphenoxy)ethyl]carbamate

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

63-25-2	carbaryl (ISO)
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· **Chemicals known to cause reproductive toxicity for males:**

63-25-2	carbaryl (ISO)
---------	----------------

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

63-25-2	carbaryl (ISO)
---------	----------------

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

75-05-8	acetonitrile	CBD, D
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· **TLV (Threshold Limit Value established by ACGIH)**

75-05-8	acetonitrile	A4
63-25-2	carbaryl (ISO)	A4

(Contd. on page 10)



Trade name: LC/MS Pesticide Standard 6

(Contd. of page 9)

52-68-6	trichlorfon (ISO)	A4
114-26-1	propoxur (ISO)	A3

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

None of the ingredients is listed.

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

· Hazard pictograms



GHS02 GHS07

· Signal word Danger

· Hazard-determining components of labeling:

acetonitrile

· Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

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

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

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

· 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.

· Date of preparation / last revision 08/13/2018 / 1

· 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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

(Contd. on page 11)

**Trade name: LC/MS Pesticide Standard 6**

(Contd. of page 10)

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  
Flam. Liq. 2: Flammable liquids – Category 2  
Acute Tox. 4: Acute toxicity – Category 4  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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

US



\* **1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 7
- **Part number:** 5190-0551-7
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)



**Trade name: LC/MS Pesticide Standard 7**

(Contd. of page 1)

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- 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

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

75-05-8	acetonitrile	99.619%
---------	--------------	---------

**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; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **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.

(Contd. on page 3)



**Trade name: LC/MS Pesticide Standard 7**

(Contd. of page 2)

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

**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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
83-79-4	rotenone	15 mg/m <sup>3</sup>
315-18-4	mexacarbate (ISO)	1.3 mg/m <sup>3</sup>
1982-47-4	chloroxuron	0.91 mg/m <sup>3</sup>
2032-65-7	mercaptodimethur (ISO)	1.4 mg/m <sup>3</sup>
2631-37-0	promecarb (ISO)	1.5 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
83-79-4	rotenone	420 mg/m <sup>3</sup>
315-18-4	mexacarbate (ISO)	14 mg/m <sup>3</sup>
1982-47-4	chloroxuron	10 mg/m <sup>3</sup>
2032-65-7	mercaptodimethur (ISO)	15 mg/m <sup>3</sup>
2631-37-0	promecarb (ISO)	16 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
83-79-4	rotenone	2,500 mg/m <sup>3</sup>
315-18-4	mexacarbate (ISO)	84 mg/m <sup>3</sup>
1982-47-4	chloroxuron	68 mg/m <sup>3</sup>
2032-65-7	mercaptodimethur (ISO)	90 mg/m <sup>3</sup>

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 7

2631-37-0 promecarb (ISO)

(Contd. of page 3)

96 mg/m<sup>3</sup>

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.

### 8 Exposure controls/personal protection

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

· **Components with limit values that require monitoring at the workplace:**

**75-05-8 acetonitrile**

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm Skin

- **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.  
Avoid contact with the eyes.  
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.

(Contd. on page 5)





**Trade name: LC/MS Pesticide Standard 7**

(Contd. of page 4)

- **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

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Color:** Colorless
- **Odor:** Aromatic
- **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

- **Melting point/Melting range:** -46 °C (-50.8 °F)
- **Boiling point/Boiling range:** 81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 525 °C (977 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

- **Lower:** 4.4 Vol %
- **Upper:** 16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 0.786 g/cm<sup>3</sup> (6.55917 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.

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 5)

- **Viscosity:**
  - Dynamic at 20 °C (68 °F):** 0.39 mPas
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 0.0 %
  - VOC content:** 0.01 %
  - 0.1 g/l / 0.00 lb/gl
- **Solids content:** 0.3 %
- **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.

### 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,325 mg/kg (rat)
Dermal	LD50	>2,008 mg/kg (rabbit)
Inhalative	LC50/4 h	3,601 mg/L (mouse)

**75-05-8 acetonitrile**

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

**71751-41-2 abamectin (combination of avermectin B1a and avermectin B1b) (ISO)**

Oral	LD50	1.5 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	1,100 mg/L (rat)

- **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **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:  
Harmful  
Irritant

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 6)

· **Carcinogenic categories**

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

315-18-4	mexacarbate (ISO)	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.
- **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>UN-Number</b>	
· <b>DOT, IMDG, IATA</b>	UN1648
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Acetonitrile solution
· <b>IMDG</b>	ACETONITRILE solution, MARINE POLLUTANT
· <b>IATA</b>	ACETONITRILE solution

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 7)

· Transport hazard class(es)

· DOT



· Class 3 Flammable liquids  
· Label 3

· IMDG



· Class 3 Flammable liquids  
· Label 3

· IATA



· Class 3 Flammable liquids  
· Label 3

· Packing group

· DOT, IMDG, IATA II

· Environmental hazards: Product contains environmentally hazardous substances: rotenone, abamectin (combination of avermectin B1a and avermectin B1b) (ISO)

· Marine pollutant: Symbol (fish and tree)

· Special precautions for user Warning: Flammable liquids

· Danger code (Kemler): 33

· EMS Number: F-E,S-D

· Stowage Category B

· Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code Not applicable.

· Transport/Additional information:

· DOT

· Quantity limitations On passenger aircraft/rail: 5 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

(Contd. on page 9)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 8)

· UN "Model Regulation": UN 1648 ACETONITRILE SOLUTION, 3, II,  
ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

· Section 355 (extremely hazardous substances):

315-18-4	mexacarbate (ISO)
1982-47-4	chloroxuron
2032-65-7	mercaptodimethur (ISO)
2631-37-0	promecarb (ISO)

· Section 313 (Specific toxic chemical listings):

75-05-8	acetonitrile
2032-65-7	mercaptodimethur (ISO)
3383-96-8	temephos
71751-41-2	abamectin (combination of avermectin B1a and avermectin B1b) (ISO)
67485-29-4	hydramethylnon
34014-18-1	tebuthiuron (ISO)

· TSCA (Toxic Substances Control Act):

75-05-8	acetonitrile
101-42-8	fenuron
3383-96-8	temephos
15545-48-9	chlorotoluron
26259-45-0	secbumeton (ISO)

· Proposition 65

· Chemicals known to cause cancer:

123312-89-0	pymetrozine (ISO)
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· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

67485-29-4	hydramethylnon
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· Chemicals known to cause developmental toxicity:

71751-41-2	abamectin (combination of avermectin B1a and avermectin B1b) (ISO)
67485-29-4	hydramethylnon

· Carcinogenic categories

· EPA (Environmental Protection Agency)

75-05-8	acetonitrile	CBD, D
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· TLV (Threshold Limit Value established by ACGIH)

75-05-8	acetonitrile	A4
83-79-4	rotenone	A4
3383-96-8	temephos	A4

(Contd. on page 10)



Trade name: LC/MS Pesticide Standard 7

(Contd. of page 9)

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

acetonitrile

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

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

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

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

· **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.

· **Date of preparation / last revision** 08/13/2018 / 1

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

(Contd. on page 11)

**Trade name: LC/MS Pesticide Standard 7**

(Contd. of page 10)

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 &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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

US



**1 Identification**

- **Product identifier**
- **Trade name:** LC/MS Pesticide Standard 8
- **Part number:** 5190-0551-8
- **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(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 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 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

acetonitrile

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Contd. on page 2)





**Trade name: LC/MS Pesticide Standard 8**

(Contd. of page 1)

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- 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

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

· **Dangerous components:**

75-05-8	acetonitrile	99.759%
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**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; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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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Trade name: LC/MS Pesticide Standard 8

(Contd. of page 2)

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

### 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** 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**  
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).  
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:**

75-05-8	acetonitrile	13 ppm
60-51-5	dimethoate (ISO)	2.7 mg/m <sup>3</sup>
1563-66-2	carbofuran (ISO)	0.3 mg/m <sup>3</sup>

· **PAC-2:**

75-05-8	acetonitrile	50 ppm
60-51-5	dimethoate (ISO)	30 mg/m <sup>3</sup>
1563-66-2	carbofuran (ISO)	0.43 mg/m <sup>3</sup>

· **PAC-3:**

75-05-8	acetonitrile	150 ppm
60-51-5	dimethoate (ISO)	170 mg/m <sup>3</sup>
1563-66-2	carbofuran (ISO)	3.7 mg/m <sup>3</sup>

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.

(Contd. on page 4)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 3)

- **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.

## 8 Exposure controls/personal protection

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

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

### 75-05-8 acetonitrile

PEL	Long-term value: 70 mg/m <sup>3</sup> , 40 ppm
REL	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
TLV	Long-term value: 34 mg/m <sup>3</sup> , 20 ppm
	Skin

- **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.  
Avoid contact with the eyes.  
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

(Contd. on page 5)

US



**Trade name: LC/MS Pesticide Standard 8**

(Contd. of page 4)

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Fluid
· <b>Color:</b>	Colorless
· <b>Odor:</b>	Aromatic
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	-46 °C (-50.8 °F)
· <b>Boiling point/Boiling range:</b>	81 °C (177.8 °F)

· **Flash point:** 2 °C (35.6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 525 °C (977 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

· <b>Lower:</b>	4.4 Vol %
· <b>Upper:</b>	16 Vol %

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 0.786 g/cm<sup>3</sup> (6.55917 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:**

· <b>Dynamic at 20 °C (68 °F):</b>	0.39 mPas
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· <b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gl

(Contd. on page 6)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 5)

- **Solids content:** 0.2 %
- **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.

### 11 Toxicological information

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

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,323 mg/kg (rat)
Dermal	LD50	>2,005 mg/kg (rabbit)
Inhalative	LC50/4 h	3,596 mg/L (mouse)

**75-05-8 acetonitrile**

Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

**79622-59-6 fluazinam**

Oral	LD50	>4,100 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>1,100 mg/L (rat)

**13684-56-5 desmedipham**

Oral	LD50	9,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)

**113614-08-7 beflubutamid (ISO)**

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

**121552-61-2 cyprodinil (ISO)**

Oral	LD50	2,796 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

(Contd. on page 7)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 6)

· **Additional toxicological information:**

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

Harmful

Irritant

· **Carcinogenic categories**

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

2164-17-2 fluometuron

3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.

· **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**

· **UN-Number**

· **DOT, IMDG, IATA**

UN1648

· **UN proper shipping name**

· **DOT**

· **IMDG, IATA**

Acetonitrile solution

ACETONITRILE solution

(Contd. on page 8)



Trade name: LC/MS Pesticide Standard 8

(Contd. of page 7)

· Transport hazard class(es)

· DOT



· Class 3 Flammable liquids  
· Label 3

· IMDG, IATA



· Class 3 Flammable liquids  
· Label 3

· Packing group

· DOT, IMDG, IATA II

· Environmental hazards: Not applicable.

· Special precautions for user Warning: Flammable liquids

· Danger code (Kemler): 33

· EMS Number: F-E,S-D

· Stowage Category B

· Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code Not applicable.

· Transport/Additional information:

· DOT

· Quantity limitations On passenger aircraft/rail: 5 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 1648 ACETONITRILE SOLUTION, 3, II

**15 Regulatory information**

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

· Sara

· Section 355 (extremely hazardous substances):

60-51-5	dimethoate (ISO)
1563-66-2	carbofuran (ISO)

· Section 313 (Specific toxic chemical listings):

75-05-8	acetonitrile
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(Contd. on page 9)



## Trade name: LC/MS Pesticide Standard 8

(Contd. of page 8)

60-51-5	dimethoate (ISO)
1563-66-2	carbofuran (ISO)
2164-17-2	fluometuron
13684-56-5	desmedipham

## · TSCA (Toxic Substances Control Act):

75-05-8	acetonitrile
60-51-5	dimethoate (ISO)
91-53-2	ethoxyquin
1563-66-2	carbofuran (ISO)
2164-17-2	fluometuron

## · Proposition 65

## · Chemicals known to cause cancer:

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

## · Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

## · Carcinogenic categories

## · EPA (Environmental Protection Agency)

75-05-8	acetonitrile	CBD, D
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## · TLV (Threshold Limit Value established by ACGIH)

75-05-8	acetonitrile	A4
1563-66-2	carbofuran (ISO)	A4

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

None of the ingredients is listed.

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

## · Hazard pictograms



GHS02 GHS07

## · Signal word Danger

## · Hazard-determining components of labeling:

acetonitrile

## · Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes serious eye irritation.

## · Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

(Contd. on page 10)





**Trade name: LC/MS Pesticide Standard 8**

(Contd. of page 9)

- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- **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.

· **Date of preparation / last revision** 08/13/2018 / 1

· **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
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- 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
- Flam. Liq. 2: Flammable liquids – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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