

Safety Data Sheet

according to WHS Regulations

Printing date 29.03.2019

Version number 2

Revision: 29.03.2019

1 Identification

- **Product identifier**
- **Trade name:** Benzidines and Nitrogen Pesticide Standard (1X1 mL)
- **Part number:** NPM-530-1
- **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. 1A H350 May cause cancer.

Repr. 1B H360 May damage fertility or the unborn child.



Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
acetonitrile
3,3'-dimethoxybenzidine

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ethylene thiourea

1-(2-chlorophenyl)-2-thiourea

· Hazard statements

Highly flammable liquid and vapour.

Harmful if swallowed.

Causes serious eye irritation.

May cause cancer.

May damage fertility or the unborn child.

· 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.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

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

Use personal protective equipment as required.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Rinse mouth.

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

Store in a well-ventilated place. Keep cool.

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:

75-05-8	acetonitrile	40.559%
	 Flam. Liq. 2, H225;  Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	

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150-68-5	monuron (ISO)	0.56%
	☠ Carc. 2, H351; ⚠ Acute Tox. 4, H302	
96-45-7	ethylene thiourea	0.56%
	☠ Repr. 1B, H360; ⚠ Acute Tox. 4, H302	
119-90-4	3,3'-dimethoxybenzidine	0.56%
	☠ Carc. 1B, H350; ⚠ Acute Tox. 4, H302	
92-87-5	benzidine	0.56%
	☠ Carc. 1A, H350; ⚠ Acute Tox. 4, H302	
91-94-1	3,3'-dichlorobenzidine	0.56%
	☠ Carc. 1B, H350; ⚠ Acute Tox. 4, H312; Skin Sens. 1, H317	
119-93-7	4,4'-bi-o-toluidine	0.56%
	☠ Carc. 1B, H350; ⚠ Acute Tox. 4, H302	
330-54-1	diuron(ISO)	0.56%
	☠ Carc. 2, H351; STOT RE 2, H373; ⚠ Acute Tox. 4, H302	
330-55-2	linuron (ISO)	0.56%
	☠ Carc. 2, H351; Repr. 1B, H360; STOT RE 2, H373; ⚠ Acute Tox. 4, H302	
63-25-2	carbaryl (ISO)	0.56%
	☠ Carc. 2, H351; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	

SVHC

96-45-7 ethylene thiourea

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: 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: Call for a doctor immediately.

Information for doctor:

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

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire Fighting Measures

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.

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- **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 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.
- **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:
75-05-8 acetonitrile

NES	Short-term value: 101 mg/m ³ , 60 ppm
	Long-term value: 67 mg/m ³ , 40 ppm
Sk	

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WES	Short-term value: 101 mg/m ³ , 60 ppm Long-term value: 67 mg/m ³ , 40 ppm Sk
92-87-5 benzidine	
NES	Long-term value: -(P) ppm Sk
WES	Long-term value: -(P) ppm Sk
91-94-1 3,3'-dichlorobenzidine	
NES	Sk
WES	Sk
119-93-7 4,4'-bi-o-toluidine	
NES	Sk
WES	Sk
330-54-1 diuron(ISO)	
NES	Long-term value: 10 mg/m ³
WES	Long-term value: 10 mg/m ³

· **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.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

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

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

· **Protection of hands:**

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

· **Material of gloves**

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

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

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

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

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· Eye protection:



Tightly sealed goggles

9 Physical and Chemical Properties

· 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: 81 °C

· Flash point:

2 °C

· Flammability (solid, gas):

Not applicable.

· Ignition temperature:

525 °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:

4.4 Vol %

Upper:

16 Vol %

· Vapour pressure at 20 °C:

23 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:

Water:

51.6 %

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VOC (EC)	0.00 %
Solids content:	5.6 %
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	618 mg/kg (rat)
Dermal	LD50	>4,931 mg/kg (rabbit)
Inhalative	LC50/4 h	8,844 mg/L (mouse)

75-05-8 acetonitrile

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

150-68-5 monuron (ISO)

Oral	LD50	1,053 mg/kg (rat)
Dermal	LD50	>2,500 mg/kg (rat)

96-45-7 ethylene thiourea

Oral	LD50	1,832 mg/kg (rat)
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119-90-4 3,3'-dimethoxybenzidine

Oral	LD50	~1,920 mg/kg (rat)
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22212-55-1 ethyl N-benzoyl-N-(3,4-dichlorophenyl)-DL-alaninate

Oral	LD50	1,550 mg/kg (rat)
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92-87-5 benzidine

Oral	LD50	309 mg/kg (rat)
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91-94-1 3,3'-dichlorobenzidine

Oral	LD50	4,740 mg/kg (rat)
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119-93-7 4,4'-bi-o-toluidine

Oral	LD50	404 mg/kg (rat)
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5344-82-1 1-(2-chlorophenyl)-2-thiourea		
Oral	LD50	4.6 mg/kg (rat)
330-54-1 diuron(ISO)		
Oral	LD50	1,017 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4 h	>5.05 mg/L (rat)
330-55-2 linuron (ISO)		
Oral	LD50	1,146 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	6,150 mg/L (rat)
83-79-4 rotenone		
Oral	LD50	60 mg/kg (rat)
Dermal	LD50	>1,000 mg/kg (rabbit)
63-25-2 carbaryl (ISO)		
Oral	LD50	230 mg/kg (rat)
Dermal	LD50	>2,000 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:
Harmful
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 1A, Repr. 1B

12 Ecological Information

· Toxicity

· Aquatic toxicity:

22212-55-1 ethyl N-benzoyl-N-(3,4-dichlorophenyl)-DL-alaninate	
LC50 (96h) - for fish	0.539 mg/L/96h (Pimephales promelas (fathead minnow))

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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

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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.
(ACETONITRILE), ENVIRONMENTALLY
HAZARDOUS
FLAMMABLE LIQUID, N.O.S. (ACETONITRILE,
carbaryl (ISO)), MARINE POLLUTANT
FLAMMABLE LIQUID, N.O.S. (ACETONITRILE)

· **IMDG**

· **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:
carbaryl (ISO), diuron(ISO)

· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADG):**

Symbol (fish and tree)

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· 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	1L
· Limited quantities (LQ)	Code: E2
· Excepted quantities (EQ)	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	1L
· Limited quantities (LQ)	Code: E2
· Excepted quantities (EQ)	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. (ACETONITRILE), 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

75-05-8	acetonitrile
150-68-5	monuron (ISO)
1982-49-6	siduron
96-45-7	ethylene thiourea
119-90-4	3,3'-dimethoxybenzidine
58-08-2	caffeine
92-87-5	benzidine
91-94-1	3,3'-dichlorobenzidine
119-93-7	4,4'-bi-o-toluidine
330-54-1	diuron(ISO)
330-55-2	linuron (ISO)
83-79-4	rotenone
63-25-2	carbaryl (ISO)
7732-18-5	water

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· Standard for the Uniform Scheduling of Medicines and Poisons		
1982-49-6	siduron	S5
119-93-7	4,4'-bi-o-toluidine	S7
83-79-4	rotenone	S6
63-25-2	carbaryl (ISO)	S4, S5, S6

· **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

· **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.

· **Other regulations, limitations and prohibitive regulations**

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

96-45-7	ethylene thiourea
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· **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.

H312 Harmful in contact with skin.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H350 May cause cancer.

H351 Suspected of causing cancer.

H360 May damage 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)

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VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

AU