

Product code	Description
SPK-8141B	EPA Method 8141B Kit

Components:

SPM-824-1	Organophosphorous Pesticides Standard (1X1 mL)
SPM-834-1	Organophosphorous Pesticides Standard (1X1 mL)
SPM-844A-1	Organophosphorus Pesticides Standard (1X1 mL)
SPM-854-1	Organophosphorus Pesticides Standard (1X1 mL)
SPM-864-1	Industrial Chemicals Standard (1X1 mL)
SPM-874-1	Triazine Herbicides Standard (1X1 mL)
ISM-570-1	Surrogate Standard (1X1 mL)
PPS-350-1	1-Bromo-2-nitrobenzene Standard (1X1 mL)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

1 Identification

- **Product identifier**
- **Trade name:** Organophosphorous Pesticides Standard (1X1 mL)
- **Part number:** SPM-824-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



flame

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



health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 1)

· Hazard-determining components of labelling:

n-hexane

· Hazard statements

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

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

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

AU

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 2)

3 Composition and Information on Ingredients

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

- **Dangerous components:**

67-64-1	acetone	54.251%
	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	
110-54-3	n-hexane	45.197%
	⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	

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

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 3)

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and Storage

· Handling:
· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· 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 container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls and personal protection

· Additional information about design of technical facilities: No further data; see item 7.

· Control parameters
· Ingredients with limit values that require monitoring at the workplace:
67-64-1 acetone

NES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

WES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

110-54-3 n-hexane

NES Long-term value: 72 mg/m³, 20 ppm

WES Long-term value: 72 mg/m³, 20 ppm

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

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 4)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: > 4 hours
- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Colour:	According to product specification
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	55.8-56.6 °C
- **Flash point:** -22 °C
- **Flammability (solid, gas):** Not applicable.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 5)

· Ignition temperature:	240 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	175 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.6 %
VOC (EC)	99.64 %
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 relevant for classification:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	11,063 mg/kg (rat)
Dermal	LD50	6,638 mg/kg (rabbit)

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 6)

67-64-1 acetone		
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
110-54-3 n-hexane		
Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)
55-38-9 fenthion (ISO)		
Oral	LD50	180 mg/kg (rat)
Dermal	LD50	330 mg/kg (rat)
Inhalative	LC50/4 h	800 mg/L (rat)
298-00-0 parathion -methyl (ISO)		
Oral	LD50	6.01 mg/kg (rat)
Dermal	LD50	67 mg/kg (rat) 300 mg/kg (rabbit)
300-76-5 naled (ISO)		
Oral	LD50	92 mg/kg (rat)
Dermal	LD50	800 mg/kg (rat) 1,100 mg/kg (rabbit)
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)
Inhalative	LC50/4 h	>200 mg/L (rat)
62-73-7 dichlorvos (ISO)		
Oral	LD50	25 mg/kg (rat)
Dermal	LD50	107 mg/kg (rat) 107 mg/kg (rabbit)
Inhalative	LC50/4 h	15 mg/L (rat)
7786-34-7 mevinphos (ISO)		
Oral	LD50	3 mg/kg (rat)
Dermal	LD50	4 mg/kg (rat)
298-02-2 phorate (ISO)		
Oral	LD50	1.6 mg/kg (rat)
Dermal	LD50	2.5 mg/kg (rat)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation** Irritating effect.

· **Respiratory or skin sensitisation** No sensitising effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Repr. 2

(Contd. of page 7)

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| · Not Regulated, De minimus Quantities | - |
| · UN-Number | |
| · ADG, IMDG, IATA | UN1993 |
| · UN proper shipping name | |
| · ADG | 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), ENVIRONMENTALLY HAZARDOUS |
| · IMDG | FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), MARINE POLLUTANT |
| · IATA | FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES) |

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 8)

· **Transport hazard class(es)**

· **ADG, IMDG**

· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**

· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**

· **ADG, IMDG, IATA**

II

· **Environmental hazards:**

Product contains environmentally hazardous substances: n-hexane

· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADG):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

33

· **EMS Number:**

F-E, S-E

· **Stowage Category**

B

· **Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

D/E

· **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)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 9)

· **UN "Model Regulation":**

UN 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

67-64-1	acetone
110-54-3	n-hexane
115-90-2	fensulfothion (ISO)
35400-43-2	sulprophos (bolstar)
34643-46-4	tokuthion
55-38-9	fenthion (ISO)
298-00-0	parathion -methyl (ISO)
300-76-5	naled (ISO)
299-84-3	fenchlorphos (ISO)
86-50-0	azinthos-methyl (ISO)
2921-88-2	chlorpyrifos (ISO)
333-41-5	diazinon (ISO)
62-73-7	dichlorvos (ISO)
298-04-4	disulfoton
13194-48-4	ethoprophos (ISO)
150-50-5	merphos
7786-34-7	mevinphos (ISO)
56-72-4	coumaphos (ISO)
298-02-2	phorate (ISO)
22248-79-9	tetrachlorvinphos

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

67-64-1	acetone	S5
115-90-2	fensulfothion (ISO)	S7
35400-43-2	sulprophos (bolstar)	S6
34643-46-4	tokuthion	S6
55-38-9	fenthion (ISO)	S5, S6, S7
298-00-0	parathion -methyl (ISO)	S6, S7
300-76-5	naled (ISO)	S5, S6
299-84-3	fenchlorphos (ISO)	S6
86-50-0	azinthos-methyl (ISO)	S7
2921-88-2	chlorpyrifos (ISO)	S5, S6
333-41-5	diazinon (ISO)	S5, S6

(Contd. on page 11)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 10)

8065-48-3	demeton	S7
62-73-7	dichlorvos (ISO)	S5, S6, S7
298-04-4	disulfoton	S6, S7
13194-48-4	ethoprophos (ISO)	S6, S7
7786-34-7	mevinphos (ISO)	S7
56-72-4	coumaphos (ISO)	S6, S7
298-02-2	phorate (ISO)	S7
22248-79-9	tetrachlorvinphos	S5

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
 - E1 Hazardous to the Aquatic Environment
 - P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- **Relevant phrases**
 - H225 Highly flammable liquid and vapour.
 - H304 May be fatal if swallowed and enters airways.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H336 May cause drowsiness or dizziness.
 - H361 Suspected of damaging fertility or the unborn child.
 - H373 May cause damage to organs through prolonged or repeated exposure.
- **Department issuing SDS:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Abbreviations and acronyms:**
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - VOC: Volatile Organic Compounds (USA, EU)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Liq. 2: Flammable liquids – Category 2
 - Skin Irrit. 2: Skin corrosion/irritation – Category 2
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 - Repr. 2: Reproductive toxicity – Category 2
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 - STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 - Asp. Tox. 1: Aspiration hazard – Category 1
- *** Data compared to the previous version altered.**

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

1 Identification

- **Product identifier**
- **Trade name:** Organophosphorous Pesticides Standard (1X1 mL)
- **Part number:** SPM-834-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



flame

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



health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 1)

· Hazard-determining components of labelling:

n-hexane

· Hazard statements

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

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

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

AU

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 2)

3 Composition and Information on Ingredients

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

- **Dangerous components:**

67-64-1	acetone	54.446%
	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	
110-54-3	n-hexane	45.36%
	⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	

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

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 3)

Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**

- **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

- **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- **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 container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls and personal protection

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

- **Control parameters**

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

67-64-1 acetone

NES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

WES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

110-54-3 n-hexane

NES Long-term value: 72 mg/m³, 20 ppm

WES Long-term value: 72 mg/m³, 20 ppm

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

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 4)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: > 4 hours
- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Colour:	According to product specification
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	55 °C
- **Flash point:** -22 °C
- **Flammability (solid, gas):** Not applicable.

(Contd. on page 6)



Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 5)

· Ignition temperature:	240 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	175 hPa
· Density at 20 °C:	0.75547 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.9 %
VOC (EC)	99.86 %
Solids content:	0.1 %
· 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 relevant for classification:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	11,023 mg/kg (rat)
Dermal	LD50	6,614 mg/kg (rabbit)

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 6)

67-64-1 acetone		
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
110-54-3 n-hexane		
Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)
56-38-2 parathion (ISO)		
Oral	LD50	2 mg/kg (rat)
Dermal	LD50	6.8 mg/kg (rat)
3689-24-5 sulfotep (ISO)		
Oral	LD50	5 mg/kg (rat)
Dermal	LD50	20 mg/kg (rat)
Inhalative	LC50/4 h	38 mg/L (rat)
121-75-5 malathion (ISO)		
Oral	LD50	1,000 mg/kg (rat)
Dermal	LD50	8,790 mg/kg (rabbit)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation** Irritating effect.

· **Respiratory or skin sensitisation** No sensitising effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Repr. 2

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

AU

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 7)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantities	-
· UN-Number · ADG, IMDG, IATA	UN1993
· UN proper shipping name · ADG · IMDG · IATA	1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES)
· Transport hazard class(es) · ADG, IMDG	
 	
· Class · Label	3 Flammable liquids. 3
· IATA	
	
· Class · Label	3 Flammable liquids. 3
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards: · Marine pollutant: · Special marking (ADG):	Product contains environmentally hazardous substances: n-hexane Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler):	Warning: Flammable liquids. 33

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 8)

· EMS Number:	F-E,S-E
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· 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 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

67-64-1	acetone
110-54-3	n-hexane
60-51-5	dimethoate (ISO)
6923-22-4	monocrotophos (ISO)
56-38-2	parathion (ISO)
121-75-5	malathion (ISO)

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

67-64-1	acetone	S5
60-51-5	dimethoate (ISO)	S6
6923-22-4	monocrotophos (ISO)	S7
56-38-2	parathion (ISO)	S7
107-49-3	TEPP (ISO)	S7
3689-24-5	sulfotep (ISO)	S7
121-75-5	malathion (ISO)	S3, S5, S6

· **Directive 2012/18/EU**

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

(Contd. on page 10)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 9)

- **Seveso category**
E1 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- **Relevant phrases**

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

- **Department issuing SDS:** Document Control / Regulatory

- **Contact:** regulatory@ultrasci.com

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

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

AU

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

1 Identification

- **Product identifier**
- **Trade name:** Organophosphorus Pesticides Standard (1X1 mL)
- **Part number:** SPM-844A-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



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



Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02 GHS07 GHS08

- **Signal word** Danger

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 1)

· Hazard-determining components of labelling:

n-hexane

· Hazard statements

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

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

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

AU

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 2)

3 Composition and Information on Ingredients

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

- **Dangerous components:**

67-64-1	acetone	54.401%
	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	
110-54-3	n-hexane	45.323%
	⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	

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

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 3)

Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**

- **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

- **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- **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 container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls and personal protection

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

- **Control parameters**

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

67-64-1 acetone

NES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

WES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

110-54-3 n-hexane

NES Long-term value: 72 mg/m³, 20 ppm

WES Long-term value: 72 mg/m³, 20 ppm

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

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 4)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

- **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

- **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: > 4 hours

- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

- **General Information**

- **Appearance:**

Form: Fluid

Colour: According to product specification

- **Odour:** Characteristic

- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 55 °C

- **Flash point:** -22 °C

- **Flammability (solid, gas):** Not applicable.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 5)

· Ignition temperature:	240 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	175 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.8 %
VOC (EC)	99.83 %
Solids content:	0.1 %
· 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 relevant for classification:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	11,032 mg/kg (rat)
Dermal	LD50	6,619 mg/kg (rabbit)

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 6)

67-64-1 acetone		
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
110-54-3 n-hexane		
Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)
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)
732-11-6 phosmet (ISO)		
Oral	LD50	92.5 mg/kg (rat)
Dermal	LD50	1,150 mg/kg (rat)
		>3,160 mg/kg (rabbit)
Inhalative	LC50/4 h	54 mg/L (rat)
78-34-2 dioxathion (ISO)		
Oral	LD50	23 mg/kg (rat)
Dermal	LD50	63 mg/kg (rat)
Inhalative	LC50/4 h	1,398 mg/L (rat)
13071-79-9 S-tert-butylthiomethyl O,O-diethylphosphorodithioate		
Oral	LD50	4.5 mg/kg (rat)
2642-71-9 azinphos-ethyl (ISO)		
Dermal	LD50	250 mg/kg (rat)
Inhalative	LC50/4 h	390 mg/L (rat)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation** Irritating effect.

· **Respiratory or skin sensitisation** No sensitising effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Repr. 2

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 7)

- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **Not Regulated, De minimus Quantities**

-

- **UN-Number**
- **ADG, IMDG, IATA** UN1993

- **UN proper shipping name**
- **ADG** 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), ENVIRONMENTALLY HAZARDOUS
- **IMDG** FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), MARINE POLLUTANT
- **IATA** FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES)

- **Transport hazard class(es)**

- **ADG, IMDG**



- **Class** 3 Flammable liquids.
- **Label** 3

- **IATA**



- **Class** 3 Flammable liquids.

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 8)

· Label	3
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards: · Marine pollutant: · Special marking (ADG):	Product contains environmentally hazardous substances: azinphos-ethyl (ISO), ethion (ISO) Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E, <u>S-E</u> B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category · Tunnel restriction code	2 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· Australian Inventory of Chemical Substances	
67-64-1	acetone
110-54-3	n-hexane
52-85-7	famphur
21609-90-5	leptophos (ISO)
563-12-2	ethion (ISO)
732-11-6	phosmet (ISO)
13171-21-6	phosphamidon
786-19-6	carbophenothion (ISO)
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate

(Contd. on page 10)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 9)

470-90-6	chlorfenvinphos (ISO)	
2642-71-9	azinphos-ethyl (ISO)	
Standard for the Uniform Scheduling of Medicines and Poisons		
67-64-1	acetone	S5
52-85-7	famphur	S6, S7
21609-90-5	leptophos (ISO)	S7
563-12-2	ethion (ISO)	S7
732-11-6	phosmet (ISO)	S6
786-19-6	carbophenothion (ISO)	S7
13071-79-9	S-tert-butylthiomethyl O,O-diethylphosphorodithioate	S7
470-90-6	chlorfenvinphos (ISO)	S7
2642-71-9	azinphos-ethyl (ISO)	S7

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
 - E1 Hazardous to the Aquatic Environment
 - P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Relevant phrases

- H225 Highly flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

· Department issuing SDS: Document Control / Regulatory

· **Contact:** regulatory@ultrasci.com

· Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Skin Irrit. 2: Skin corrosion/irritation – Category 2

(Contd. on page 11)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 10)

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

AU

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

1 Identification

- **Product identifier**
- **Trade name:** Organophosphorus Pesticides Standard (1X1 mL)
- **Part number:** SPM-854-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



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



Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02 GHS07 GHS08

- **Signal word** Danger

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 1)

· Hazard-determining components of labelling:

n-hexane

· Hazard statements

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

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

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

AU

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 2)

3 Composition and Information on Ingredients

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

- **Dangerous components:**

67-64-1	acetone	54.416%
	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	
110-54-3	n-hexane	45.335%
	⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	

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

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 3)

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and Storage

· Handling:
· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· 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 container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls and personal protection

· Additional information about design of technical facilities: No further data; see item 7.

· Control parameters
· Ingredients with limit values that require monitoring at the workplace:
67-64-1 acetone

NES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

WES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

110-54-3 n-hexane

NES Long-term value: 72 mg/m³, 20 ppm

WES Long-term value: 72 mg/m³, 20 ppm

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

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 4)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: > 4 hours
- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Colour:	According to product specification
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	55 °C
- **Flash point:** -22 °C
- **Flammability (solid, gas):** Not applicable.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 5)

· Ignition temperature:	240 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	175 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.9 %
VOC (EC)	99.89 %
· Solids content:	0.1 %
· 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 relevant for classification:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	11,029 mg/kg (rat)
Dermal	LD50	6,617 mg/kg (rabbit)

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 6)

67-64-1 acetone		
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
110-54-3 n-hexane		
Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)
5598-13-0 chlorpyrifos-methyl		
Oral	LD50	1,828 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>670 mg/L (rat)
7700-17-6 crotoxyphos (ISO)		
Oral	LD50	38.4 mg/kg (rat)
Dermal	LD50	385 mg/kg (rabbit)
52-68-6 trichlorfon (ISO)		
Oral	LD50	882 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rat)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation** Irritating effect.

· **Respiratory or skin sensitisation** No sensitising effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Repr. 2

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

AU

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 7)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantities	-
· UN-Number · ADG, IMDG, IATA	UN1993
· UN proper shipping name · ADG · IMDG · IATA	1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES)
· Transport hazard class(es) · ADG, IMDG	
 	
· Class · Label	3 Flammable liquids. 3
· IATA	
	
· Class · Label	3 Flammable liquids. 3
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards: · Marine pollutant: · Special marking (ADG):	Product contains environmentally hazardous substances: n-hexane Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler):	Warning: Flammable liquids. 33

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 8)

· EMS Number:	F-E, <u>S-E</u>
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· 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 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

67-64-1	acetone
110-54-3	n-hexane
5598-13-0	chlorpyrifos-methyl
97-17-6	dichlofenthion
141-66-2	(E)-3-(dimethylamino)-1-methyl-3-oxoprop-1-enyl dimethyl phosphate
52-68-6	trichlorfon (ISO)
122-14-5	fenitrothion (ISO)

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

67-64-1	acetone	S5
5598-13-0	chlorpyrifos-methyl	S6
7700-17-6	crotoxyphos (ISO)	S6
97-17-6	dichlofenthion	S6
52-68-6	trichlorfon (ISO)	S4, S6
122-14-5	fenitrothion (ISO)	S6

· **Directive 2012/18/EU**

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

(Contd. on page 10)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Organophosphorus Pesticides Standard (1X1 mL)

(Contd. of page 9)

- **Seveso category**
E1 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- **Relevant phrases**

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

- **Department issuing SDS:** Document Control / Regulatory

- **Contact:** regulatory@ultrasci.com

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

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

AU

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

1 Identification

- **Product identifier**
- **Trade name:** Industrial Chemicals Standard (1X1 mL)
- **Part number:** SPM-864-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



flame

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



health hazard

Carc. 1B H350 May cause cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

(Contd. on page 2)

-AU-

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

(Contd. of page 1)

· **Signal word** Danger

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

n-hexane
hexamethylphosphoric triamide

· **Hazard statements**

Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
Specific treatment (see on this label).
Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor if you feel unwell.
Get medical advice/attention if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use for extinction: CO₂, powder or water spray.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

· **vPvB:** Not applicable.

(Contd. of page 2)

3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

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

· **Dangerous components:**

67-64-1	acetone ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	54.522%
110-54-3	n-hexane ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	45.423%
680-31-9	hexamethylphosphoric triamide ⚠ Muta. 1B, H340; Carc. 1B, H350	0.0276%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

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

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire Fighting Measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

· **Advice for firefighters**

· **Protective equipment:** Mouth respiratory protective device.

AU

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

(Contd. of page 3)

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **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 container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

	Ingredients with limit values that require monitoring at the workplace:
	67-64-1 acetone
NES	Short-term value: 2375 mg/m ³ , 1000 ppm Long-term value: 1185 mg/m ³ , 500 ppm

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

(Contd. of page 4)

WES	Short-term value: 2375 mg/m ³ , 1000 ppm Long-term value: 1185 mg/m ³ , 500 ppm
110-54-3 n-hexane	
NES	Long-term value: 72 mg/m ³ , 20 ppm
WES	Long-term value: 72 mg/m ³ , 20 ppm
680-31-9 hexamethylphosphoric triamide	
NES	Sk
WES	Sk

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: > 4 hours

· **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

Form:

Fluid

Colour:

According to product specification

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

(Contd. of page 5)

· Odour:	Characteristic
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	55 °C
· Flash point:	-22 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	240 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	175 hPa
· Density at 20 °C:	0.75474 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	100.0 %
VOC (EC)	99.97 %
· 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.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

· **Hazardous decomposition products:** No dangerous decomposition products known.

(Contd. of page 6)

11 Toxicological Information

· **Information on toxicological effects**

· **Acute toxicity**

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

ATE (Acute Toxicity Estimates)

Oral	LD50	11,008 mg/kg (rat)
Dermal	LD50	6,605 mg/kg (rabbit)

67-64-1 acetone

Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)

110-54-3 n-hexane

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation** Irritating effect.

· **Respiratory or skin sensitisation** No sensitising effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Carc. 1B, Repr. 2

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

AU

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

(Contd. of page 7)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantities	-
· UN-Number · ADG, IMDG, IATA	UN1993
· UN proper shipping name · ADG · IMDG · IATA	1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES)
· Transport hazard class(es) · ADG, IMDG	
 	
· Class · Label	3 Flammable liquids. 3
· IATA	
	
· Class · Label	3 Flammable liquids. 3
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards: · Marine pollutant: · Special marking (ADG):	Product contains environmentally hazardous substances: n-hexane Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Danger code (Kemler):	Warning: Flammable liquids. 33

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

(Contd. of page 8)

· EMS Number:	F-E, <u>S-E</u>
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· 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 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

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

67-64-1 acetone

S5

· **Directive 2012/18/EU**

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

· **Seveso category**

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

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

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

· **National regulations:**

· **Additional classification according to Decree on Hazardous Materials, Annex II:**

Carcinogenic hazardous material group III (dangerous).

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

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

AU

(Contd. on page 10)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 29.05.2019

Trade name: Industrial Chemicals Standard (1X1 mL)

(Contd. of page 9)

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** regulatory@ultrasci.com

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1B: Carcinogenicity – Category 1B
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

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

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

1 Identification

- **Product identifier**
- **Trade name:** Triazine Herbicides Standard (1X1 mL)
- **Part number:** SPM-874-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



flame

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



health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 1)

· Hazard-determining components of labelling:

n-hexane

· Hazard statements

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

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

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

AU

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 2)

3 Composition and Information on Ingredients

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

- **Dangerous components:**

67-64-1	acetone	54.522%
	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	
110-54-3	n-hexane	45.423%
	⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	

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

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 3)

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and Storage

· Handling:
· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· 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 container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls and personal protection

· Additional information about design of technical facilities: No further data; see item 7.

· Control parameters
· Ingredients with limit values that require monitoring at the workplace:
67-64-1 acetone

NES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

WES Short-term value: 2375 mg/m³, 1000 ppm

Long-term value: 1185 mg/m³, 500 ppm

110-54-3 n-hexane

NES Long-term value: 72 mg/m³, 20 ppm

WES Long-term value: 72 mg/m³, 20 ppm

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

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 4)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
 - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
 - Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
 - For normal use: nitrile rubber, 11-13 mil thickness
 - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
 - For normal use: nitrile rubber: 1 hour
 - For direct contact with the chemical: butyl rubber: > 4 hours
- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Colour:	According to product specification
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	55 °C
- **Flash point:** -22 °C
- **Flammability (solid, gas):** Not applicable.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 5)

· Ignition temperature:	240 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	175 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.9 %
VOC (EC)	99.94 %
· Solids content:	0.1 %
· 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 relevant for classification:			
ATE (Acute Toxicity Estimates)			
Oral	LD50	11,008 mg/kg (rat)	
Dermal	LD50	6,605 mg/kg (rabbit)	

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 6)

67-64-1 acetone

Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)

110-54-3 n-hexane

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Repr. 2

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

AU

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 7)

14 Transport information

· Not Regulated, De minimus Quantities	-
· UN-Number	
· ADG, IMDG, IATA	UN1993
· UN proper shipping name	1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), ENVIRONMENTALLY HAZARDOUS
· ADG	FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), MARINE POLLUTANT
· IMDG	FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES)
· IATA	
· Transport hazard class(es)	
· ADG, IMDG	
	
	
· Class	3 Flammable liquids.
· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADG, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: atrazine (ISO), n-hexane
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADG):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E, <u>S-E</u>
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG	
· Limited quantities (LQ)	1L

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 8)

· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· 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 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE, HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

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

67-64-1	acetone	S5
1912-24-9	atrazine (ISO)	S5

· **Directive 2012/18/EU**

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

· **Seveso category**

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

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

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

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

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** regulatory@ultrasci.com

(Contd. on page 10)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 29.05.2019

Trade name: Triazine Herbicides Standard (1X1 mL)

(Contd. of page 9)

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

AU

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

1 Identification

- **Product identifier**
- **Trade name:** Surrogate Standard (1X1 mL)
- **Part number:** ISM-570-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



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



Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

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



GHS02 GHS07

- **Signal word** Danger
- **Hazard statements**
Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.
- **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Ground/bond container and receiving equipment.

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

(Contd. of page 1)

Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER/doctor if you feel unwell.
 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 container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

*

3 Composition and Information on Ingredients

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

· Dangerous components:

67-64-1	acetone	99.747%
	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	
126-73-8	tributyl phosphate	0.126%
	⚠ Acute Tox. 3, H331; ⚠ Carc. 2, H351; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	

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

4 First Aid Measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:**
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

AU

(Contd. on page 3)

Safety Data Sheet according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

(Contd. of page 2)

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** 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).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
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 container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

(Contd. on page 4)

AU

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

(Contd. of page 3)

· Control parameters

· Ingredients with limit values that require monitoring at the workplace:

67-64-1 acetone

NES	Short-term value: 2375 mg/m ³ , 1000 ppm Long-term value: 1185 mg/m ³ , 500 ppm
WES	Short-term value: 2375 mg/m ³ , 1000 ppm Long-term value: 1185 mg/m ³ , 500 ppm

126-73-8 tributyl phosphate

NES	Long-term value: 2.2 mg/m ³ , 0.2 ppm
WES	Long-term value: 2.2 mg/m ³ , 0.2 ppm

· **Additional information:** The lists valid during the making 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.

· Respiratory protection:

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

· Protection of hands:

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· Material of gloves

- For normal use: nitrile rubber, 11-13 mil thickness
- For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· Penetration time of glove material

- For normal use: nitrile rubber: 1 hour
- For direct contact with the chemical: butyl rubber: > 4 hours

· Eye protection:



Tightly sealed goggles

AU

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

(Contd. of page 4)

9 Physical and Chemical Properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Fluid
Colour:	Colourless
· Odour:	Characteristic
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/freezing point:	-94.7 °C
Initial boiling point and boiling range:	55 °C
· Flash point:	-17 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	465 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	2.6 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	245.3 hPa
· Density at 20 °C:	0.80082 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.9 %
VOC (EC)	99.87 %
Solids content:	0.1 %
· Other information	No further relevant information available.

10 Stability and Reactivity

· Reactivity No further relevant information available.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

(Contd. of page 5)

- **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 relevant for classification:**
ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	>3,354 mg/L (rat)
------------	----------	-------------------

67-64-1 acetone

Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)

126-73-8 tributyl phosphate

Oral	LD50	1,390 mg/kg (rat)
Dermal	LD50	>3,100 mg/kg (rat)
Inhalative	LC50/4 h	>4.24 mg/L (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 7)



Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

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

(Contd. of page 6)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **Not Regulated, De minimus Quantities**

-

· **UN-Number**· **ADG, IMDG, IATA**

UN1090

· **UN proper shipping name**· **ADG**· **IMDG, IATA**

1090 ACETONE solution

ACETONE solution

· **Transport hazard class(es)**· **ADG, IMDG, IATA**· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**· **ADG, 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 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADG**· **Limited quantities (LQ)**· **Excepted quantities (EQ)**

1L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

(Contd. of page 7)

· Tunnel restriction code	D/E
· 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 1090 ACETONE SOLUTION, 3, II

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

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

67-64-1 acetone

S5

· **Directive 2012/18/EU**

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

· **Seveso category P5c** FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

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

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** regulatory@ultrasci.com

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 3

Revision: 27.04.2019

Trade name: Surrogate Standard (1X1 mL)

(Contd. of page 8)

vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

AU

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

1 Identification

- **Product identifier**
- **Trade name:** 1-Bromo-2-nitrobenzene Standard (1X1 mL)
- **Part number:** PPS-350-1
- **Relevant identified uses of the substance or mixture and uses advised against**
Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
- **Further information obtainable from:**
Telephone: 1800 802 402
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



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



Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

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



GHS02 GHS07

- **Signal word** Danger
- **Hazard statements**
Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.
- **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Ground/bond container and receiving equipment.

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

Trade name: 1-Bromo-2-nitrobenzene Standard (1X1 mL)

(Contd. of page 1)

Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER/doctor if you feel unwell.
 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 container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

3 Composition and Information on Ingredients

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

· **Dangerous components:**

67-64-1	acetone	 Flam. Liq. 2, H225;  Eye Irrit. 2, H319; STOT SE 3, H336	99.874%
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- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:**
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

(Contd. on page 3)

Safety Data Sheet according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

Trade name: 1-Bromo-2-nitrobenzene Standard (1X1 mL)

(Contd. of page 2)

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** 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).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
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 container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

(Contd. on page 4)

AU

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

Trade name: 1-Bromo-2-nitrobenzene Standard (1X1 mL)

(Contd. of page 3)

· Control parameters

· Ingredients with limit values that require monitoring at the workplace:

67-64-1 acetone

NES	Short-term value: 2375 mg/m ³ , 1000 ppm Long-term value: 1185 mg/m ³ , 500 ppm
WES	Short-term value: 2375 mg/m ³ , 1000 ppm Long-term value: 1185 mg/m ³ , 500 ppm

· **Additional information:** The lists valid during the making 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.

· Respiratory protection:

When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.

· Protection of hands:

Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· Material of gloves

- For normal use: nitrile rubber, 11-13 mil thickness
- For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· Penetration time of glove material

- For normal use: nitrile rubber: 1 hour
- For direct contact with the chemical: butyl rubber: > 4 hours

· Eye protection:



Tightly sealed goggles

9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Colour:	Colourless
Odour:	Characteristic

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

Trade name: 1-Bromo-2-nitrobenzene Standard (1X1 mL)

(Contd. of page 4)

· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/freezing point: Initial boiling point and boiling range:	-94.7 °C 55 °C
· Flash point:	-17 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	465 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits: Lower: Upper:	2.6 Vol % 13 Vol %
· Vapour pressure at 20 °C:	245.3 hPa
· Density at 20 °C: · Relative density · Vapour density · Evaporation rate	0.80025 g/cm ³ Not determined. Not determined. Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
· Solvent content: Organic solvents: VOC (EC) · Other information	99.9 % 99.87 % 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.

AU

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

Trade name: 1-Bromo-2-nitrobenzene Standard (1X1 mL)

(Contd. of page 5)

11 Toxicological Information

· **Information on toxicological effects**

· **Acute toxicity**

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

ATE (Acute Toxicity Estimates)

Oral	LD50	79,114 mg/kg
Dermal	LD50	237,342 mg/kg
Inhalative	LC50/4 h	2,373 mg/L

67-64-1 acetone

Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)

· **Primary irritant effect:**

· **Skin corrosion/irritation** No irritant effect.

· **Serious eye damage/irritation** Irritating effect.

· **Respiratory or skin sensitisation** No sensitising effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

Trade name: 1-Bromo-2-nitrobenzene Standard (1X1 mL)

(Contd. of page 6)

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantities	-
· UN-Number	
· ADG, IMDG, IATA	UN1993
· UN proper shipping name	
· ADG	1993 FLAMMABLE LIQUID, N.O.S. (ACETONE)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (ACETONE)
· Transport hazard class(es)	
· ADG, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADG, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E, <u>S</u> -E
· Stowage Category	B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· 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 8)

Safety Data Sheet

according to WHS Regulations

Printing date 30.05.2019

Version number 2

Revision: 28.04.2019

Trade name: 1-Bromo-2-nitrobenzene Standard (1X1 mL)

(Contd. of page 7)

· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (ACETONE), 3, II
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15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

67-64-1	acetone
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· **Standard for the Uniform Scheduling of Medicines and Poisons**

67-64-1	acetone
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	S5
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· **Directive 2012/18/EU**

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

· **Seveso category P5c** FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

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

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

· **Department issuing SDS:** Document Control / Regulatory

· **Contact:** regulatory@ultraschi.com

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

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

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

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3