Kit components

Product code	Description
SVK-8271	**EPA Method 8270C Calibration Standards Kit**

Components:

SVM-120A-1	Semi-Volatiles Standard no. 1 (1X1 mL)
SVM-121-1	Semi-Volatiles Standard no. 2 (1X1 mL)
SVM-122-1	Semi-Volatiles Standard no. 3 (1X1 mL)
SVM-123-1	Semi-Volatiles Standard no. 4 (1X1 mL)
SVM-124-1	Semi-Volatiles Standard no. 5 (1X1 mL)
SVM-125-1	Semi-Volatiles Standard no. 6 (1X1 mL)
SVM-126-1	Semi-Volatiles Standard no. 7 (1X1 mL)
SVM-127-1	Semi-Volatiles Standard no. 8 (1X1 mL)
SVM-128-1	Semi-Volatiles Standard no. 9 (1X1 mL)
SVM-129-1	Semi-Volatiles Standard no. 10 (1X1 mL)
SVM-131-1	Semi-Volatiles Standard no. 11 (1X1 mL)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

*
1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)**

· **Part number:** SVM-120A-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**


health hazard

Carc. 1B	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
bis(2-chloroethyl) ether
dimethylnitrosoamine

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 1)

aniline

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
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:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	97.738%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 2)

106-46-7	1,4-dichlorobenzene Carc. 2, H351; Eye Irrit. 2A, H319	0.151%
621-64-7	nitrosodipropylamine Carc. 1B, H350; Acute Tox. 4, H302	0.151%
62-75-9	dimethylnitrosoamine Acute Tox. 3, H301; Acute Tox. 2, H330; Carc. 1B, H350; STOT RE 1, H372; Flam. Liq. 4, H227	0.151%
111-44-4	bis(2-chloroethyl) ether Flam. Liq. 3, H226; Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Carc. 2, H351	0.151%
62-53-3	aniline Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 2, H351; STOT RE 1, H372; Eye Dam. 1, H318; Skin Sens. 1, H317; Flam. Liq. 4, H227	0.151%

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.
· **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 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
106-46-7 1,4-dichlorobenzene	
NES	Short-term value: 300 mg/m³, 50 ppm Long-term value: 150 mg/m³, 25 ppm
WES	Short-term value: 300 mg/m³, 50 ppm Long-term value: 150 mg/m³, 25 ppm
62-75-9 dimethylnitrosoamine	
NES	Sk
WES	Sk
111-44-4 bis(2-chloroethyl) ether	
NES	Short-term value: 58 mg/m³, 10 ppm Long-term value: 29 mg/m³, 5 ppm Sk

(Contd. on page 5)

(Contd. of page 4)

WES	Short-term value: 58 mg/m³, 10 ppm Long-term value: 29 mg/m³, 5 ppm Sk
62-53-3 aniline	
NES	Long-term value: 7.6 mg/m³, 2 ppm Sk, Sen
WES	Long-term value: 7.6 mg/m³, 2 ppm Sk, Sen

· **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:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

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

Form:	Fluid
Colour:	Colourless

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 5)

· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	98.5 %
VOC (EC)	98.49 %
Solids content:	0.9 %
· **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 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 6)

· **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	1,398 mg/kg
Dermal	LD50	>1,937 mg/kg
Inhalative	LC50/4 h	>80.2 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
95-50-1 1,2-dichlorobenzene		
Oral	LD50	500 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rabbit)
106-46-7 1,4-dichlorobenzene		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>5.07 mg/L (rat)
621-64-7 nitrosodipropylamine		
Oral	LD50	480 mg/kg (rat)
62-75-9 dimethylnitrosoamine		
Oral	LD50	37 mg/kg (rat)
Inhalative	LC50/4 h	78 mg/L (rat)
111-44-4 bis(2-chloroethyl) ether		
Oral	LD50	75 mg/kg (rat)
Dermal	LD50	90 mg/kg (rabbit)
Inhalative	LC50/4 h	330 mg/L (rat)
62-53-3 aniline		
Oral	LD50	442 mg/kg (rat)
Dermal	LD50	820 mg/kg (rabbit)
Inhalative	LC50/4 h	175 mg/L (mouse)
		3.27 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:

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 7)

Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1B

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**	UN1593
· **UN proper shipping name**	
· **ADG**	1593 DICHLOROMETHANE
· **IMDG, IATA**	DICHLOROMETHANE

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 8)

· **Transport hazard class(es)**

· **ADG, IMDG, IATA**

· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
95-57-8	2-chlorophenol
95-48-7	o-cresol
106-44-5	p-cresol
95-50-1	1,2-dichlorobenzene

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 9)

541-73-1	1,3-dichlorobenzene
106-46-7	1,4-dichlorobenzene
67-72-1	hexachloroethane
62-75-9	dimethylnitrosoamine
109-06-8	2-methylpyridine
111-44-4	bis(2-chloroethyl) ether
100-51-6	Benzyl alcohol
62-53-3	aniline
108-95-2	phenol

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5
95-50-1	1,2-dichlorobenzene	S6
106-46-7	1,4-dichlorobenzene	S5
62-53-3	aniline	S6
108-95-2	phenol	S2, S4, S5, S6

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **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.

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**
H226 Flammable liquid and vapour.
H227 Combustible liquid.
H300 Fatal if swallowed.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.

(Contd. on page 11)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 1 (1X1 mL)

(Contd. of page 10)

H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.
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. 3: Flammable liquids – Category 3
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 1: Acute toxicity – Category 1
Acute Tox. 2: Acute toxicity – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
· *** Data compared to the previous version altered.**

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)**

· **Part number:** SVM-121-1
· **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**


health hazard

Carc. 1A	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
4-dimethylaminoazobenzene
3,3'-dichlorobenzidine
chrysene

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 1)

· **Hazard statements**
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves / 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: Wash with plenty of water.
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.
Specific treatment (see on this label).
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.
Store in a well-ventilated place. Keep container tightly closed.
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:**		
75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	98.794%
60-11-7	4-dimethylaminoazobenzene Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Skin Sens. 1, H317	0.151%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 2)

91-94-1	3,3'-dichlorobenzidine Carc. 1B, H350; Acute Tox. 4, H312; Skin Sens. 1, H317	0.151%
129-00-0	pyrene Muta. 2, H341; STOT RE 2, H373	0.151%
218-01-9	chrysene Muta. 2, H341; Carc. 1B, H350	0.151%
56-55-3	benz[a]anthracene Carc. 1B, H350	0.151%
117-81-7	di-(2-ethylhexyl) phthalate Repr. 1B, H360	0.151%
85-68-7	BBP Acute Tox. 3, H331; Repr. 1B, H360	0.151%
92-87-5	benzidine Carc. 1A, H350; Acute Tox. 4, H302	0.151%

· **SVHC**	
129-00-0	pyrene
218-01-9	chrysene
56-55-3	benz[a]anthracene
117-81-7	di-(2-ethylhexyl) phthalate
85-68-7	BBP

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 3)

· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
· **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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
91-94-1 3,3'-dichlorobenzidine	
NES	Sk

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 4)

WES	Sk
117-81-7 di-(2-ethylhexyl) phthalate	
NES	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³
WES	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³
92-87-5 benzidine	
NES	Long-term value: -(P) ppm Sk
WES	Long-term value: -(P) ppm 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:**
Safety glasses

Tightly sealed goggles

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 5)

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	98.8 %
VOC (EC)	98.79 %
Solids content:	1.1 %
· **Other information**	No further relevant information available.

10 Stability and Reactivity

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

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 6)

· **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	1,600 mg/kg (rat)
Dermal	LD50	>2,004 mg/kg
Inhalative	LC50/4 h	>83.7 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
60-11-7 4-dimethylaminoazobenzene		
Oral	LD50	200 mg/kg (rat)
91-94-1 3,3'-dichlorobenzidine		
Oral	LD50	4,740 mg/kg (rat)
129-00-0 pyrene		
Oral	LD50	2,700 mg/kg (rat)
Inhalative	LC50/4 h	170 mg/L (rat)
117-81-7 di-(2-ethylhexyl) phthalate		
Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	4,000 mg/kg (rat)
		25,000 mg/kg (rabbit)
85-68-7 BBP		
Oral	LD50	2,330 mg/kg (rat)
Dermal	LD50	6,700 mg/kg (rabbit)
Inhalative	LC50/4 h	>6.7 mg/L (rat)
92-87-5 benzidine		
Oral	LD50	309 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:

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 7)

Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1A

12 Ecological Information

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

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

14 Transport information

· **Not Regulated, De minimus Quantities**	-
· **UN-Number**	
· **ADG, IMDG, IATA**	UN1593
· **UN proper shipping name**	
· **ADG**	1593 DICHLOROMETHANE, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	DICHLOROMETHANE, MARINE POLLUTANT
· **IATA**	DICHLOROMETHANE

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 8)

· **Transport hazard class(es)**

· **ADG, IMDG**

· **Class**	6.1 Toxic substances.
· **Label**	6.1

· **IATA**

· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	Product contains environmentally hazardous substances: benzidine, benz[a]anthracene
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADG):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 9)

· **UN "Model Regulation":** UN 1593 DICHLOROMETHANE, 6.1, III, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
60-11-7	4-dimethylaminoazobenzene
91-94-1	3,3'-dichlorobenzidine
129-00-0	pyrene
218-01-9	chrysene
117-81-7	di-(2-ethylhexyl) phthalate
85-68-7	BBP
92-87-5	benzidine

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5
60-11-7	4-dimethylaminoazobenzene	S7
85-68-7	BBP	S10

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** E2 Hazardous to the Aquatic Environment
· **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.

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

· **Substances of very high concern (SVHC) according to REACH, Article 57**	
129-00-0	pyrene
218-01-9	chrysene
56-55-3	benz[a]anthracene
117-81-7	di-(2-ethylhexyl) phthalate
85-68-7	BBP

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

(Contd. on page 11)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 2 (1X1 mL)

(Contd. of page 10)

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**
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause 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)
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
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)**

· **Part number:** SVM-122-1
· **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**


health hazard

Carc. 1B	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
hexachlorobuta-1,3-diene
4-chloroaniline

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 1)

2,4-dichlorophenol

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:**	
87-68-3	hexachlorobuta-1,3-diene
120-82-1	1,2,4-trichlorobenzene

· **vPvB:**	
87-68-3	hexachlorobuta-1,3-diene

3 Composition and Information on Ingredients

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

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 2)

· **Dangerous components:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	97.286%
59-50-7	chlorocresol Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	0.151%
106-47-8	4-chloroaniline Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Carc. 1B, H350; Skin Sens. 1, H317	0.151%
87-68-3	hexachlorobuta-1,3-diene PBT; vPvB Acute Tox. 3, H301; Acute Tox. 2, H310; Carc. 2, H351; Skin Irrit. 2, H315; Flam. Liq. 4, H227	0.151%
98-95-3	nitrobenzene Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Carc. 2, H351; Repr. 1B, H360; STOT RE 1, H372; Flam. Liq. 4, H227	0.151%
120-82-1	1,2,4-trichlorobenzene PBT Acute Tox. 4, H302; Skin Irrit. 2, H315	0.151%
91-20-3	naphthalene Carc. 2, H351; Acute Tox. 4, H302	0.151%
78-59-1	3,5,5-trimethylcyclohex-2-enone Carc. 2, H351; Acute Tox. 4, H302; Acute Tox. 4, H312; Eye Irrit. 2, H319; STOT SE 3, H335	0.151%

· **SVHC**

98-95-3	nitrobenzene

· **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:** 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.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 3)

5 Fire Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **Special hazards arising from the substance or mixture**
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.
· **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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 4)

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
87-68-3 hexachlorobuta-1,3-diene	
NES	Long-term value: 0.21 mg/m³, 0.02 ppm Sk
WES	Long-term value: 0.21 mg/m³, 0.02 ppm Sk
98-95-3 nitrobenzene	
NES	Long-term value: 5 mg/m³, 1 ppm Sk
WES	Long-term value: 5 mg/m³, 1 ppm Sk
120-82-1 1,2,4-trichlorobenzene	
NES	Peak limitation: 37 mg/m³, 5 ppm
WES	Peak limitation: 37 mg/m³, 5 ppm
91-20-3 naphthalene	
NES	Short-term value: 79 mg/m³, 15 ppm Long-term value: 52 mg/m³, 10 ppm
WES	Short-term value: 79 mg/m³, 15 ppm Long-term value: 52 mg/m³, 10 ppm
78-59-1 3,5,5-trimethylcyclohex-2-enone	
NES	Peak limitation: 28 mg/m³, 5 ppm
WES	Peak limitation: 28 mg/m³, 5 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.
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

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 5)

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:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 6)

· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	97.9 %
VOC (EC)	97.89 %
Solids content:	1.2 %
· **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	1,412 mg/kg
Dermal	LD50	>1,964 mg/kg
Inhalative	LC50/4 h	76.5 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
59-50-7 chlorocresol		
Oral	LD50	1,830 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
106-47-8 4-chloroaniline		
Oral	LD50	310 mg/kg (rat)
Dermal	LD50	3,200 mg/kg (rat)
87-68-3 hexachlorobuta-1,3-diene		
Oral	LD50	82 mg/kg (rat)
Dermal	LD50	100 mg/kg (rabbit)

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 7)

Inhalative	LC50/4 h	370 mg/L (mouse)
98-95-3 nitrobenzene		
Oral	LD50	390 mg/kg (rat)
Dermal	LD50	2,100 mg/kg (rat)
Inhalative	LC50/4 h	556 mg/L (rat)
120-82-1 1,2,4-trichlorobenzene		
Oral	LD50	756 mg/kg (rat)
Dermal	LD50	6,139 mg/kg (rat)
91-20-3 naphthalene		
Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5,000 mg/kg (rat)
		20,000 mg/kg (rabbit)
78-59-1 3,5,5-trimethylcyclohex-2-enone		
Oral	LD50	1,870 mg/kg (rat)
Dermal	LD50	1,200 mg/kg (rabbit)
Inhalative	LC50/4 h	7,000 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:
Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1B

12 Ecological Information

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

· **PBT:**	
87-68-3	hexachlorobuta-1,3-diene
120-82-1	1,2,4-trichlorobenzene

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 8)

· **vPvB:**

87-68-3	hexachlorobuta-1,3-diene

· **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**	UN1593
· **UN proper shipping name** · **ADG** · **IMDG, IATA**	1593 DICHLOROMETHANE DICHLOROMETHANE
· **Transport hazard class(es)** · **ADG, IMDG, IATA**	
· **Class** · **Label**	6.1 Toxic substances. 6.1
· **Packing group** · **ADG, IMDG, IATA**	III
· **Environmental hazards:**	Not applicable.
· **Special precautions for user** · **Danger code (Kemler):** · **EMS Number:** · **Segregation groups** · **Stowage Category**	Warning: Toxic substances. 60 F-A,S-A Liquid halogenated hydrocarbons A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 9)

· **Transport/Additional information:**

· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
87-65-0	2,6-dichlorophenol
59-50-7	chlorocresol
106-47-8	4-chloroaniline
105-67-9	2,4-xylenol
122-09-8	alpha,alpha-dimethylphenethylamine
120-83-2	2,4-dichlorophenol
87-68-3	hexachlorobuta-1,3-diene
91-57-6	2-methylnaphthalene
98-95-3	nitrobenzene
88-75-5	2-nitrophenol
120-82-1	1,2,4-trichlorobenzene
98-86-2	acetophenone
91-20-3	naphthalene
65-85-0	Benzoic acid
78-59-1	3,5,5-trimethylcyclohex-2-enone

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5
59-50-7	chlorocresol	S5
106-47-8	4-chloroaniline	S7
98-95-3	nitrobenzene	S6
88-75-5	2-nitrophenol	S6
98-86-2	acetophenone	S5

(Contd. on page 11)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 10)

91-20-3	naphthalene	S6
78-59-1	3,5,5-trimethylcyclohex-2-enone	S5

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **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**	
98-95-3	nitrobenzene

· **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**
H227 Combustible liquid.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
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

(Contd. on page 12)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 3 (1X1 mL)

(Contd. of page 11)

LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 2: Acute toxicity – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
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. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)**

· **Part number:** SVM-123-1
· **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**


health hazard

Muta. 1B	H340	May cause genetic defects.
Carc. 1A	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
benzo[a]pyrene
dibenz[a,h]anthracene

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)

(Contd. of page 1)

3-methylcholanthrene

· **Hazard statements**
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause genetic defects.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves / 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: Wash with plenty of water.
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.
Specific treatment (see on this label).
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.
Store in a well-ventilated place. Keep container tightly closed.
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:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	98.492%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)

(Contd. of page 2)

56-49-5	3-methylcholanthrene Carc. 1A, H350	0.151%
53-70-3	dibenz[a,h]anthracene Carc. 1B, H350	0.151%
207-08-9	benzo[k]fluoranthene Carc. 1B, H350	0.151%
205-99-2	benz[e]acephenanthrylene Carc. 1B, H350	0.151%
57-97-6	7,12-dimethylbenz[a]anthracene Carc. 1A, H350; Acute Tox. 4, H302	0.151%
50-32-8	benzo[a]pyrene Muta. 1B, H340; Carc. 1B, H350; Repr. 1B, H360; Skin Sens. 1, H317	0.151%
191-24-2	benzo[ghi]perylene	0.151%
117-84-0	dioctyl phthalate Repr. 2, H361	0.151%

· **SVHC**	
207-08-9	benzo[k]fluoranthene
50-32-8	benzo[a]pyrene
191-24-2	benzo[ghi]perylene

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)

(Contd. of page 3)

· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
· **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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk

· **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 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (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:**
Safety glasses


Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)

(Contd. of page 5)

· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	98.5 %
VOC (EC)	98.49 %
Solids content:	1.4 %
· **Other information**	No further relevant information available.

10 Stability and Reactivity

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

11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**

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

ATE (Acute Toxicity Estimates)		
Oral	LD50	1,624 mg/kg (rat)
Dermal	LD50	>2,031 mg/kg (rat)
Inhalative	LC50/4 h	89.3 mg/L (rat)

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)

(Contd. of page 6)

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
57-97-6 7,12-dimethylbenz[a]anthracene		
Oral	LD50	327 mg/kg (rat)
117-84-0 dioctyl phthalate		
Oral	LD50	47,000 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:
Harmful
Irritant
The product can cause inheritable damage.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Muta. 1B, Carc. 1A

12 Ecological Information

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

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)

(Contd. of page 7)

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

14 Transport information

· **Not Regulated, De minimus Quantities**	-
· **UN-Number**	
· **ADG, IMDG, IATA**	UN1593
· **UN proper shipping name**	
· **ADG**	1593 DICHLOROMETHANE, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	DICHLOROMETHANE, MARINE POLLUTANT
· **IATA**	DICHLOROMETHANE
· **Transport hazard class(es)**	
· **ADG, IMDG**	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **IATA**	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADG):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (1X1 mL)

(Contd. of page 8)

· **Transport/Additional information:**

· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
117-84-0	dioctyl phthalate

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** E2 Hazardous to the Aquatic Environment
· **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.

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

· **Substances of very high concern (SVHC) according to REACH, Article 57**	
207-08-9	benzo[k]fluoranthene
50-32-8	benzo[a]pyrene
191-24-2	benzo[ghi]perylene

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

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 4 (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**
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – 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

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)**

· **Part number:** SVM-124-1
· **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**


health hazard

Carc. 1A	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
2,4-dinitrotoluene
2,6-dinitrotoluene

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 1)

2,4-dinitrophenol

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
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:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	96.381%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 2)

7005-72-3	4-chlorophenyl phenyl ether Acute Tox. 4, H302; Eye Irrit. 2A, H319; Skin Sens. 1, H317	0.151%
121-14-2	2,4-dinitrotoluene Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 2, H373	0.151%
606-20-2	2,6-dinitrotoluene Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 2, H373	0.151%
91-59-8	2-naphthylamine Carc. 1A, H350; Acute Tox. 4, H302	0.151%
88-06-2	2,4,6-trichlorophenol Carc. 2, H351; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	0.151%

· **SVHC**

121-14-2	2,4-dinitrotoluene

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.
· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 3)

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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
91-59-8 2-naphthylamine	
NES	Long-term value: -(P) ppm
WES	Long-term value: -(P) 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.
Store protective clothing separately.

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 4)

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:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 5)

· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic at 20 °C:	0.43 mPas
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	96.4 %
VOC (EC)	96.38 %
Solids content:	2.9 %
· **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	1,448 mg/kg (rat)
Dermal	LD50	>1,905 mg/kg
Inhalative	LC50/4 h	24 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 6)

Inhalative	LC50/4 h	88 mg/L (rat)
90-13-1 1-chloronaphthalene		
Oral	LD50	1,540 mg/kg (rat)
121-14-2 2,4-dinitrotoluene		
Oral	LD50	268 mg/kg (rat)
606-20-2 2,6-dinitrotoluene		
Oral	LD50	177 mg/kg (rat)
51-28-5 2,4-dinitrophenol		
Oral	LD50	30 mg/kg (rat)
77-47-4 hexachlorocyclopentadiene		
Oral	LD50	315 mg/kg (rat)
Dermal	LD50	430 mg/kg (rabbit)
Inhalative	LC50/4 h	2 mg/L (rat)
134-32-7 1-naphthylamine		
Oral	LD50	680 mg/kg (rat)
Dermal	LD50	447 mg/kg (rat)
Inhalative	LC50/4 h	0.056 mg/L (rat)
91-59-8 2-naphthylamine		
Oral	LD50	727 mg/kg (rat)
88-74-4 o-nitroaniline		
Oral	LD50	1,600 mg/kg (rat)
99-09-2 m-nitroaniline		
Oral	LD50	535 mg/kg (rat)
100-01-6 p-nitroaniline		
Oral	LD50	750 mg/kg (rat)
608-93-5 pentachlorobenzene		
Oral	LD50	1,080 mg/kg (rat)
Dermal	LD50	>2,500 mg/kg (rat)
58-90-2 2,3,4,6-tetrachlorophenol		
Oral	LD50	140 mg/kg (rat)
Dermal	LD50	250 mg/kg (rabbit)
95-95-4 2,4,5-trichlorophenol		
Oral	LD50	820 mg/kg (rat)
88-06-2 2,4,6-trichlorophenol		
Oral	LD50	820 mg/kg (rat)
95-94-3 1,2,4,5-tetrachlorobenzene		
Oral	LD50	1,500 mg/kg (rat)
83-32-9 acenaphthene		
Oral	LD50	600 mg/kg (rat)
208-96-8 acenaphthylene		
Oral	LD50	1,760 mg/kg (mouse)

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 7)

· **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:
Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1A

12 Ecological Information

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

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

14 Transport information

· **Not Regulated, De minimus Quantities**	-
· **UN-Number** · **ADG, IMDG, IATA**	UN1593
· **UN proper shipping name** · **ADG**	1593 DICHLOROMETHANE

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 8)

· **IMDG, IATA**	DICHLOROMETHANE
· **Transport hazard class(es)**	
· **ADG, IMDG, IATA**	
	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
90-13-1	1-chloronaphthalene
7005-72-3	4-chlorophenyl phenyl ether
132-64-9	dibenzofuran
131-11-3	dimethyl phthalate

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 9)

121-14-2	2,4-dinitrotoluene
606-20-2	2,6-dinitrotoluene
51-28-5	2,4-dinitrophenol
77-47-4	hexachlorocyclopentadiene
134-32-7	1-naphthylamine
88-74-4	o-nitroaniline
99-09-2	m-nitroaniline
100-01-6	p-nitroaniline
100-02-7	4-nitrophenol
608-93-5	pentachlorobenzene
95-95-4	2,4,5-trichlorophenol
88-06-2	2,4,6-trichlorophenol
86-73-7	fluorene
83-32-9	acenaphthene
84-66-2	diethyl phthalate

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

75-09-2	dichloromethane	S5
131-11-3	dimethyl phthalate	S10
51-28-5	2,4-dinitrophenol	S10
91-59-8	2-naphthylamine	S7
100-02-7	4-nitrophenol	S6
95-95-4	2,4,5-trichlorophenol	S6
88-06-2	2,4,6-trichlorophenol	S6
84-66-2	diethyl phthalate	S10

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **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**

121-14-2	2,4-dinitrotoluene

· **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.

(Contd. on page 11)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 5 (1X1 mL)

(Contd. of page 10)

· **Relevant phrases**
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H351 Suspected of causing 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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
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
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
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
· *** Data compared to the previous version altered.**

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

*
1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)**

· **Part number:** SVM-125-1
· **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**


health hazard

Carc. 1A	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
DNOC
hexachlorobenzene

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 1)

pentachlorophenol

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:**	
120-12-7	anthracene

· **vPvB:** Not applicable.

*
3 Composition and Information on Ingredients

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

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 2)

· **Dangerous components:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	98.643%
101-55-3	4-bromophenyl phenyl ether Acute Tox. 4, H302; Eye Irrit. 2A, H319; Skin Sens. 1, H317	0.151%
534-52-1	DNOC Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Muta. 2, H341; Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1, H317	0.151%
118-74-1	hexachlorobenzene Carc. 1B, H350; STOT RE 1, H372	0.151%
87-86-5	pentachlorophenol Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; Carc. 2, H351; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.151%
120-12-7	anthracene PBT Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.151%
85-01-8	phenanthrene Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.151%
206-44-0	fluoranthene Acute Tox. 4, H302; Acute Tox. 4, H332	0.151%
84-74-2	dibutyl phthalate Repr. 1B, H360; Acute Tox. 4, H332	0.151%
92-67-1	4-aminobiphenyl Carc. 1A, H350; Acute Tox. 4, H302	0.151%

· **SVHC**

120-12-7	anthracene
85-01-8	phenanthrene
206-44-0	fluoranthene
84-74-2	dibutyl phthalate
92-67-1	4-aminobiphenyl

· **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:** Call for a doctor immediately.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 3)

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

*
5 Fire Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **Special hazards arising from the substance or mixture**
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.
· **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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 4)

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
534-52-1 DNOC	
NES	Long-term value: 0.2 mg/m³ Sk, Sen
WES	Long-term value: 0.2 mg/m³ Sk, Sen
87-86-5 pentachlorophenol	
NES	Long-term value: 0.5 mg/m³ Sk
WES	Long-term value: 0.5 mg/m³ Sk
84-74-2 dibutyl phthalate	
NES	Long-term value: 5 mg/m³
WES	Long-term value: 5 mg/m³
92-67-1 4-aminobiphenyl	
NES	Long-term value: (P) ppm Sk
WES	Long-term value: (P) ppm 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.

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 5)

· **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:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 6)

· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	98.6 %
VOC (EC)	98.64 %
Solids content:	1.1 %
· **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	1,126 mg/kg (rat)
Dermal	LD50	>1,936 mg/kg (rat)
Inhalative	LC50/4 h	70.3 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)

534-52-1 DNOC		
Oral	LD50	7 mg/kg (rat)
Dermal	LD50	200 mg/kg (rat)
		1,000 mg/kg (rabbit)

118-74-1 hexachlorobenzene		
Oral	LD50	10,000 mg/kg (rat)
Inhalative	LC50/4 h	3,600 mg/L (rat)

87-86-5 pentachlorophenol		
Oral	LD50	27 mg/kg (rat)
Dermal	LD50	96 mg/kg (rat)

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 7)

Inhalative	LC50/4 h	355 mg/L (rat)
85-01-8 phenanthrene		
Oral	LD50	700 mg/kg (mouse)
206-44-0 fluoranthene		
Oral	LD50	2,000 mg/kg (rat)
Dermal	LD50	3,180 mg/kg (rabbit)
84-74-2 dibutyl phthalate		
Oral	LD50	6,300 mg/kg (rat)
Dermal	LD50	>4,000 mg/kg (rabbit)
Inhalative	LC50/4 h	15.68 mg/L (rat)
92-67-1 4-aminobiphenyl		
Oral	LD50	500 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:
Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1A

12 Ecological Information

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

· **PBT:**	
120-12-7	anthracene

· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 8)

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**	UN1593
· **UN proper shipping name**	
· **ADG**	1593 DICHLOROMETHANE
· **IMDG**	DICHLOROMETHANE, MARINE POLLUTANT
· **IATA**	DICHLOROMETHANE
· **Transport hazard class(es)**	
· **ADG, IATA**	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **IMDG**	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Stowage Code**	SW2 Clear of living quarters.

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 9)

· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III

*
15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
101-55-3	4-bromophenyl phenyl ether
534-52-1	DNOC
118-74-1	hexachlorobenzene
87-86-5	pentachlorophenol
120-12-7	anthracene
85-01-8	phenanthrene
206-44-0	fluoranthene
84-74-2	dibutyl phthalate

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5
118-74-1	hexachlorobenzene	S7
87-86-5	pentachlorophenol	S6, S7
84-74-2	dibutyl phthalate	S10

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **National regulations:**
· **Additional classification according to Decree on Hazardous Materials, Annex II:**
Carcinogenic hazardous material group III (dangerous).

(Contd. on page 11)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 10)

· **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**	
120-12-7	anthracene
85-01-8	phenanthrene
206-44-0	fluoranthene
84-74-2	dibutyl phthalate
92-67-1	4-aminobiphenyl

· **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**
H300 Fatal if swallowed.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative

(Contd. on page 12)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 4 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 6 (1X1 mL)

(Contd. of page 11)

Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 1: Acute toxicity – Category 1
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
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
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

*
1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)**

· **Part number:** SVM-126-1
· **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**


skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 3 H311 Toxic in contact with skin.


health hazard

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

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

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



GHS06 GHS08

· **Signal word** Danger

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

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 1)

O,O-diethyl O-pyrazin-2-yl phosphorothioate
parathion -methyl (ISO)
sulfotep (ISO)

· **Hazard statements**
Toxic if swallowed.
Toxic in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Remove/Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
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:**		
75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	97.738%
2303-16-4	di-allate (ISO) Carc. 2, H351; Acute Tox. 4, H302; Flam. Liq. 4, H227	0.151%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 2)

143-50-0	chlordecone (ISO) Acute Tox. 3, H301; Acute Tox. 3, H311; Carc. 2, H351	0.151%
94-75-7	2,4-D (ISO) Resp. Sens. 1, H334; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; STOT SE 3, H335	0.151%
88-85-7	dinoseb Acute Tox. 3, H301; Acute Tox. 3, H311; Repr. 1B, H360; Eye Irrit. 2, H319	0.151%

· **SVHC**

88-85-7	dinoseb

· **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.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **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:** Do not induce vomiting; call for medical help immediately.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

*
5 Fire Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.
· **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.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 3)

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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
94-75-7 2,4-D (ISO)	
NES	Long-term value: 10 mg/m³ Sen
WES	Long-term value: 10 mg/m³ Sen

· **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.

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 4)

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:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 5)

· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	98.2 %
VOC (EC)	98.19 %
Solids content:	1.2 %
· **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	240 mg/kg (rat)
Dermal	LD50	>593 mg/kg
Inhalative	LC50/4 h	58.3 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
2303-16-4 di-allate (ISO)		
Oral	LD50	395 mg/kg (rat)
297-97-2 O,O-diethyl O-pyrazin-2-yl phosphorothioate		
Oral	LD50	3.5 mg/kg (rat)

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 6)

Dermal	LD50	8 mg/kg (rat)
510-15-6 chlorobenzilate (ISO)		
Oral	LD50	700 mg/kg (rat)
Dermal	LD50	>1,000 mg/kg (rabbit)
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)
143-50-0 chlordecone (ISO)		
Oral	LD50	91.3 mg/kg (rat)
Dermal	LD50	475 mg/kg (rat)
		345 mg/kg (rabbit)
298-00-0 parathion -methyl (ISO)		
Oral	LD50	6.01 mg/kg (rat)
Dermal	LD50	67 mg/kg (rat)
		300 mg/kg (rabbit)
298-04-4 disulfoton		
Oral	LD50	2 mg/kg (rat)
Dermal	LD50	20 mg/kg (rat)
94-75-7 2,4-D (ISO)		
Oral	LD50	375 mg/kg (rat)
Dermal	LD50	1,500 mg/kg (rat)
		1,400 mg/kg (rabbit)
88-85-7 dinoseb		
Oral	LD50	27 mg/kg (rat)
Dermal	LD50	217.5 mg/kg (rat)
56-38-2 parathion (ISO)		
Oral	LD50	2 mg/kg (rat)
Dermal	LD50	6.8 mg/kg (rat)
93-72-1 silvex (2,4,5-TP)		
Oral	LD50	650 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:
Toxic

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 7)

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 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**	UN1593
· **UN proper shipping name**	
· **ADG**	1593 DICHLOROMETHANE, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	DICHLOROMETHANE, MARINE POLLUTANT
· **IATA**	DICHLOROMETHANE

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 8)

· **Transport hazard class(es)**

· **ADG, IMDG**

· **Class**	6.1 Toxic substances.
· **Label**	6.1

· **IATA**

· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADG):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III, ENVIRONMENTALLY HAZARDOUS

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 9)

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
2303-16-4	di-allate (ISO)
52-85-7	famphur
143-50-0	chlordecone (ISO)
298-00-0	parathion -methyl (ISO)
298-04-4	disulfoton
94-75-7	2,4-D (ISO)
88-85-7	dinoseb
60-51-5	dimethoate (ISO)
56-38-2	parathion (ISO)
298-02-2	phorate (ISO)

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5
52-85-7	famphur	S6, S7
3689-24-5	sulfotep (ISO)	S7
143-50-0	chlordecone (ISO)	S7
298-00-0	parathion -methyl (ISO)	S6, S7
298-04-4	disulfoton	S6, S7
94-75-7	2,4-D (ISO)	S5, S6
88-85-7	dinoseb	S7
60-51-5	dimethoate (ISO)	S6
56-38-2	parathion (ISO)	S7
93-72-1	silvex (2,4,5-TP)	S5
298-02-2	phorate (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
· **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:**

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

· **Substances of very high concern (SVHC) according to REACH, Article 57**	
88-85-7	dinoseb

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

(Contd. on page 11)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 7 (1X1 mL)

(Contd. of page 10)

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**
H227 Combustible liquid.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
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
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
· *** Data compared to the previous version altered.**

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

*
1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)**

· **Part number:** SVM-127-1
· **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**


health hazard

Carc. 1A	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
5-nitro-o-toluidine
o-toluidine

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 1)

N-nitrosomorpholine

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
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:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	98.643%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 2)

119-93-7	4,4'-bi-o-toluidine Carc. 1B, H350; Acute Tox. 4, H302	0.151%
99-55-8	5-nitro-o-toluidine Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Carc. 2, H351	0.151%
930-55-2	1-nitrosopyrrolidine Carc. 1A, H350; Acute Tox. 4, H302	0.151%
55-18-5	diethylnitrosoamine Acute Tox. 3, H301; Carc. 1A, H350	0.151%
106-50-3	p-phenylenediamine Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Eye Irrit. 2, H319; Skin Sens. 1, H317	0.151%
95-53-4	o-toluidine Acute Tox. 3, H301; Acute Tox. 3, H331; Carc. 1B, H350; Eye Irrit. 2, H319; Flam. Liq. 4, H227	0.151%
56-57-5	4-Nitroquinoline-1-oxide Carc. 1A, H350	0.151%

· **SVHC**

95-53-4	o-toluidine

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 3)

*
6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
· **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.
Open and handle receptacle with care.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
119-93-7 4,4'-bi-o-toluidine	
NES	Sk
WES	Sk
95-53-4 o-toluidine	
NES	Long-term value: 8.8 mg/m³, 2 ppm Sk
WES	Long-term value: 8.8 mg/m³, 2 ppm Sk

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 4)

· **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:**
Safety glasses


Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 5)

· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	98.8 %
VOC (EC)	98.79 %
Solids content:	0.5 %
· **Other information**	No further relevant information available.

10 Stability and Reactivity

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

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(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	1,468 mg/kg
Dermal	LD50	>1,948 mg/kg
Inhalative	LC50/4 h	69.6 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
119-93-7 4,4'-bi-o-toluidine		
Oral	LD50	404 mg/kg (rat)
930-55-2 1-nitrosopyrrolidine		
Oral	LD50	900 mg/kg (rat)
55-18-5 diethylnitrosoamine		
Oral	LD50	220 mg/kg (rat)
106-50-3 p-phenylenediamine		
Oral	LD50	80 mg/kg (rat)
Inhalative	LC50/4 h	0.92 mg/L (rat)
95-53-4 o-toluidine		
Oral	LD50	900 mg/kg (rat)
Dermal	LD50	3,244 mg/kg (rabbit)
Inhalative	LC50/4 h	862 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:
Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1A

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 7)

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

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

*
14 Transport information

· **Not Regulated, De minimus Quantities**	-
· **UN-Number** · **ADG, IMDG, IATA**	UN1593
· **UN proper shipping name** · **ADG** · **IMDG, IATA**	1593 DICHLOROMETHANE DICHLOROMETHANE
· **Transport hazard class(es)** · **ADG, IMDG, IATA**	
· **Class** · **Label**	6.1 Toxic substances. 6.1
· **Packing group** · **ADG, IMDG, IATA**	III
· **Environmental hazards:**	Not applicable.
· **Special precautions for user** · **Danger code (Kemler):** · **EMS Number:** · **Segregation groups**	Warning: Toxic substances. 60 F-A,S-A Liquid halogenated hydrocarbons

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 8)

· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
119-93-7	4,4'-bi-o-toluidine
99-55-8	5-nitro-o-toluidine
106-50-3	p-phenylenediamine
95-53-4	o-toluidine

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5
119-93-7	4,4'-bi-o-toluidine	S7
99-55-8	5-nitro-o-toluidine	S7
106-50-3	p-phenylenediamine	S6, S10
95-53-4	o-toluidine	S7, S10

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **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.

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 8 (1X1 mL)

(Contd. of page 9)

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

· **Substances of very high concern (SVHC) according to REACH, Article 57**	
95-53-4	o-toluidine

· **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**
H227 Combustible liquid.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.
H351 Suspected of causing cancer.
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
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
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
· *** Data compared to the previous version altered.**

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)**

· **Part number:** SVM-128-1
· **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**


health hazard

Carc. 1A	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
diphenylamine
phenacetin

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 1)

hydrazobenzene

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
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:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	99.095%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 2)

82-68-8	quintozene (ISO) Resp. Sens. 1, H334; Acute Tox. 4, H302; Skin Sens. 1, H317	0.151%
62-44-2	phenacetin Acute Tox. 3, H311; Carc. 1A, H350; Acute Tox. 4, H302; Acute Tox. 4, H332	0.151%
23950-58-5	propyzamide (ISO) Carc. 2, H351	0.151%
122-66-7	hydrazobenzene Carc. 1B, H350; Acute Tox. 4, H302	0.151%

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.
· **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.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 3)

· **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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm Sk
82-68-8 quintozene (ISO)	
NES	Long-term value: 0.5 mg/m³ Sen
WES	Long-term value: 0.5 mg/m³ Sen

· **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.

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 4)

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:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³

(Contd. on page 6)

(Contd. of page 5)

· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	99.1 %
VOC (EC)	99.10 %
Solids content:	0.9 %
· **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	1,611 mg/kg (rat)
Dermal	LD50	>1,978 mg/kg
Inhalative	LC50/4 h	85 mg/L
75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
122-39-4 diphenylamine		
Oral	LD50	1,120 mg/kg (rat)
82-68-8 quintozene (ISO)		
Oral	LD50	1,100 mg/kg (rat)

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 6)

62-44-2 phenacetin		
Oral	LD50	1,650 mg/kg (rat)
23950-58-5 propyzamide (ISO)		
Oral	LD50	3,350 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:
Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1A

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:**	
23950-58-5 propyzamide (ISO)	
LC50 (96h) - for fish	72 mg/L/96h (Oncorhynchus mykiss (rainbow trout))

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

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 7)

14 Transport information

· **Not Regulated, De minimus Quantities**	-
· **UN-Number**	
· **ADG, IMDG, IATA**	UN2810
· **UN proper shipping name**	
· **ADG**	2810 TOXIC LIQUID, ORGANIC, N.O.S. (DICHLOROMETHANE)
· **IMDG, IATA**	TOXIC LIQUID, ORGANIC, N.O.S. (DICHLOROMETHANE)
· **Transport hazard class(es)**	
· **ADG, IMDG, IATA**	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Stowage Code**	SW2 Clear of living quarters.
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 8)

· **UN "Model Regulation":**	UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (DICHLOROMETHANE), 6.1, III

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**

75-09-2	dichloromethane	S5
82-68-8	quintozene (ISO)	S5
62-44-2	phenacetin	S4
23950-58-5	propyzamide (ISO)	S5

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **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.

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**
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.
H351 Suspected of causing cancer.
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

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 9 (1X1 mL)

(Contd. of page 9)

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
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)**

· **Part number:** SVM-129-1
· **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**


health hazard

Carc. 1A	H350	May cause cancer.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
1,3-dinitrobenzene
safrole

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 1)

isodrin

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
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:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	98.492%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 2)

94-59-7	safrole Muta. 2, H341; Carc. 1B, H350; Acute Tox. 4, H302	0.151%
53-96-3	2-acetylaminofluorene Carc. 1A, H350; Acute Tox. 4, H302	0.151%
130-15-4	1,4-naphthoquinone Acute Tox. 3, H301; Acute Tox. 3, H311; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.151%

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.
· **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.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 3)

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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm 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.

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 4)

· **Material of gloves**
For normal use: nitrile rubber, 11-13 mil thickness
For direct contact with the chemical: butyl rubber, 12-15 mil thickness
· **Penetration time of glove material**
For normal use: nitrile rubber: 1 hour
For direct contact with the chemical: butyl rubber: > 4 hours
· **Eye protection:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water at 20 °C:**	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 5)

· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	98.5 %
VOC (EC)	98.49 %
Solids content:	0.6 %
· **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	1,133 mg/kg (rat)
Dermal	LD50	>1,143 mg/kg
Inhalative	LC50/4 h	21.1 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
94-59-7 safrole		
Oral	LD50	1,950 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
53-96-3 2-acetylaminofluorene		
Oral	LD50	850 mg/kg (mouse)
99-65-0 1,3-dinitrobenzene		
Oral	LD50	83 mg/kg (rat)
70-30-4 2,2'-methylenebis-(3,4,6-tri-chlorophenol)		
Oral	LD50	60 mg/kg (rat)
Inhalative	LC50/4 h	340 mg/L (rat)

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 6)

130-15-4 1,4-naphthoquinone		
Oral	LD50	190 mg/kg (rat)
Inhalative	LC50/4 h	46 mg/L (rat)
465-73-6 isodrin		
Oral	LD50	7 mg/kg (rat)
Dermal	LD50	23 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:
Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1A

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.

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 7)

14 Transport information

· **Not Regulated, De minimus Quantities**	-
· **UN-Number**	
· **ADG, IMDG, IATA**	UN1593
· **UN proper shipping name**	
· **ADG**	1593 DICHLOROMETHANE, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	DICHLOROMETHANE, MARINE POLLUTANT
· **IATA**	DICHLOROMETHANE
· **Transport hazard class(es)**	
· **ADG, IMDG**	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **IATA**	
· **Class**	6.1 Toxic substances.
· **Label**	6.1
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADG):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 8)

· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1593 DICHLOROMETHANE, 6.1, III, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
94-59-7	safrole
120-58-1	isosafrole
53-96-3	2-acetylaminofluorene
99-65-0	1,3-dinitrobenzene
70-30-4	2,2'-methylenebis-(3,4,6-tri-chlorophenol)
130-15-4	1,4-naphthoquinone
1888-71-7	hexachloropropene

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5
94-59-7	safrole	S6, S10
70-30-4	2,2'-methylenebis-(3,4,6-tri-chlorophenol)	S2, S4, S6

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** E2 Hazardous to the Aquatic Environment
· **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.

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.

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 2 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 10 (1X1 mL)

(Contd. of page 9)

· **Relevant phrases**
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
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
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1A: Carcinogenicity – Category 1A
Carc. 1B: Carcinogenicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

1 Identification

· **Product identifier**

· **Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)**

· **Part number:** SVM-131-1
· **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**


health hazard

Muta. 1A	H340	May cause genetic defects.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H335	May cause respiratory irritation.

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


GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
dichloromethane
1,3,5-trinitrobenzene
ethyl methanesulfonate

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 1)

methyl methanesulfonate

· **Hazard statements**
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause genetic defects.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
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.
Get medical advice/attention if you feel unwell.
Specific measures (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
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:**

75-09-2	dichloromethane STOT RE 2, H373; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	99.548%

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 2)

62-50-0	ethyl methanesulfonate Muta. 1A, H340; Carc. 2, H351; Acute Tox. 4, H302	0.151%

· **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:** 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:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.
· **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.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 3)

Open and handle receptacle with care.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **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:**	
75-09-2 dichloromethane	
NES	Long-term value: 174 mg/m³, 50 ppm Sk
WES	Long-term value: 174 mg/m³, 50 ppm 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

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 4)

· **Eye protection:**
Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Like chlorine
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	-95.1 °C
Initial boiling point and boiling range:	40 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	605 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	13 Vol %
Upper:	22 Vol %
· **Vapour pressure at 20 °C:**	360 hPa
· **Density at 20 °C:**	1.3 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
water at 20 °C:	20 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	99.5 %

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 5)

VOC (EC)	99.55 %
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	1,576 mg/kg (rat)
Dermal	LD50	>1,251 mg/kg
Inhalative	LC50/4 h	69.8 mg/L

75-09-2 dichloromethane		
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
99-35-4 1,3,5-trinitrobenzene		
Oral	LD50	275 mg/kg (rat)
62-50-0 ethyl methanesulfonate		
Oral	LD50	470 mg/kg (mouse)

· **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:
Harmful
Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Muta. 1A

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 6)

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**	UN2810
· **UN proper shipping name**	
· **ADG**	2810 TOXIC LIQUID, ORGANIC, N.O.S. (DICHLOROMETHANE)
· **IMDG, IATA**	TOXIC LIQUID, ORGANIC, N.O.S. (DICHLOROMETHANE)
· **Transport hazard class(es)**	
· **ADG, IMDG, IATA**	

· **Class**	6.1 Toxic substances.
· **Label**	6.1

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 7)

· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Warning: Toxic substances.
· **Danger code (Kemler):**	60
· **EMS Number:**	F-A,S-A
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	A
· **Stowage Code**	SW2 Clear of living quarters.
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (DICHLOROMETHANE), 6.1, III

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**	
75-09-2	dichloromethane
66-27-3	methyl methanesulfonate
62-50-0	ethyl methanesulfonate

· **Standard for the Uniform Scheduling of Medicines and Poisons**		
75-09-2	dichloromethane	S5

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

(Contd. on page 9)

Safety Data Sheet
according to WHS Regulations

Printing date 31.03.2019 Version number 3 Revision: 31.03.2019

Trade name: Semi-Volatiles Standard no. 11 (1X1 mL)

(Contd. of page 8)

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**
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H340 May cause genetic defects.
H351 Suspected of causing cancer.
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
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Muta. 1A: Germ cell mutagenicity – Category 1A
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2