03/31/2019 Kit Components		
Product code	Description	
US-121K	EPA Method 8270C Calibration Standards Kit	
Components:		
US-104N-1	Toxic Substances Standard (1X1 mL)	
US-106N-1	PAH Standard (1X1 mL)	
US-107N-1	Phenols Standard (1X1 mL)	
US-108N-1	Semi-Volatiles Internal Standard (1X1 mL)	
US-110-1	Ethers and Phthalates Standard (1X1 mL)	
US-111-1	Chlorinated Hydrocarbons Standard (1X1 mL)	
US-112B-1	Organochlorine Pesticides Standard (1X1 mL)	
US-113N-1	Nitrosamines Standard (1X1 mL)	
US-114-1	Base/Neutrals Standard (1X1 mL)	
US-115-1	Base/Neutrals Standard (1X1 mL)	
US-116N-1	PAH Standard (1X1 mL)	
US-117N-1	Phenols Standard (1X1 mL)	
US-118-1	Pesticides Standard (1X1 mL)	
US-119-1	Organophosphorous Pesticides Standard (1X1 mL)	
US-120AN-1	Pyridines Standard (1X1 mL)	

Printing date 03/31/2019

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Version Number 3

Reviewed on 03/31/2019

1 Identification

· Product identifier

· Trade name: Toxic Substances Standard (1X1 mL)

- · Part number: US-104N-1
- · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



Carcinogenicity - Category 1B	H350 May cause cancer.		
Specific Target Organ Toxicity - Repeated Exposure - Category 2	H373 May cause damage to organs through prolonge or repeated exposure.		
GHS07			
Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.		
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.		
Skin Irritation - Category 2	H315 Causes skin irritation.		
Eye Irritation - Category 2A	H319 Causes serious eye irritation.		
Skin Sensitizer - Category 1	H317 May cause an allergic skin reaction.		
Specific Target Organ Toxicity - Single Exposure -	H335 May cause respiratory irritation.		

· Label elements

Category 3

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



· Signal word Danger

• Hazard-determining components of labeling: dichloromethane 4-chloroaniline

(Contd. on page 2)

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Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Toxic Substances Standard (1X1 mL)

(Contd. of page 1) o-nitroaniline m-nitroaniline aniline · Hazard statements Harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eve irritation. May cause an allergic skin reaction. 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. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. 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. · Classification system: NFPA ratings (scale 0 - 4) Health = 2Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *2 Health = *20 Fire = 0FIRE Reactivity = 0REACTIVITY 0



(Contd. on page 3)

Reviewed on 03/31/2019

Trade name: Toxic Substances Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:		
75-09-2	dichloromethane	98.794% w/w
106-47-8	4-chloroaniline	0.151% w/w
62-53-3	aniline	0.151% w/w

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

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

· After inhalation:

Supply fresh air and to be sure call for a doctor.

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

- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eve contact:

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

- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.

(Contd. on page 4)



Printing date 03/31/2019

CA

Version Number 3

Reviewed on 03/31/2019

Trade name: Toxic Substances Standard (1X1 mL)

(Contd. of page 3)

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 protection against explosions and fires: 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 receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

75-09-2 dichloromethane

EL Long-term value: 25 ppm IARC 2A

EV Long-term value: 175 mg/m³, 50 ppm

106-47-8 4-chloroaniline

EL IARC 2B

62-53-3 aniline

- EL Long-term value: 2 ppm Skin
- EV Long-term value: 8 mg/m³, 2 ppm Skin

• Additional information: The lists that were valid during the creation were used as basis.

- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

• Breathing equipment:

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

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved

(Contd. on page 5)

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Reviewed on 03/31/2019

Trade name: Toxic Substances Standard (1X1 mL)

(Contd. of page 4)

device/equipment with appropriate organic or acid gas cartridge.

· Protection of hands:

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

· Material of gloves

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

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

- · Penetration time of glove material
- For normal use: nitrile rubber: 1 hour

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

- Eye protection:
- Safety glasses



Tightly sealed goggles

· Information on basic physical and chemical properties			
· Information on basic physical and chemical properties			
Appearance:			
Form:	Fluid		
Color:	Colorless		
Odor:	Like chlorine		
Odor threshold:	Not determined.		
pH-value:	Not determined.		
Change in condition			
Melting point/Melting range:	-95.1 °C		
Boiling point/Boiling range:	40 °C		
Flash point:	Not applicable.		
Flammability (solid, gaseous):	Not applicable.		
Ignition temperature:	605 °C		
Decomposition temperature:	Not determined.		
Auto igniting:	Product is not selfigniting.		
Danger of explosion:	Product does not present an explosion hazard.		
Explosion limits:			
Lower:	13 Vol %		
Upper:	22 Vol %		
Vapor pressure at 20 °C:	360 hPa		
Density at 20 °C:	° C: 1.29731 g/cm ³		
• Relative density Not determined.			



Safety Data Sheet

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Toxic Substances Standard (1X1 mL)

		(Contd. of page
· Vapor density	Not determined.	
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water at 20 °C:	20 g/l	
· Partition coefficient (n-octanol/wa	ter): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	98.9 %	
Solids content:	0.8 %	
• 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	· LD/LC50 values that are relevant for classification:				
ATE (Acu	ite Toxicit	y Estimate)			
Oral	LD50	1,584 mg/kg (rat)			
Dermal	LD50	>1,956 mg/kg			
Inhalative	LC50/4 h	>71.1 mg/L			
75-09-2 d	ichloromet	thane			
Oral	LD50	1,600 mg/kg (rat)			
Dermal	LD50	>2,000 mg/kg (rat)			
Inhalative	LC50/4 h	88 mg/L (rat)			
106-47-8	106-47-8 4-chloroaniline				
Oral	LD50	310 mg/kg (rat)			
Dermal	LD50	3,200 mg/kg (rat)			
62-53-3 a	niline				
Oral	LD50	442 mg/kg (rat)			
Dermal	LD50	820 mg/kg (rabbit)			

(Contd. on page 7)



Reviewed on 03/31/2019

(Contd. of page 6)

Trade name: Toxic Substances Standard (1X1 mL)

Inhalative LC50/4 h 175 mg/L (mouse)

3.27 mg/L (rat)

Primary irritant effect:

• on the skin: Irritant to skin and mucous membranes.

• on the eye: Irritating effect.

· Sensitization: Sensitization possible through skin contact.

· Additional toxicological information:

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

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)		
75-09-2	dichloromethane	2A
106-47-8	4-chloroaniline	2B
62-53-3	aniline	3
· NTP (National Toxicology Program)		
75-09-2 dichloromethane R		

12 Ecological information

- · Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 3 (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 of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

(Contd. on page 8)



Printing date 03/31/2019

Reviewed on 03/31/2019

(Contd. on page 9)

Trade name: Toxic Substances Standard (1X1 mL)

	(Contd. of pag
Transport information	
Not Regulated, De minimus Quantities	-
UN-Number DOT, TDG, IMDG, IATA	UN1593
UN proper shipping name DOT TDG IMDG, IATA	Dichloromethane 1593 DICHLOROMETHANE DICHLOROMETHANE
Transport hazard class(es)	
DOT, TDG, IMDG, IATA	
Class	6.1 Toxic substances
Label	6.1
Packing group DOT, TDG, 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 MARPOL73/78 and the IBC Code	of Not applicable.
Transport/Additional information:	11
DOT Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
Hazardous substance:	1000 lbs, 454 kg
TDG Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
IMDG Limited quantities (LQ) Excepted quantities (EQ)	5L 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



Printing date 03/31/2019

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Reviewed on 03/31/2019

Trade name: Toxic Substances Standard (1X1 mL)

(Contd. of page 8)

15 Regulatory information

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

· Section 355 (extremely hazardous substances):

62-53-3 aniline

Printing date 03/31/2019

· Section 313 (Specific toxic chemical listings):

75-09-2 dichloromethane

132-64-9 dibenzofuran

100-01-6 p-nitroaniline

106-47-8 4-chloroaniline

62-53-3 aniline

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

75-09-2 dichloromethane

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· National regulations:

· 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.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

- · Date of the latest revision of the safety data sheet 03/31/2019 / 2
- Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation
- 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)

NFPA: National Fire Protection Association (USA)

- HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent
- LC50: Lethal concentration, 50 p
- LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative



Version Number 3

Review

Printing date 03/31/2019

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Version Number 3

Reviewed on 03/31/2019

1 Identification · Product identifier · Trade name: PAH Standard (1X1 mL) · Part number: US-106N-1 · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use · Details of the supplier of the safety data sheet · Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA · Information department: Telephone: 800-227-9770 e-mail: pdl-msds author@agilent.com · Emergency telephone number: CHEMTREC®: 1-800-424-9300 **2** Hazard identification · Classification of the substance or mixture GHS02 Flame Flammable Liquids - Category 2 H225 Highly flammable liquid and vapour. GHS06 Skull and crossbones Acute Toxicity (Dermal) - Category 2 H310 Fatal in contact with skin. GHS08 Health hazard Germ Cell Mutagenicity - Category 1B H340 May cause genetic defects. Carcinogenicity - Category 1A H350 May cause cancer. H360 May damage fertility or the unborn child. Reproductive Toxicity - Category 1B Specific Target Organ Toxicity - Repeated Exposure -H372 Causes damage to organs through prolonged or Category 1 repeated exposure. Aspiration Hazard - Category 1 H304 May be fatal if swallowed and enters airways. GHS07 Skin Irritation - Category 2 H315 Causes skin irritation. Eye Irritation - Category 2A H319 Causes serious eye irritation. Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction. Specific Target Organ Toxicity - Single Exposure -H335 May cause respiratory irritation. Category 3

· Label elements

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

(Contd. on page 2)

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 1) · Hazard pictograms GHS02 GHS06 GHS07 GHS08 · Signal word Danger · Hazard-determining components of labeling: benzene dichloromethane benzo[a]pyrene dibenz[a,h]anthracene anthracene phenanthrene · Hazard statements Highly flammable liquid and vapour. Fatal in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. · Precautionary statements If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take actions to prevent static discharges. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. IF ON SKIN: Gently wash with plenty of soap and water. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



Printing date 03/31/2019

Reviewed on 03/31/2019

5

Version Number 3

Trade name: PAH Standard (1X1 mL)

(Contd. of page 2) IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Get medical advice/attention if you feel unwell. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse. In case of fire: Use for extinction: CO2, powder or water spray. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: • NFPA ratings (scale 0 - 4) Health = 3Fire = 3Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *3 Health = *3FIRE 3 Fire = 3**REACTIVITY** Reactivity = 0

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangero	is components:		
75-09-2	dichloromethane	58.52% w/w	
71-43-2	benzene	38.572% w/w	
86-73-7	fluorene	0.182% w/w	
120-12-7	anthracene	0.182% w/w	
85-01-8	phenanthrene	0.182% w/w	
206-44-0	fluoranthene	0.182% w/w	
53-70-3	0-3 dibenz[a,h]anthracene 0.182%		
193-39-5	0.182%		
218-01-9	9 chrysene 0.182% w/		
207-08-9	9 benzo[k]fluoranthene 0.182% w/		
205-99-2	benz[e]acephenanthrylene	0.182% w/w	
50-32-8	benzo[a]pyrene	0.182% w/w	
56-55-3	benz[a]anthracene	0.182% w/w	
191-24-2	2 benzo[ghi]perylene 0.182% w/v		
129-00-0	29-00-0 pyrene 0.182% w/		
		(Contd. on page 4)	



Version Number 3

Rev

Trade name: PAH Standard (1X1 mL)

91-20-3 naphthalene

Printing date 03/31/2019

4 First aid measures

· Description of first aid measures

• General information:

Immediately remove any clothing soiled by the product.

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

• After inhalation:

Supply fresh air and to be sure call for a doctor.

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

- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact:

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

- After swallowing: If symptoms persist consult doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- \cdot Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

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

6 Accidental release measures

• Personal precautions, protective equipment and emergency procedures Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

• Environmental precautions: Do not allow 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.

(Contd. on page 5)



Reviewed on 03/31/2019

(Contd. of page 3)

0.182% w/w

Version Number 3

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

Printing date 03/31/2019

(Contd. of page 4)

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 protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges.

Keep respiratory protective device available.

· Conditions for safe storage, including any incompatibilities

- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:
- Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

· Components with limit values that require monitoring at the workplace:		
75-09-2 dichloromethane		
EL Long-term value: 25 ppm IARC 2A		
EV Long-term value: 175 mg/m ³ , 50 ppm		
71-43-2 benzene		
EL Short-term value: 2.5 ppm Long-term value: 0.5 ppm Skin; ACGIH A1; IARC 1		
EV Short-term value: 2.5 ppm Long-term value: 0.5 ppm Skin		
218-01-9 chrysene		
EL IARC 2B		
205-99-2 benz[e]acephenanthrylene		
EL ACGIH A2; IARC 2B		
50-32-8 benzo[a]pyrene		
EL ACGIH A2; IARC 1		
56-55-3 benz[a]anthracene		
EL ACGIH A2; IARC 2B		
	Contd. on page 6)	
	CA	



Reviewed on 03/31/2019

Printing date 03/31/2019

Agilent

Version Number 3

Trade name:	РАН	Standard	(1X1 mL)

(Cont	td. of page 5)

- EL Long-term value: 10 ppm Skin; IARC 2B
- EV Short-term value: 78 mg/m³, 15 ppm Long-term value: 52 mg/m³, 10 ppm
- Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls

91-20-3 naphthalene

- · 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.
- Breathing equipment:

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

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

· Protection of hands:

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

· Material of gloves

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

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

- · Penetration time of glove material
- For normal use: nitrile rubber: 1 hour

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

Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

• Infor	mation	on basic	physical and	chemical	properties
0	1 7 6				

- · General Information
- · Appearance:
- Form: Color:
- · Odor:
- · Odor threshold:
- · pH-value:

According to product specification Characteristic Not determined. Not determined.

Fluid

(Contd. on page 7)

ĆA

Safety Data Sheet

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

	(Contd. of page 6
 Change in condition Melting point/Melting range: Boiling point/Boiling range: 	Undetermined. 40 °C
· Flash point:	-11 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	555 °C
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits: Lower: Upper:	1.2 Vol % 22 Vol %
· Vapor pressure at 20 °C:	360 hPa
 Density: Relative density Vapor density Evaporation rate 	Not determined. Not determined. Not determined. Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/wat	ter): Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
· Solvent content: Organic solvents:	97.1 %
Solids content: • Other information	2.9 % 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 8)



Printing date 03/31/2019

Safety Data Sheet

according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 7)

LD/LC50 values that are relevant for classification:ATE (Acute Toxicity Estimate)OralLD50 $2,078 mg/kg (rat)$ DermalLD50>120 mg/kgInhalativeLC50/4 hI50 mg/L (rat)7-09-2 di-HorometaneOralLD50D50 $2,000 mg/kg (rat)$ InhalativeLC50/4 h88 mg/L (rat)71-43-2 benzeneOralLD50 $3,340 mg/kg (rat)$ InhalativeLC50/4 h88 mg/L (rat)OralLD50 $3,340 mg/kg (rat)$ DermalLD50 $3,340 mg/kg (rat)$ DermalLD50 $3,400 mg/kg (rat)$ DermalLD50 $3,400 mg/kg (rat)$ InhalativeLC50/4 h $8 mg/kg (mouse)$ 85-01-8 peneratione $8,260 mg/kg (rabbit)$ InhalativeLC50/4 h $9,980 mg/L (mouse)$ 206-44-0 fluorantereOralLD50 $2,000 mg/kg (rat)$ DermalLD50 $2,000 mg/kg (rat)$ DermalLD50 $1,760 mg/kg (mouse)$ 208-68-acenaphty-teeOralLD50 $1,760 mg/kg (rat)$ OralLD50 $2,700 mg/kg (rat)$ InhalativeLC50/4 h $10 mg/L (rat)$ OralD70-0 $yreneOralLD505,000 mg/kg (rat)InhalativeLC50/4 h10 mg/L (rat)OralLD505,000 mg/kg (rat)InhalativeLC50/4 h10 mg/L (rat)OralLD5$		Acute toxicity:		
OralLD502,078 mg/kg (rat)DermalLD50>120 mg/kgInhalativeLC50/4 h150 mg/L (rat)75-09-2 di-loromethaneOralLD501,600 mg/kg (rat)DermalLD50>2,000 mg/kg (rat)InhalativeLC50/4 h88 mg/L (rat)71-43-2 benzeneOralLD503,340 mg/kg (rat)DermalLD503,340 mg/kg (rat)DermalLD503,340 mg/kg (rat)DermalLD503,340 mg/kg (rat)DermalLD503,340 mg/kg (rat)DermalLD503,340 mg/kg (rat)DermalLD50700 mg/kg (rabbit)InhalativeLC50/4 h9,980 mg/L (mouse)85-01-8 phenanthrereOralLD50OralLD502,000 mg/kg (rat)DermalLD503,180 mg/kg (rat)DermalLD503,180 mg/kg (rat)DermalLD501,760 mg/kg (mouse)208-96-8 acenaphty-reOralLD502,700 mg/kg (rat)InhalativeLC50/4 h170 mg/L (rat)11D502,700 mg/kg (rat)InhalativeLC50/4 h170 mg/L (rat)OralLD502,000 mg/kg (rat)InhalativeLC50/4 h170 mg/L (rat)OralD502,000 mg/kg (rat)InhalativeLC50/4 h170 mg/L (rat)OralLD503,000 mg/kg (rat)InhalativeLC50/4 h170				
Dermal InhalativeLD50>120 mg/kgInhalativeICS0/4 h150 mg/L (rat)75-09-2 dic/borne/tableOral LD501,600 mg/kg (rat)Dermal InhalativeLD502,000 mg/kg (rat)Inhalative COralLD503,340 mg/kg (rat)Dermal LD503,340 mg/kg (rat)Oral LD5048 mg/kg (mouse) >8,260 mg/kg (rabbit)Inhalative LC50/4 h9,980 mg/L (mouse)S6-01-8 p+manthre=Oral DermalLD50700 mg/kg (mouse)206-44-0 fluoranthre=Oral DermalLD502,000 mg/kg (rat)Dormal LD503,180 mg/kg (rat)Dermal DermalLD503,180 mg/kg (rat)Doral DermalLD501,760 mg/kg (mouse)208-96-8 acenaphth=Oral Oral LD50Oral KD501,760 mg/kg (rat)Inhalative DermalOral LD502,700 mg/kg (rat)InhalativeOral DermalLD502,700 mg/kg (rat)Inhalative LD50Oral DermalD50 D2,700 mg/kg (rat)Inhalative LD503,000 mg/kg (rat)Inhalative Dermal2,000 mg/kg (rat)Oral DermalLD50490 mg/kg (rat)Oral Do10D700 mg/kg (rat)D/D0				
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75-09-2 dic-hormet-hane Oral LD50 1,600 mg/kg (rat) Dermal LD50 >2,000 mg/kg (rat) Inhalative LC50/4 h 88 mg/L (rat) 71-43-2 benzene				
OralLD501,600 mg/kg (rat)DermalLD50>2,000 mg/kg (rat)InhalativeLC50/4 h88 mg/L (rat) 71-43-2 b=zene OralLD503,340 mg/kg (rat)DermalLD5048 mg/kg (mouse)>82,260 mg/kg (rabbit)InhalativeLC50/4 h9,980 mg/L (mouse) 85-01-8 p+=nanthreme OralLD50700 mg/kg (mouse) 206-44-0 fluoranthere OralLD502,000 mg/kg (rat)DermalLD502,000 mg/kg (rat)DermalLD503,180 mg/kg (rabbit) 208-96-8 acenaphthyteme OralLD501,760 mg/kg (mouse) 129-00-0 pyrene OralLD502,700 mg/kg (rat)InhalativeLC50/4 h170 mg/L (rat) 91-20-3 naphthaleme OralLD50490 mg/kg (rat)DermalLD505,000 mg/kg (rat)DermalLD505,000 mg/kg (rat)DranaLD50490 mg/kg (rat)Pirmary irritant effect:20,000 mg/kg (rabbit)	Inhalative	LC50/4 h	150 mg/L (rat)	
DermalLD50>2,000 mg/kg (rat)InhalativeLC50/4 h88 mg/L (rat) 71-43-2 benzene OralLD503,340 mg/kg (rat)DermalLD5048 mg/kg (mouse) >8,260 mg/kg (rabbit)InhalativeLC50/4 h9,980 mg/L (mouse) 85-01-8 phenanthrene OralLD50700 mg/kg (mouse) 206-44-0 fluoranthere OralLD502,000 mg/kg (rat)DermalLD503,180 mg/kg (rabbit) 208-96-8 acenaphthylere OralLD501,760 mg/kg (mouse) 129-00-0 pyrene OralLD502,700 mg/kg (rat)InhalativeLC50/4 h170 mg/L (rat) 91-20-3 naphthalene OralLD50490 mg/kg (rat)DermalLD505,000 mg/kg (rat)DermalLD503,000 mg/kg (rat)InhalativeLD502,700 mg/kg (rat)InhalativeLD50490 mg/kg (rat)DermalLD505,000 mg/kg (rat)Pirmary irritant effect:20,000 mg/kg (rabbit)	75-09-2 di	ichloromet	thane	
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71-43-2 benzene Oral LD50 3,340 mg/kg (rat) Dermal LD50 48 mg/kg (mouse) >8,260 mg/kg (rabbit) Inhalative LC50/4 h 9,980 mg/L (mouse) 85-01-8 p+enanth=re Oral LD50 700 mg/kg (mouse) 206-44-0 fluoranth=re Oral LD50 700 mg/kg (rat) Dermal LD50 3,180 mg/kg (rat) Dermal LD50 3,180 mg/kg (rabbit) 208-96-8 acenapht+yene Oral LD50 1,760 mg/kg (mouse) 129-00-0 pyrene 2,700 mg/kg (rat) Inhalative LC50/4 h 170 mg/kg (rat) Inhalative LD50 2,700 mg/kg (rat) Inhalative LD50 2,700 mg/kg (rat) Oral LD50 2,700 mg/kg (rat) Oral LD50 2,700 mg/kg (rat) Inhalative LC50/4 h 170 mg/kg (rat) Oral LD50 5,000 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) Oral LD50 5,000 mg/kg (rat) <td< td=""><td>Dermal</td><td>LD50</td><td>>2,000 mg/kg (rat)</td></td<>	Dermal	LD50	>2,000 mg/kg (rat)	
OralLD503,340 mg/kg (rat)DermalLD5048 mg/kg (mouse)>8,260 mg/kg (rabbit)InhalativeLC50/4 h9,980 mg/L (mouse) 85-01-8 p+enanthreVota dott dott dott dott dott dott dott d	Inhalative	LC50/4 h	88 mg/L (rat)	
Dermal LD50 48 mg/kg (mouse) >8,260 mg/kg (rabbit) Inhalative LC50/4 h 9,980 mg/L (mouse) 85-01-8 >===================================	71-43-2 b	enzene		
>8,260 mg/kg (rabbit) Inhalative LC50/4 h 9,980 mg/L (mouse) 85-01-8 pt=nanthre= Oral LD50 700 mg/kg (mouse) 206-44-0 fuoranthe= Oral LD50 206-44-0 fuoranthe= Oral LD50 3,180 mg/kg (rat) Dermal LD50 3,180 mg/kg (rabbit) 208-96-8 zenapht= Oral LD50 1,760 mg/kg (mouse) Oral LD50 1,760 mg/kg (mouse) 129-00-0 pyrene Oral LD50 2,700 mg/kg (rat) Inhalative LC50/4 h 170 mg/L (rat) 91-20-3 pythale= Oral LD50 9,000 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) 20,000 mg/kg (rabbit)	Oral	LD50	3,340 mg/kg (rat)	
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85-01-8 phenanthrene Oral LD50 700 mg/kg (mouse) 206-44-0 fluoranthene			>8,260 mg/kg (rabbit)	
Oral LD50 700 mg/kg (mouse) 206-44-0 Fuoranthere Oral LD50 2,000 mg/kg (rat) Dermal LD50 3,180 mg/kg (rabbit) 208-96-8 acenaphthyene Oral LD50 1,760 mg/kg (mouse) 129-00-0 yrene Oral LD50 2,700 mg/kg (mouse) 129-00-0 yrene Oral LD50 2,700 mg/kg (rat) Inhalative LC50/4 h 170 mg/L (rat) 91-20-3 wrthalene yrthalene Oral LD50 5,000 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) Primary irritant effect: Vertication	Inhalative	LC50/4 h	9,980 mg/L (mouse)	
Defense of the service of the s	85-01-8 phenanthrene			
Oral LD50 2,000 mg/kg (rat) Dermal LD50 3,180 mg/kg (rabbit) 208-96-8 >===================================	Oral	LD50	700 mg/kg (mouse)	
Dermal LD50 3,180 mg/kg (rabbit) 208-96-8 c=naphtbere Oral LD50 1,760 mg/kg (mouse) 129-00-0 yrene 2,700 mg/kg (rat) Oral LD50 2,700 mg/kg (rat) Inhalative LC50/4 h 170 mg/L (rat) 91-20-3 nubere V Oral LD50 490 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) Primary iritant effect: V	206-44-0 1	luoranthe	ne	
Decision of the second	Oral	LD50	2,000 mg/kg (rat)	
Oral LD50 1,760 mg/kg (mouse) 129-00-0 pyrene	Dermal	LD50	3,180 mg/kg (rabbit)	
129-00-0 pyrene Oral LD50 2,700 mg/kg (rat) Inhalative LC50/4 h 170 mg/L (rat) 91-20-3 n=phthalene Volume 490 mg/kg (rat) Oral LD50 490 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) 20,000 mg/kg (rabbit) 20,000 mg/kg (rabbit)				
Oral LD50 2,700 mg/kg (rat) Inhalative LC50/4 h 170 mg/L (rat) 91-20-3 nəpthalene V Oral LD50 490 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) 20,000 mg/kg (rabbit) 20,000 mg/kg (rabbit)	Oral LD50 1,760 mg/kg (mouse)			
Inhalative LC50/4 h 170 mg/L (rat) 91-20-3 n=b=thale=e= - - - Oral LD50 490 mg/kg (rat) - Dermal LD50 5,000 mg/kg (rat) - 0.000 mg/kg (rabbit) - - -	129-00-0 j	oyrene		
91-20-3 naphthalene Oral LD50 490 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) 20,000 mg/kg (rabbit) 20,000 mg/kg (rabbit)	Oral	LD50	2,700 mg/kg (rat)	
Oral LD50 490 mg/kg (rat) Dermal LD50 5,000 mg/kg (rat) 20,000 mg/kg (rabbit) 20,000 mg/kg (rabbit)	Inhalative	LC50/4 h	170 mg/L (rat)	
Dermal LD50 5,000 mg/kg (rat) 20,000 mg/kg (rabbit)	91-20-3 na	aphthalen	e	
20,000 mg/kg (rabbit) • Primary irritant effect:	Oral	LD50	490 mg/kg (rat)	
· Primary irritant effect:	Dermal	LD50	5,000 mg/kg (rat)	
			20,000 mg/kg (rabbit)	
• on the skin: Irritant to skin and mucous membranes. • on the eye: Irritating effect.	• on the ski	n: Irritant t	to skin and mucous membranes.	

The product can cause inheritable damage.

(Contd. on page 9)

CA



Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 8)	(Contd.	of page	8)
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	ternational Agency for Research on Cancer) dichloromethane	2A
	benzene	1
	fluorene	3
	anthracene	3
	phenanthrene	3
	fluoranthene	3
	acenaphthene	3
	dibenz[a,h]anthracene	24
	indeno[1,2,3-cd]pyrene	21
	chrysene	21
	benzo[k]fluoranthene	21
	benz[e]acephenanthrylene	21
	benzo[a]pyrene	1
	benz[a]anthracene	21
	benzo[ghi]perylene	3
129-00-0		3
	naphthalene	21
	•	21
	tional Toxicology Program)	
	dichloromethane	I
	benzene	I
	fluorene	F
	anthracene	ŀ
	phenanthrene	F
	fluoranthene	F
	dibenz[a,h]anthracene	I
	indeno[1,2,3-cd]pyrene	H
	chrysene	I
	benzo[k]fluoranthene	F
	benz[e]acephenanthrylene	I
	benzo[a]pyrene	I
	benz[a]anthracene	I
129-00-0		F
91-20-3	naphthalene	I

12 Ecological information

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

(Contd. on page 10)



Printing date 03/31/2019

⁻⁻⁻⁻ CA

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 9)

· Behavior in environmental systems:

- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:

· General notes:

Water hazard class 3 (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.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information · Not Regulated, De minimus Quantities · UN-Number · DOT, TDG, IMDG, IATA UN1992 · UN proper shipping name · DOT Flammable liquids, toxic, n.o.s. (Benzene) ·TDG 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (BENZENE), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, TOXIC, N.O.S. (BENZENE, fluorene), · IMDG MARINE POLLUTANT \cdot IATA FLAMMABLE LIQUID, TOXIC, N.O.S. (BENZENE) · Transport hazard class(es) · DOT · Class 3 Flammable liquids (Contd. on page 11)



Printing date 03/31/2019

Version Number 3 Reviewed on 03/31/2019

	(Contd. of pag
Label TDG (Transport dangerous goods):	3, 6.1
Class Label	3 Flammable liquids 3+6.1
IMDG	
Class Label	3 Flammable liquids 3/6.1
Class Label	3 Flammable liquids 3 (6.1)
Packing group DOT, TDG, IMDG, IATA	II
Environmental hazards:	Product contains environmentally hazardous substances: dibenz[a,h]anthracene
Marine pollutant: Special marking (TDG):	Symbol (fish and tree) Symbol (fish and tree)
Special precautions for user Danger code (Kemler): EMS Number: Stowage Category Stowage Code	Warning: Flammable liquids 336 F-E,S-D B SW2 Clear of living quarters.
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 60 L
TDG Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml



Safety Data Sheet

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

Printing date 03/31/2019

	(Contd. of page 11)
 IMDG Limited quantities (LQ) Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (BENZENE), 3 (6.1), II, ENVIRONMENTALLY HAZARDOUS

*

15 Regulatory information

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

	55 (extremely hazardous substances):
129-00-0	pyrene
Section 3	13 (Specific toxic chemical listings):
75-09-2	dichloromethane
71-43-2	benzene
120-12-7	anthracene
85-01-8	phenanthrene
206-44-0	fluoranthene
	dibenz[a,h]anthracene
	indeno[1,2,3-cd]pyrene
218-01-9	
	benzo[k]fluoranthene
205-99-2	benz[e]acephenanthrylene
	benzo[a]pyrene
	benz[a]anthracene
	benzo[ghi]perylene
91-20-3	naphthalene
· TSCA (T	oxic Substances Control Act):
75-09-2	dichloromethane
71-43-2	benzene
86-73-7	fluorene
120-12-7	anthracene
85-01-8	phenanthrene
206-44-0	fluoranthene
	acenaphthene
	acenaphthylene
	dibenz[a,h]anthracene
193-39-5	indeno[1,2,3-cd]pyrene
218-01-9	chrysene
	(Contd. on page 1



Safety Data Sheet

according to HPR, Schedule 1

Reviewed on 03/31/2019

8

Version Number 3

Trade name: PAH Standard (1X1 mL)

	(Contd. of page 12
	benzo[a]pyrene
	benz[a]anthracene
129-00-0	pyrene
91-20-3	naphthalene
	n substance listings:
	n Domestic Substances List (DSL)
75-09-2	dichloromethane
71-43-2	benzene
86-73-7	fluorene
120-12-7	anthracene
85-01-8	phenanthrene
83-32-9	acenaphthene
218-01-9	chrysene
50-32-8	benzo[a]pyrene
129-00-0	pyrene
91-20-3	naphthalene
· Canadiar	n Ingredient Disclosure list (limit 0.1%)
75-09-2	dichloromethane
71-43-2	benzene
53-70-3	dibenz[a,h]anthracene
193-39-5	indeno[1,2,3-cd]pyrene
218-01-9	chrysene
205-99-2	benz[e]acephenanthrylene
50-32-8	benzo[a]pyrene
56-55-3	benz[a]anthracene
	n Ingredient Disclosure list (limit 1%)
None of t	he ingredients is listed.

· National regulations:

· Additional classification according to Decree on Hazardous Materials:

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.

- · Department issuing SDS: Document Control / Regulatory
- · Contact: regulatory@ultrasci.com
- \cdot Date of the latest revision of the safety data sheet 03/31/2019 / 2

(Contd. on page 14)



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Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 13)

· Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation 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) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative • * Data compared to the previous version altered.



Printing date 03/31/2019

Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification

- · Product identifier
- · Trade name: Phenols Standard (1X1 mL)
- · Part number: US-107N-1
- · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



Carcinogenicity - Category 1B	H350 May cause cancer.
Specific Target Organ Toxicity - Repeated Exposure - Category 2	H373 May cause damage to organs through prolonged or repeated exposure.
GHS07	
Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Skin Sensitizer - Category 1	H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure - Category 3	H335 May cause respiratory irritation.

· Label elements

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



· Signal word Danger

• Hazard-determining components of labeling: dichloromethane DNOC

(Contd. on page 2)

CA

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

	(Contd. of page 1)
2,4-dichlorophenol	
2,4-dinitrophenol	
chlorocresol	
Hazard statements	
Harmful if swallowed or in contact with skin.	
Causes skin irritation.	
Causes serious eye irritation.	
May cause an allergic skin reaction.	
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.	
Contaminated work clothing should not be allowed out of the workplace.	
Wear protective gloves/protective clothing/eye protection/face protection.	
If swallowed: Call a poison center/doctor if you feel unwell.	
Rinse mouth.	
If on skin: Wash with plenty of water.	
IF INHALED: Remove person to fresh air and keep comfortable for breathing.	. 1 . 1
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen	t and easy to do.
Continue rinsing.	
IF exposed or concerned: Get medical advice/attention.	
Get medical advice/attention if you feel unwell.	
Take off contaminated clothing and wash it before reuse.	
Specific measures (see on this label). If skin irritation or rash occurs: Get medical advice/attention.	
If eye irritation persists: Get medical advice/attention. 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 regulatio	ns
· Classification system:	115.
· NFPA ratings (scale 0 - 4)	
Health $= 2$	
Fire = 0	
2 Reactivity = 0	
HMIS-ratings (scale 0 - 4)	
HEALTH $*2$ Health = $*2$	
FIRE 0 Fire = 0	
$\frac{1}{\text{REACTIVITY}[0]} \text{Reactivity} = 0$	

CA



Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:			
75-09-2	dichloromethane	98.341% w/w	
534-52-1	DNOC	0.151% w/w	
87-86-5	pentachlorophenol	0.151% w/w	
88-06-2	2,4,6-trichlorophenol	0.151% w/w	
59-50-7	chlorocresol	0.151% w/w	

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

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

• After inhalation:

Supply fresh air and to be sure call for a doctor.

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

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

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

- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.

(Contd. on page 4)



Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Phenols Standard (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 protection against explosions and fires: 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 receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

75-09-2 dichloromethane

- EL Long-term value: 25 ppm IARC 2A
- EV Long-term value: 175 mg/m³, 50 ppm

534-52-1 DNOC

- EL Long-term value: 0.2 mg/m³
- Skin EV Long-term value: 0.2 mg/m³
- Skin

87-86-5 pentachlorophenol

EL Long-term value: 0.5 mg/m³ Skin, IARC 2B EV Long-term value: 0.5 mg/m³

Skin

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

· Exposure controls

- · Personal protective equipment:
- · General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.

(Contd. on page 5)



Printing date 03/31/2019



CA

Reviewed on 03/31/2019

Printing date 03/31/2019

Version Number 3

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 4)

Store protective clothing separately. Avoid contact with the eyes and skin.

· Breathing equipment:

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

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

· Protection of hands:

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

· Material of gloves

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

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

· Penetration time of glove material

For normal use: nitrile rubber: 1 hour

- For direct contact with the chemical: butyl rubber: >4 hours
- Eye protection:
- Safety glasses



Tightly sealed goggles

Information on basic physical and of General Information	chemical properties	
Appearance:		
Form:	Fluid	
Color:	Colorless	
Odor:	Like chlorine	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	-95.1 °C	
Boiling point/Boiling range:	40 °C	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Ignition temperature:	605 °C	
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	



Agilent

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

		(Contd. of page
• Explosion limits:		
Lower:	13 Vol %	
Upper:	22 Vol %	
· Vapor pressure at 20 °C:	360 hPa	
Density at 20 °C:	1.3 g/cm ³	
Relative density	Not determined.	
Vapor density	Not determined.	
• Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water at 20 °C:	20 g/l	
Partition coefficient (n-octanol/v	vater): Not determined.	
· Viscosity:		
Dynamic at 20 °C:	0.43 mPas	
Kinematic:	Not determined.	
Solvent content:		
Organic solvents:	98.5 %	
Solids content:	1.5 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

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

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral	LD50	1,019 mg/kg (rat)
Dermal		>1,909 mg/kg
Inhalative	LC50/4 h	63.7 mg/L

75-09-2 dichloromethane			
Oral	LD50	1,600 mg/kg (rat)	
Derma	al LD50	>2,000 mg/kg (rat)	
Inhala	tive LC50/4 h	88 mg/L (rat)	

(Contd. on page 7)

Reviewed on 03/31/2019

Agilent

Printing date 03/31/2019

Version Number 3

534-52-1	DNOC		
Oral	LD50	7 mg/kg (rat)	
Dermal	LD50	200 mg/kg (rat)	
		1,000 mg/kg (rabbit)	
87-86-5 p	entachloro	-	
Oral	LD50	27 mg/kg (rat)	
Dermal	LD50	96 mg/kg (rat)	
Inhalative	LC50/4 h	355 mg/L (rat)	
88-06-2 2	,4,6-trichlo	orophenol	
Oral	LD50	820 mg/kg (rat)	
59-50-7 cl	hlorocreso	l	
Oral	LD50	1,830 mg/kg (rat)	
Dermal	LD50	>2,000 mg/kg (rat)	
on the ski on the eye Sensitizat Additiona The produ	e: Irritating ion: Sensit al toxicolog	to skin and mucous membranes.	eparations
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant	n: Irritant t e: Irritating ion: Sensit al toxicolog	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre	eparations
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog	n: Irritant t e: Irritating ion: Sensit al toxicolog ect shows th enic catego	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre	parations
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2	n: Irritant t e: Irritating ion: Sensit al toxicolog act shows th enic catego ternationa dichloromo	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries I Agency for Research on Cancer) ethane	
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2	n: Irritant t e: Irritating ion: Sensit al toxicolog act shows th enic catego ternationa	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries I Agency for Research on Cancer) ethane	2
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2 95-57-8	n: Irritant t e: Irritating ion: Sensit al toxicolog act shows th enic catego ternationa dichloromo	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries al Agency for Research on Cancer) ethane nenol	2
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2 95-57-8 120-83-2	n: Irritant t e: Irritating ion: Sensit al toxicolog ect shows th enic catego ternationa dichloromo 2-chloroph	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries al Agency for Research on Cancer) ethane nenol rophenol	2 2 2 2 2
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2 95-57-8 120-83-2 87-86-5	n: Irritant t e: Irritating ion: Sensit al toxicolog act shows th enic catego ternationa dichloromo 2-chloroph 2,4-dichlor pentachlor	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries al Agency for Research on Cancer) ethane nenol rophenol	2 2 2 2 2 2 2 2 2 2 2 2
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2 95-57-8 120-83-2 87-86-5	n: Irritant t e: Irritating ion: Sensit al toxicolog ect shows th enic catego ternationa dichloromo 2-chloroph 2,4-dichlor pentachlor 2,4,6-trich	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries al Agency for Research on Cancer) ethane nenol rophenol	2 2 2 2 2 2
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2 95-57-8 120-83-2 87-86-5 88-06-2 108-95-2	n: Irritant t e: Irritating ion: Sensit al toxicolog let shows th enic catego ternationa dichloromo 2-chloroph 2,4-dichlor pentachlor phenol	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries al Agency for Research on Cancer) ethane nenol rophenol	2 2 2 2 2 2 2 2 2
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinoge IARC (In 75-09-2 95-57-8 120-83-2 87-86-5 88-06-2 108-95-2 NTP (Nat	n: Irritant t e: Irritating ion: Sensit al toxicolog let shows th enic catego ternationa dichloromo 2-chloroph 2,4-dichlor pentachlor phenol	to skin and mucous membranes. effect. iization possible through skin contact. gical information: he following dangers according to internally approved calculation methods for pre- pries al Agency for Research on Cancer) ethane henol rophenol ophenol lorophenol	2 2 2 2 2 2 2 2 2
on the ski on the eye Sensitizat Additiona The produ Harmful Irritant Carcinog IARC (In 75-09-2 95-57-8 120-83-2 87-86-5 88-06-2 108-95-2 NTP (Nat 75-09-2 d	n: Irritant t e: Irritating ion: Sensit al toxicolog ect shows th enic catego ternationa dichloromo 2-chloroph 2,4-dichlor pentachlor 2,4,6-trich phenol ional Toxi	to skin and mucous membranes. effect. ization possible through skin contact. gical information: ne following dangers according to internally approved calculation methods for pre- pries al Agency for Research on Cancer) ethane nenol rophenol ophenol lorophenol cology Program)	2 2 2 2 2 2 2 3

12 Ecological information

· Toxicity

- Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.

(Contd. on page 8)

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Version Number 3

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 7)

· Additional ecological information:

· General notes:

Printing date 03/31/2019

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

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

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

- \cdot Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number		
	UN1593	
DOT, TDG, IMDG, IATA	UN1393	
UN proper shipping name		
DOT	Dichloromethane	
TDG	1593 DICHLOROMETHANE	
IMDG, IATA	DICHLOROMETHANE	
Transport hazard class(es)		
DOT, TDG, IMDG, IATA		
Class	6.1 Toxic substances	
Label	6.1	
Packing group		
DOT, TDG, IMDG, IATA	III	
Environmental hazards:	Not applicable.	
Special precautions for user	Warning: Toxic substances	
Danger code (Kemler):	60	
	F-A,S-A	
EMS Number:		
EMIS Number: Segregation groups	Liquid halogenated hydrocarbons	



Version Number 3

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

	(Contd. of page
[.] Transport in bulk according to Annex	II of
MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
· Hazardous substance:	1000 lbs, 454 kg
· TDG	
• Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· 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

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

· Section 3	355 (extremely hazardous substances):
534-52-1	
108-95-2	phenol
· Section 3	813 (Specific toxic chemical listings):
75-09-2	dichloromethane
95-57-8	2-chlorophenol
534-52-1	DNOC
105-67-9	2,4-xylenol
51-28-5	2,4-dinitrophenol
120-83-2	2,4-dichlorophenol
88-75-5	2-nitrophenol
100-02-7	4-nitrophenol
87-86-5	pentachlorophenol
88-06-2	2,4,6-trichlorophenol
108-95-2	phenol
· TSCA (T	Foxic Substances Control Act):
All ingred	dients are listed.
· Canadiar	n substance listings:
· Canadiar	n Domestic Substances List (DSL)
75-09-2	dichloromethane
	(Contd. on page 1



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

	(Contd. of page 9)				
	2-chlorophenol				
534-52-1	DNOC				
51-28-5	2,4-dinitrophenol				
120-83-2	2,4-dichlorophenol				
88-75-5	2-nitrophenol				
100-02-7	4-nitrophenol				
87-86-5	pentachlorophenol				
59-50-7	chlorocresol				
108-95-2	phenol				
· Canadia	n Ingredient Disclosure list (limit 0.1%)				
75-09-2	dichloromethane				
51-28-5	2,4-dinitrophenol				
· Canadia	Canadian Ingredient Disclosure list (limit 1%)				
None of t	he ingredients is listed.				

· National regulations:

· 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.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

· Date of the latest revision of the safety data sheet 03/31/2019 / 2

 Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation 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) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative



Printing date 03/31/2019

Agilent

Version Number 4

Reviewed on 03/31/2019

1 Identification

· Product identifier

· Trade name: Semi-Volatiles Internal Standard (1X1 mL)

- · Part number: US-108N-1
- \cdot Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



Carcinogenicity - Category 1B	H350 May cause cancer.
Specific Target Organ Toxicity - Repeated Exposure -	H373 May cause damage to organs through prolonged
Category 2	or repeated exposure.
\mathbf{A}	



Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Specific Target Organ Toxicity - Single Exposure -	H335 May cause respiratory irritation.
Category 3	

· Label elements

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



· Signal word Danger

- Hazard-determining components of labeling: dichloromethane chrysene-d12
- **Hazard statements** Harmful if swallowed. Causes skin irritation.

(Contd. on page 2)

Printing date 03/31/2019

Version Number 4

Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

(Contd. of page 1) 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. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. 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. · Classification system: NFPA ratings (scale 0 - 4) Health = 2Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *2 Health = *2FIRE 0 Fire = 0**REACTIVITY** Reactivity = 0

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:	
75-09-2 dichloromethane	98.19% w/w
1719-03-5 chrysene-d12	0.302% w/w
	(Contd. on page 3)



Version Number 4

Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

3855-82-1 1,4-dichlorobenzene-d4

4 First aid measures

Printing date 03/31/2019

· 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 eve contact:

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

- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.
- Open and handle receptacle with care.
- Prevent formation of aerosols.

(Contd. on page 4)



(Contd. of page 2)

0.302% w/w

Printing date 03/31/2019

Version Number 4

Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

(Contd. of page 3)

• Information about protection against explosions and fires: 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 receptacle tightly sealed.

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

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

75-09-2 dichloromethane

EL Long-term value: 25 ppm IARC 2A

EV Long-term value: 175 mg/m³, 50 ppm

• Additional information: The lists that were valid during the creation were used as basis.

- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Breathing equipment:

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

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

· Protection of hands:

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

Material of gloves

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

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

· Penetration time of glove material

For normal use: nitrile rubber: 1 hour

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

(Contd. on page 5)



Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

(Contd. of page 4)

• Eye protection: Safety glasses

Tightly sealed goggles

Information on basic physical and o	chemical properties	
General Information		
· Appearance: Form:	Fluid	
Color:	Colorless	
· Odor:	Like chlorine	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	-95.1 °C	
Boiling point/Boiling range:	40 °C	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Ignition temperature:	605 °C	
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
• Explosion limits:		
Lower:	13 Vol %	
Upper:	22 Vol %	
· Vapor pressure at 20 °C:	360 hPa	
Density at 20 °C:	1.3 g/cm^{3}	
Relative density	Not determined.	
· Vapor density	Not determined.	
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water at 20 °C:	20 g/l	
Partition coefficient (n-octanol/wat	er): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Organic solvents:	98.2 %	



Printing date 03/31/2019

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

Solids content: · Other information

Printing date 03/31/2019

1.8 % No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)				
Oral	LD50	1,629 mg/kg (rat)		
Dermal	LD50	>2,037 mg/kg (rat)		
Inhalative	LC50/4 h	89.6 mg/L (rat)		

75-09-2 dichloromethane

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

· Primary irritant effect:

• on the skin: Irritant to skin and mucous membranes.

• on the eye: Irritating effect.

· Sensitization: No sensitizing effects known.

· Additional toxicological information:

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

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)	
75-09-2 dichloromethane	2A
· NTP (National Toxicology Program)	
75-09-2 dichloromethane	R
	——————————————————————————————————————

(Contd. on page 7)



Version Number 4

(Contd. of page 5)

according to HPR, Schedule 1 Version Number 4

Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

(Contd. of page 6)

12 Ecological information

Printing date 03/31/2019

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

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quanti	ties -	
· UN-Number		
· DOT, TDG, IMDG, IATA	UN1593	
· UN proper shipping name		
·DOT	Dichloromethane	
· TDG	1593 DICHLOROMETHANE	
· IMDG, IATA	DICHLOROMETHANE	
· Transport hazard class(es)		
· DOT, TDG, IMDG, IATA		
· Class	6.1 Toxic substances	
· Label	6.1	
· Packing group		
· DOT, TDG, IMDG, IATA	III	
		(Contd. on page



according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

	(Contd. of page
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
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 60 L
•	On cargo aircraft only: 220 L
Hazardous substance:	1000 lbs, 454 kg
TDG	
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
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 · Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

75-09-2 dichloromethane

· TSCA (Toxic Substances Control Act):

75-09-2 dichloromethane

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

75-09-2 dichloromethane

· Canadian Ingredient Disclosure list (limit 0.1%)

75-09-2 dichloromethane

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

(Contd. on page 9)



Printing date 03/31/2019

Version Number 4

Reviewed on 03/31/2019

Trade name: Semi-Volatiles Internal Standard (1X1 mL)

· National regulations:

Printing date 03/31/2019

· Additional classification according to Decree on Hazardous Materials:

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.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

- · Date of the latest revision of the safety data sheet 03/31/2019 / 3
- · Abbreviations and acronyms:
- IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

* * Data compared to the previous version altered.



(Contd. of page 8)

Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification

· Product identifier

· Trade name: Ethers and Phthalates Standard (1X1 mL)

- · Part number: US-110-1
- \cdot Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



GHS08 Health hazard

Carcinogenicity - Category 1B	H350 May cause cancer.
Reproductive Toxicity - Category 1B	H360 May damage fertility or the unborn child.
Specific Target Organ Toxicity - Repeated Exposure - Category 2	H373 May cause damage to organs through prolonged or repeated exposure.
GHS07	
Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Skin Sensitizer - Category 1	H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure - Category 3	H335 May cause respiratory irritation.

· Label elements

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



· Signal word Danger

• Hazard-determining components of labeling: dichloromethane

(Contd. on page 2)

⁻ CA -

(Contd. of page 1)

Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

bis(2-chloroethyl) ether bis(2-chloroethoxy)methane

dibutyl phthalate

Version Number 3

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

4-bromophenyl phenyl ether 4-chlorophenyl phenyl ether · Hazard statements Harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause cancer. May damage fertility or the unborn child. 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. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. 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. · Classification system: · NFPA ratings (scale 0 - 4)



(Contd. on page 3)



CA

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

(Contd. of page 2)

· HMIS-ratings (scale 0 - 4)

HEALTH *2 FIRE 0 **REACTIVITY** Reactivity = 0

Health = *2Fire = 0

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous	· Dangerous components:			
75-09-2	dichloromethane 98.341% w/w			
111-44-4	is(2-chloroethyl) ether 0.151% w/w			
	I-bromophenyl phenyl ether 0.151% w/w			
	4-chlorophenyl phenyl ether	0.151% w/w		
	dioctyl phthalate	0.151% w/w		
	dibutyl phthalate	0.151% w/w		
117-81-7	di-(2-ethylhexyl) phthalate	0.151% w/w		
85-68-7	BBP	0.151% w/w		

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

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

· After inhalation:

Supply fresh air and to be sure call for a doctor.

- In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

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

- · After swallowing: Immediately call a doctor.
- · Information for doctor:

• Most important symptoms and effects, both acute and delayed No further relevant information available. · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture

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

(Contd. on page 4)



Printing date 03/31/2019

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

(Contd. of page 3)

· Advice for firefighters

Printing date 03/31/2019

· 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.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires: 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 receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

75-09-2 dichloromethane

- EL Long-term value: 25 ppm
 - IARC 2A
- EV Long-term value: 175 mg/m³, 50 ppm

111-44-4 bis(2-chloroethyl) ether

- EL Short-term value: 10 ppm Long-term value: 5 ppm Skin
- EV Short-term value: 58 mg/m³, 10 ppm Long-term value: 29 mg/m³, 5 ppm Skin

(Contd. on page 5)





Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

EL	-84-0 dioctyl phthalate Long-term value: 5 mg/m ³
	74-2 dibutyl phthalate
	Long-term value: 5 mg/m ³
LL	R
ΕV	Long-term value: 5 mg/m ³
	/-81-7 di-(2-ethylhexyl) phthalate
	Long-term value: 5 mg/m ³
LL	IARC 2B
ΕV	Short-term value: 5 mg/m ³
2.	Long-term value: 3 mg/m ³
Ad	ditional information: The lists that were valid during the creation were used as basis.
	-
	posure controls sonal protective equipment:
	neral protective equipment.
	ep away from foodstuffs, beverages and feed.
	nediately remove all soiled and contaminated clothing.
	sh hands before breaks and at the end of work.
	re protective clothing separately.
	bid contact with the eyes and skin.
	eathing equipment:
	en used as intended with Agilent instruments, the use of the product under normal laboratory conditions and
	h standard practices does not result in significant airborne exposures and therefore respiratory protection is n
	ded.
Unc	der an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved
	ice/equipment with appropriate organic or acid gas cartridge.
	stection of hands:
Altl	hough not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil
thic	kness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is
	ect contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough time
exc	eeding 4 hrs. Supplier recommendations should be followed.
	terial of gloves
	normal use: nitrile rubber, 11-13 mil thickness
	direct contact with the chemical: butyl rubber, 12-15 mil thickness
	netration time of glove material
	normal use: nitrile rubber: 1 hour
E.a.	direct contact with the chemical: butyl rubber: >4 hours
	e protection:
Eye	ety glasses



(Contd. on page 6)

according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

(Contd. of page 5)

Information on basic physical and	chemical properties			
General Information	chemicar properties			
Appearance:				
Form:	Fluid			
Color:	Colorless			
· Odor:	Like chlorine			
Odor threshold:	Not determined.			
· pH-value:	Not determined.			
Change in condition				
Melting point/Melting range:	-95.1 °C			
Boiling point/Boiling range:	40 °C			
· Flash point:	Not applicable.			
· Flammability (solid, gaseous):	Not applicable.			
· Ignition temperature:	605 °C			
• Decomposition temperature: Not determined.				
• Auto igniting: Product is not selfigniting.				
Danger of explosion:	Product does not present an explosion hazard.			
· Explosion limits:				
Lower:	13 Vol %			
Upper:	22 Vol %			
· Vapor pressure at 20 °C:	360 hPa			
· Density at 20 °C:	1.3 g/cm ³			
· Relative density	Not determined.			
· Vapor 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:	98.3 %			
Solids content:	0.3 %			
• Other information	No further relevant information available.			

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

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Printing date 03/31/2019

⁽Contd. on page 7) CA

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

(Contd. of page 6)

- · 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

· Inf	orr	na	tion	on	toxicological effects

· Acute toxicity:					
· LD/LC50 values that are relevant for classification:					
ATE (Acute Toxicity Estimate)					
Oral	LD50) 1,486 mg/kg			
Dermal	LD50	>1,967 mg/kg			
Inhalative	LC50/4 h	>87.7 mg/L (rat)			
75-09-2 di	chloromet	hane			
Oral	LD50	1,600 mg/kg (rat)			
Dermal	LD50	>2,000 mg/kg (rat)			
Inhalative	LC50/4 h	88 mg/L (rat)			
		oethyl) ether			
Oral	LD50	75 mg/kg (rat)			
Dermal	LD50	90 mg/kg (rabbit)			
		330 mg/L (rat)			
117-84-0 a		halate			
Oral LD50 47,000 mg/kg (rat)					
84-74-2 di	butyl phtł	nalate			
Oral	LD50	6,300 mg/kg (rat)			
Dermal	LD50	>4,000 mg/kg (rabbit)			
		15.68 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)			
		>6.7 mg/L (rat)			
 Primary irritant effect: on the skin: Irritant to skin and mucous membranes. on the eye: Irritating effect. Sensitization: Sensitization possible through skin contact. Additional toxicological information: 					

· Additional toxicological information:

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

(Contd. on page 8)

CA



Printing date 03/31/2019

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

(Contd. of page 7)

· Carcinog	enic categories	
· IARC (In	ternational Agency for Research on Cancer)	
75-09-2	dichloromethane	2A
111-44-4	bis(2-chloroethyl) ether	3
108-60-1	bis(2-chloroisopropyl) ether	3
117-81-7	di-(2-ethylhexyl) phthalate	2B
85-68-7	BBP	3
· NTP (Na	tional Toxicology Program)	
75-09-2	dichloromethane	R
117-81-7	di-(2-ethylhexyl) phthalate	R

12 Ecological information

· Toxicity

- Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:

· General notes:

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

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

- Danger to drinking water if even small quantities leak into the ground.
- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

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

4 Transport information		
· Not Regulated, De minimus Quantities	-	
· UN-Number · DOT, TDG, IMDG, IATA	UN1593	
		(Contd. on page



Printing date 03/31/2019

Irritant

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

	(Contd. of pag
UN proper shipping name	
DOT	Dichloromethane
TDG	1593 DICHLOROMETHANE
IMDG, IATA	DICHLOROMETHANE
Transport hazard class(es)	
DOT, TDG, IMDG, IATA	
Class	6.1 Toxic substances
Label	6.1
Packing group	
DOT, TDG, 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 Stowage Category	Liquid halogenated hydrocarbons A
Transport in bulk according to Annex I	I of
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
Hazardous substance:	1000 lbs, 454 kg
TDG	Coder E1
Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 50 ml
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

(Contd. on page 10)



according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

(Contd. of page 9)

15 Regulatory information

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

· Section 355 (extremely hazardous substances):

111-44-4 bis(2-chloroethyl) ether

· Section 313 (Specific toxic chemical listings):

75-09-2 dichloromethane

111-91-1 bis(2-chloroethoxy)methane

111-44-4 bis(2-chloroethyl) ether

108-60-1 bis(2-chloroisopropyl) ether

131-11-3 dimethyl phthalate

84-74-2 dibutyl phthalate

117-81-7 di-(2-ethylhexyl) phthalate

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

75-09-2 dichloromethane 131-11-3 dimethyl phthalate

117-84-0 dioctyl phthalate

84-74-2 dibutyl phthalate

117-81-7 di-(2-ethylhexyl) phthalate

85-68-7 BBP

84-66-2 diethyl phthalate

· Canadian Ingredient Disclosure list (limit 0.1%)

75-09-2 dichloromethane

117-81-7 di-(2-ethylhexyl) phthalate

84-66-2 diethyl phthalate

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· National regulations:

· 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.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

CA



Reviewed on 03/31/2019

Trade name: Ethers and Phthalates Standard (1X1 mL)

	(Contd. of page 10
Date of the latest revision of the safety data sheet 03/31/2019 / 2	
Abbreviations and acronyms:	
IMDG: International Maritime Code for Dangerous Goods	
DOT: US Department of Transportation	
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)	
NFPA: National Fire Protection Association (USA)	
HMIS: Hazardous Materials Identification System (USA)	
LC50: Lethal concentration, 50 percent	
LD50: Lethal dose, 50 percent	
PBT: Persistent, Bioaccumulative and Toxic	
vPvB: very Persistent and very Bioaccumulative	



Printing date 03/31/2019

Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification

· Product identifier

· Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

- · Part number: US-111-1
- · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds author@agilent.com · Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



Carcinogenicity - Category 1B	H350 May cause cancer.
Specific Target Organ Toxicity - Repeated Exposure - Category 2	H373 May cause damage to organs through prolonged or repeated exposure.
GHS07	
Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.

Eye Irritation - Category 2A Specific Target Organ Toxicity - Single Exposure -Category 3

- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

· Label elements

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



· Signal word Danger

· Hazard-determining components of labeling: dichloromethane hexachlorobuta-1.3-diene hexachlorocyclopentadiene

(Contd. on page 2)

according to HPR, Schedule 1

Reviewed on 03/31/2019

Printing date 03/31/2019

Version Number 3

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

(Contd. of page 1) hexachlorobenzene · Hazard statements Harmful if swallowed or 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. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. 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. · Classification system: NFPA ratings (scale 0 - 4) Health = 2Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *2 Health = *20 Fire = 0FIRE **REACTIVITY** Reactivity = 0



(Contd. on page 3)

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:		
75-09-2	dichloromethane	98.0396% w/w
	1,4-dichlorobenzene	0.151% w/w
118-74-1	hexachlorobenzene	0.151% w/w
87-68-3	hexachlorobuta-1,3-diene	0.151% w/w
67-72-1	hexachloroethane	0.151% w/w
	pentachlorobenzene	0.151% w/w
	pentachloroethane	0.151% w/w
120-82-1	1,2,4-trichlorobenzene	0.151% w/w

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: Immediately call a doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.
- \cdot 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).

(Contd. on page 4)



Printing date 03/31/2019

Version Number 3

v

CA

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

(Contd. of page 3)

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 protection against explosions and fires: 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 receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

· Cor	nponents with limit values that require monitoring at the workplace:
75-0	19-2 dichloromethane
EL	Long-term value: 25 ppm IARC 2A
EV	Long-term value: 175 mg/m ³ , 50 ppm
106	-46-7 1,4-dichlorobenzene
EL	Long-term value: 10 ppm IARC 2B
EV	Long-term value: 10 ppm
118	-74-1 hexachlorobenzene
EL	Long-term value: 0.002 mg/m ³ Skin; IARC 2B
EV	Long-term value: 0.002 mg/m ³ Skin
87-0	58-3 hexachlorobuta-1,3-diene
EL	Long-term value: 0.02 ppm Skin
EV	Long-term value: 0.21 mg/m ³ , 0.02 ppm Skin
	(Contd. on page



(Contd. of page 4)

Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

67-72-1 hexachloroethane

Version Number 3

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

EL Long-term value: 1 ppm Skin; IARC 2B EV Long-term value: 1 ppm 120-82-1 1,2,4-trichlorobenzene EL Ceiling limit value: 5 ppm EV Ceiling limit value: 37 mg/m³, 5 ppm • Additional information: The lists that were valid during the creation were used as basis. • Exposure controls · Personal protective equipment: · General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes and skin. **Breathing equipment:** When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed. Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge. · Protection of hands: Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed. · Material of gloves For normal use: nitrile rubber, 11-13 mil thickness For direct contact with the chemical: butyl rubber, 12-15 mil thickness · Penetration time of glove material For normal use: nitrile rubber: 1 hour For direct contact with the chemical: butyl rubber: >4 hours • Eve protection: Safety glasses Tightly sealed goggles 9 Physical and chemical properties

- · Information on basic physical and chemical properties
- [.] General Information
- · Appearance: Form:

Color:

Fluid Colorless

(Contd. on page 6)



according to HPR, Schedule 1

Agilent

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

		(Contd. of page 5
· Odor:	Like chlorine	
· Odor threshold:	Not determined.	
[·] pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	-95.1 °C	
Boiling point/Boiling range:	40 °C	
· Flash point:	Not applicable.	
· Flammability (solid, gaseous):	Not applicable.	
· Ignition temperature:	605 °C	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Product does not present an explosion hazard.	
· Explosion limits:		
Lower:	13 Vol %	
Upper:	22 Vol %	
· Vapor pressure at 20 °C:	360 hPa	
· Density at 20 °C:	1.3 g/cm ³	
· Relative density	Not determined.	
· Vapor density	Not determined.	
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water at 20 °C:	20 g/l	
· Partition coefficient (n-octanol/wat	er): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	98.5 %	
Solids content:	0.9 %	
Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

- 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)

[·] Chemical stability

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

(Contd. of page 6)

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Acute toxi		ological effects	
LD/LC50	values tha	t are relevant for classification:	
ATE (Acu	te Toxicit	y Estimate)	
Oral	LD50	1,584 mg/kg (rat)	
	LD50	>1,965 mg/kg	
Inhalative	LC50/4 h	84.1 mg/L (rat)	
75-09-2 di	chloromet	hane	
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-dichloro	benzene	
Oral	LD50	500 mg/kg (rat)	
Dermal	LD50	>10,000 mg/kg (rabbit)	
106-46-71	,4-dichlor	obenzene	
Oral	LD50	>2,000 mg/kg (rat)	
Dermal	LD50	>2,000 mg/kg (rat)	
Inhalative	LC50/4 h	>5.07 mg/L (rat)	
118-74-1 h	exachlor	benzene	
	LD50	10,000 mg/kg (rat)	
Inhalative	LC50/4 h	3,600 mg/L (rat)	
87-68-3 he	exachlorol	uta-1,3-diene	
Oral	LD50	82 mg/kg (rat)	
Dermal	LD50	100 mg/kg (rabbit)	
		370 mg/L (mouse)	
		yclopentadiene	
Oral	LD50	315 mg/kg (rat)	
	LD50	430 mg/kg (rabbit)	
Inhalative	LC50/4 h	2 mg/L (rat)	
67-72-1 he	exachloroe	thane	
Dermal	LD50	32,000 mg/kg (rabbit)	
608-93-5 p	entachlor	obenzene	
Oral	LD50	1,080 mg/kg (rat)	
Dermal	LD50	>2,500 mg/kg (rat)	
120-82-1 1	,2,4-trich	orobenzene	
Oral	LD50	756 mg/kg (rat)	
Dermal	LD50	6,139 mg/kg (rat)	
Primary in	rritant eff	et:	



according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

(Contd. of page 7)

• Sensitization: No sensitizing effects known.

· Additional toxicological information:

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

Irritant
• Carcinogenic categories

· IARC (Ir	ternational Agency for Research on Cancer)	
75-09-2	dichloromethane	2A
95-50-1	1,2-dichlorobenzene	3
541-73-1	1,3-dichlorobenzene	3
106-46-7	1,4-dichlorobenzene	2B
118-74-1	hexachlorobenzene	2B
87-68-3	hexachlorobuta-1,3-diene	3
67-72-1	hexachloroethane	2B
608-93-5	pentachlorobenzene	2B
76-01-7	pentachloroethane	3
· NTP (Na	tional Toxicology Program)	
75-09-2	dichloromethane	R
106-46-7	1,4-dichlorobenzene	R
118-74-1	hexachlorobenzene	R
67-72-1	hexachloroethane	R

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 3 (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

· vPvB:

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

Other adverse effects No further relevant information available.

(Contd. on page 9)



Printing date 03/31/2019

according to HPR, Schedule 1

Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

(Contd. of page 8)

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information

Not Regulated, De minimus Quantities	-	
UN-Number		
DOT, TDG, IMDG, IATA	UN1593	
UN proper shipping name		
DOT	Dichloromethane	
TDG	1593 DICHLOROMETHANE	
IMDG, IATA	DICHLOROMETHANE	
Transport hazard class(es)		
DOT, TDG, IMDG, IATA		
Class	6.1 Toxic substances	
Label	6.1	
Packing group DOT, TDG, 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		
MARPOL73/78 and the IBC Code	Not applicable.	
Transport/Additional information:		
DOT		
Quantity limitations	On passenger aircraft/rail: 60 L	
	On cargo aircraft only: 220 L	
Hazardous substance:	1000 lbs, 454 kg	



according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

	(Contd. of page
·TDG	
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
·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

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

	55 (extremely hazardous substances): exachlorocyclopentadiene	
	v 1	
	13 (Specific toxic chemical listings):	
	dichloromethane	
	1,2-dichlorobenzene	
	1,3-dichlorobenzene	
	1,4-dichlorobenzene	
	hexachlorobenzene	
	hexachlorobuta-1,3-diene	
	hexachlorocyclopentadiene	
	hexachloroethane	
	pentachlorobenzene	
	pentachloroethane	
120-82-1	1,2,4-trichlorobenzene	
	oxic Substances Control Act):	
-	ients are listed.	
	substance listings:	
	Domestic Substances List (DSL)	
	dichloromethane	
	2-chloronaphthalene	
	1,2-dichlorobenzene	
	1,3-dichlorobenzene	
	1,4-dichlorobenzene	
	hexachlorobenzene	
87-68-3	hexachlorobuta-1,3-diene	
77-47-4	hexachlorocyclopentadiene	
· · ·	(Contd. or	n page



Printing date 03/31/2019

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Chlorinated Hydrocarbons Standard (1X1 mL)

(Contd. of page 10)
67-72-1 hexachloroethane
608-93-5 pentachlorobenzene
120-82-1 1,2,4-trichlorobenzene
95-94-3 1,2,4,5-tetrachlorobenzene
Canadian Ingredient Disclosure list (limit 0.1%)
75-09-2 dichloromethane
87-68-3 hexachlorobuta-1,3-diene
Canadian Ingredient Disclosure list (limit 1%)
None of the ingredients is listed.
 National regulations: Additional classification according to Decree on Hazardous Materials: 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.
D ense the set is a SDS D success of C_{2} where $1/D_{2}$ success

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

- \cdot Date of the latest revision of the safety data sheet 03/31/2019 / 2
- · Abbreviations and acronyms:
- IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

CA



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

(Contd. on page 2)

1 Identification · Product identifier · Trade name: Organochlorine Pesticides Standard (1X1 mL) · Part number: US-112B-1 · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use · Details of the supplier of the safety data sheet · Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA · Information department: Telephone: 800-227-9770 e-mail: pdl-msds author@agilent.com · Emergency telephone number: CHEMTREC®: 1-800-424-9300 **2** Hazard identification · Classification of the substance or mixture GHS02 Flame Flammable Liquids - Category 2 H225 Highly flammable liquid and vapour. GHS08 Health hazard Carcinogenicity - Category 1A H350 May cause cancer. GHS07 Acute Toxicity (Oral) - Category 4 H302 Harmful if swallowed. Acute Toxicity (Dermal) - Category 4 H312 Harmful in contact with skin. Eye Irritation - Category 2A H319 Causes serious eye irritation. Specific Target Organ Toxicity - Single Exposure -H336 May cause drowsiness or dizziness. Category 3 Reproductive Toxicity - Effects on or via Lactation H362 May cause harm to breast-fed children. · Label elements · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). · Hazard pictograms GHS02 GHS07 GHS08 · Signal word Danger



(Contd. of page 1)

Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

endosulfan sulfate dieldrin (ISO) γ -HCH or γ -BHC · Hazard statements

May cause cancer.

acetone

Version Number 3

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

· Hazard-determining components of labeling:

Highly flammable liquid and vapour.

May cause harm to breast-fed children. May cause drowsiness or dizziness.

Obtain special instructions before use.

Take actions to prevent static discharges.

Wash thoroughly after handling.

Causes serious eye irritation.

· Precautionary statements

Use non-sparking tools.

Keep out of reach of children. Read label before use.

Harmful if swallowed or in contact with skin. If medical advice is needed, have product container or label at hand. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy and while nursing. 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: Call a poison center/doctor if you feel unwell.

Rinse mouth.

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

IF INHALED: Remove person to fresh air and keep 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 measures (see on this label).

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· Classification system:

· NFPA ratings (scale 0 - 4)

Health = 2Fire = 3Reactivity = 0

(Contd. on page 3)



according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

(Contd. of page 2)

· HMIS-ratings (scale 0 - 4)

HEALTH *2 FIRE 3 **REACTIVITY** Reactivity = 0

Health = *2Fire = 3

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:		
67-64-1	acetone	95.702% w/w
72-54-8	TDE	0.253% w/w
50-29-3	DDT (common name not adopted by ISO)	0.253% w/w
72-55-9	2,2-bis(p-chlorophenyl)-1,1-dichloroethylene	0.253% w/w
60-57-1	dieldrin (ISO)	0.253% w/w
76-44-8	heptachlor (ISO)	0.253% w/w
319-84-6	alpha-BHC (alpha-HCH)	0.253% w/w
1024-57-3	heptachlor epoxide - isomer B	0.253% w/w
319-85-7	(1alpha,2ß,3alpha,4ß,5alpha,6ß)-1,2,3,4,5,6-hexachlorocyclohexane	0.253% w/w
319-86-8	delta-BHC (delta-HCH)	0.253% w/w
58-89-9	γ -HCH or γ -BHC	0.253% w/w
72-43-5	methoxychlor	0.253% w/w
309-00-2	aldrin (ISO)	0.253% w/w

4 First aid measures

· Description of first aid measures

- · General information:
- Immediately remove any clothing soiled by the product.
- Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately rinse with water.
- · After eye contact:

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

- · After swallowing: Immediately call a doctor.
- · Information for doctor:

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

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

(Contd. on page 4)



Printing date 03/31/2019

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

(Contd. of page 3)

5 Firefighting measures

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

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Mount respiratory protective device.
- Wear protective equipment. Keep unprotected persons away.
- · Environmental precautions: Do not allow 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 protection against explosions and fires:
- Keep ignition sources away Do not smoke.
- Protect against electrostatic charges.
- Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed. Store in cool, dry conditions in well sealed receptacles.
- Specific end use(s) No further relevant information available.

(Contd. on page 5)



Printing date 03/31/2019

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

(Contd. of page 4)

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

67-64-1 acetone

Printing date 03/31/2019

- EL Short-term value: 500 ppm
- Long-term value: 250 ppm
- EV Short-term value: 750 ppm
 - Long-term value: 500 ppm

1024-57-3 heptachlor epoxide - isomer B

EL Long-term value: 0.05 mg/m³

- Skin
- EV Long-term value: 0.05 mg/m³ Skin

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

- · Personal protective equipment:
- · General protective and hygienic measures:
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

- Store protective clothing separately.
- Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Breathing equipment:

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

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

· Protection of hands:

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

· Material of gloves

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

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

- · Penetration time of glove material
- For normal use: nitrile rubber: 1 hour
- For direct contact with the chemical: butyl rubber: >4 hours

(Contd. on page 6)



Version Number 3

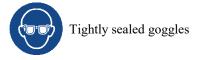
Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

(Contd. of page 5)

CA

· Eye protection:



	·ties
Information on basic physical and of	chemical properties
General Information Appearance:	
Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	-94.7 °C
Boiling point/Boiling range:	55.8-56.6 °C
Flash point:	-17 °C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	465 °C
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
Explosion limits:	
Lower:	2.6 Vol %
Upper:	13 Vol %
Vapor pressure at 20 °C:	245.3 hPa
Density at 20 °C:	0.791 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/wat	er): Not determined.
Viscosity:	
Dynamic at 20 °C:	32 mPas
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	96.0 %



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Printing date 03/31/2019

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

(Contd. of page 6)

Solids content: · Other information 4.3 % No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification: ATE (Acute Toxicity Estimate)

ATE (Ac	ute Toxicit	y Estimate)
Oral	LD50	671 mg/kg
Dermal	LD50	1,775 mg/kg
Inhalative	LC50/4 h	132 mg/L
67-64-1 a	cetone	
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
72-54-8 1	TDE	
Dermal	LD50	1,200 mg/kg (rabbit)
50-29-3 E	DT (comn	non name not adopted by ISO)
Oral	LD50	87 mg/kg (rat)
Dermal	LD50	2,510 mg/kg (rat)
		300 mg/kg (rabbit)
72-55-9 2	,2-bis(p-ch	lorophenyl)-1,1-dichloroethylene
Oral	LD50	880 mg/kg (rat)
60-57-1 d	ieldrin (IS	0)
Oral	LD50	38 mg/kg (mouse)
		38 mg/kg (rat)
Dermal	LD50	10 mg/kg (rat)
		250 mg/kg (rabbit)
72-20-8 e	ndrin (ISO	
Oral	LD50	3 mg/kg (rat)
Dermal	LD50	60 mg/kg (rat)
		(Contd. on page



Reviewed on 03/31/2019

Printing date 03/31/2019

			. of page
		60 mg/kg (rabbit)	
959-98-8 (
Oral	LD50	76 mg/kg (rat)	
33213-65-			
Oral	LD50	240 mg/kg (rat)	
1031-07-8			
Oral	LD50	18 mg/kg (rat)	
76-44-8 he	-		
Oral	LD50	40 mg/kg (rat)	
Dermal	LD50	119 mg/kg (rat)	
319-84-6 8	-	C (alpha-HCH)	
Oral	LD50	177 mg/kg (rat)	
1024-57-3		or epoxide - isomer B	
Oral	LD50	15 mg/kg (rat)	
319-85-7 (3,3alpha,4ß,5alpha,6ß)-1,2,3,4,5,6-hexachlorocyclohexane	
Oral	LD50	6,000 mg/kg (rat)	
319-86-8 (C (delta-HCH)	
Oral	LD50	1,000 mg/kg (rat)	
58-89-9 γ	-HCH or γ	у-внс	
Oral	LD50	88 mg/kg (rat)	
Dermal	LD50	900 mg/kg (rat)	
Inhalative	LC50/4 h	1,560 mg/L (rat)	
72-43-5 m	ethoxychl	or	
Oral	LD50	1,855 mg/kg (rat)	
Dermal	LD50	6,000 mg/kg (rat)	
309-00-2 a	aldrin (ISC))	
Oral	LD50	39 mg/kg (rat)	
Dermal	LD50	98 mg/kg (rat)	
		15 mg/kg (rabbit)	
Additiona	n: No irrita :: Irritating ion: No sea I toxicolog	ant effect.	ations:
Carcinoge	0		
IARC (In		l Agency for Research on Cancer)	
	DDT (co	mmon name not adopted by ISO)	2.
		1 5 /	
50-29-3	dieldrin (3



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

		(Contd. of page
76-44-8	heptachlor (ISO)	2E
319-84-6	alpha-BHC (alpha-HCH)	2E
1024-57-3	heptachlor epoxide - isomer B	2E
319-85-7	(1alpha,2ß,3alpha,4ß,5alpha,6ß)-1,2,3,4,5,6-hexachlorocyclohexane	2E
58-89-9	γ-HCH or γ-BHC	1
72-43-5	methoxychlor	3
309-00-2	aldrin (ISO)	3
· NTP (Nat	ional Toxicology Program)	
50-29-3	DDT (common name not adopted by ISO)	I
319-84-6	alpha-BHC (alpha-HCH)	I
319-85-7	(1alpha,2B,3alpha,4B,5alpha,6B)-1,2,3,4,5,6-hexachlorocyclohexane	ŀ
319-86-8	delta-BHC (delta-HCH)	I
58-89-9	γ -HCH or γ -BHC	I

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

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

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

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

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantities

(Contd. on page 10)

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Page 10/12

Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

	(Contd. of page
UN-Number DOT, TDG, IMDG, IATA	UN1090
UN proper shipping name	
DOT	Acetone solution
TDG	1090 ACETONE solution, ENVIRONMENTALLY
IMDG	HAZARDOUS ACETONE solution, MARINE POLLUTANT
IATA	ACETONE solution
Transport hazard class(es)	
DOT, IATA	
Class	3 Flammable liquids
Label TDG, IMDG	3
▲ ∧	
Class	3 Flammable liquids
Label	3
Packing group DOT, TDG, IMDG, IATA	II
Environmental hazards:	Product contains environmentally hazardous substances: aldrin
Environmental nazarus:	(ISO), γ -HCH or γ -BHC
Marine pollutant:	Symbol (fish and tree)
Special marking (TDG):	Symbol (fish and tree)
Special precautions for user	Warning: Flammable liquids
Danger code (Kemler):	33
EMS Number:	F-E,S-D B
Stowage Category	
Transport in bulk according to Annex I MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 5 L
	On cargo aircraft only: 60 L
TDG	
Excepted quantities (EQ)	Code: E2 Maximum pat quantity per inper pockaging: 30 ml
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml



according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

	(Contd. of page 10
· IMDG · Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1090 ACETONE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

	55 (extremely hazardous substances):	
	endrin (ISO)	
	γ -HCH or γ -BHC	
309-00-2	aldrin (ISO)	
· Section 3	13 (Specific toxic chemical listings):	
	heptachlor (ISO)	
319-84-6	alpha-BHC (alpha-HCH)	
58-89-9	γ -HCH or γ -BHC	
72-43-5	methoxychlor	
309-00-2	aldrin (ISO)	
· TSCA (T	oxic Substances Control Act):	
67-64-1		
50-29-3	DDT (common name not adopted by ISO)	
	alpha-BHC (alpha-HCH)	
	(1alpha,2ß,3alpha,4ß,5alpha,6ß)-1,2,3,4,5,6-hexachlorocyclohexane	
	delta-BHC (delta-HCH)	
	γ -HCH or γ -BHC	
	n substance listings:	
	1 Domestic Substances List (DSL)	
67-64-1 a		
	γ -HCH or γ -BHC	
72-43-5 1	nethoxychlor	
Canadian Ingredient Disclosure list (limit 0.1%)		
None of t	he ingredients is listed.	
	n Ingredient Disclosure list (limit 1%)	
All ingred	lients are listed.	
	(Contd. on page 12)	



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Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organochlorine Pesticides Standard (1X1 mL)

(Contd. of page 11)

· National regulations:

• 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.

- · Department issuing SDS: Document Control / Regulatory
- · Contact: regulatory@ultrasci.com
- · Date of the latest revision of the safety data sheet 03/31/2019 / 2
- Abbreviations and acronyms:
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- 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)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- * Data compared to the previous version altered.



Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification

· Product identifier

· Trade name: Nitrosamines Standard (1X1 mL)

- · Part number: US-113N-1
- · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



Carcinogenicity - Category 1B	H350 May cause cancer.
Specific Target Organ Toxicity - Repeated Exposure -	H373 May cause damage to organs through prolonged
Category 2	or repeated exposure.
GHS07	

Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Specific Target Organ Toxicity - Single Exposure - Category 3	H335 May cause respiratory irritation.

· Label elements

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



· Signal word Danger

• **Hazard-determining components of labeling:** dichloromethane N-nitrosomorpholine N-Nitrosomethylethylamine

(Contd. on page 2)

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(Contd. on page 3)

Safety Data Sheet according to HPR, Schedule 1

Reviewed on 03/31/2019

Version Number 3

(Contd. of page 1) dimethylnitrosoamine · Hazard statements Harmful if swallowed or 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. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. 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. · Classification system: NFPA ratings (scale 0 - 4) Health = 2Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *2 Health = *2Fire = 0FIRE 0 **REACTIVITY** Reactivity = 0



according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:		
75-09-2	dichloromethane	98.643% w/w
	nitrosodipropylamine	0.151% w/w
	N-nitrosomorpholine	0.151% w/w
	N-Nitrosomethylethylamine	0.151% w/w
	1-nitrosopyrrolidine	0.151% w/w
	N-nitrosodibutylamine	0.151% w/w
55-18-5	diethylnitrosoamine	0.151% w/w
	dimethylnitrosoamine	0.151% w/w
100-75-4	1-nitrosopiperidine	0.151% w/w

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: Immediately call a doctor.

· Information for doctor:

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

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

5 Firefighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.

(Contd. on page 4)

CA



Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

(Contd. of page 3)

• 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 protection against explosions and fires: 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 receptacle tightly sealed.

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

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

· Con	· Components with limit values that require monitoring at the workplace:		
75-(09-2 dichloromethane		
EL	Long-term value: 25 ppm		
	IARC 2A		
	Long-term value: 175 mg/m ³ , 50 ppm		
	89-2 N-nitrosomorpholine		
EL	IARC 2B		
105	95-95-6 N-Nitrosomethylethylamine		
EL	IARC 2B		
930	-55-2 1-nitrosopyrrolidine		
EL	IARC 2B		
	18-5 diethylnitrosoamine		
EL	IARC 2A		
62-7	75-9 dimethylnitrosoamine		
EL	Skin; IARC 2A		
EV	Long-term value: (L) ppm		
	Skin		
	(Contd. on page 5)		



Printing date 03/31/2019

(Contd. of page 4)

Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

100-75-4 1-nitrosopiperidine

EL IARC 2B

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· Breathing equipment:

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

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

· Protection of hands:

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

· Material of gloves

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

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

· Penetration time of glove material

For normal use: nitrile rubber: 1 hour

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

Safety glasses



Tightly sealed goggles

9 Physical and chemical properties

 Information on basic physical and General Information 	chemical properties	
· Appearance:		
Form:	Fluid	
Color:	Colorless	
· Odor:	Like chlorine	
· Odor threshold:	Not determined.	
· pH-value:	Not determined.	
• Change in condition Melting point/Melting range:	-95.1 °C	
01 0 0		(Contd. on page 6)

(Contd. on page 6)



according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

		(Contd. of page
Boiling point/Boiling range:	40 °C	
· Flash point:	Not applicable.	
· Flammability (solid, gaseous):	Not applicable.	
· Ignition temperature:	605 °C	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Product does not present an explosion hazard.	
· Explosion limits: Lower: Upper:	13 Vol % 22 Vol %	
· Vapor pressure at 20 °C:	360 hPa	
 Density at 20 °C: Relative density Vapor density Evaporation rate 	1.3 g/cm³Not determined.Not determined.Not determined.	
• Solubility in / Miscibility with Water at 20 °C:	20 g/l	
· Partition coefficient (n-octanol/wat	er): Not determined.	
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.	
· Solvent content: Organic solvents:	98.6 %	
Solids content: • Other information	0.3 % 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)



Printing date 03/31/2019

according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

(Contd. of page 6)

		cological effects
Acute tox	•	t are relevant for classification:
		y Estimate)
	LD50	1,441 mg/kg (rat)
Dermal	LD50	>1,967 mg/kg
Inhalative	LC50/4 h	78.5 mg/L
75-09-2 di	chloromet	hane
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative		88 mg/L (rat)
621-64-7 ı	nitrosodip	ropylamine
Oral	LD50	480 mg/kg (rat)
59-89-2 N	-nitrosomo	orpholine
Oral	LD50	282 mg/kg (rat)
10595-95-	6 N-Nitros	somethylethylamine
Oral	LD50	90 mg/kg (rat)
930-55-2 1	l-nitrosop	yrrolidine
Oral	LD50	900 mg/kg (rat)
924-16-3 I	N-nitrosod	ibutylamine
Oral	LD50	1,200 mg/kg (rat)
55-18-5 di	•	soamine
Oral	LD50	220 mg/kg (rat)
	•	rosoamine
	LD50	37 mg/kg (rat)
		78 mg/L (rat)
100-75-4 1	-	•
Oral	LD50	200 mg/kg (rat)
on the eye Sensitizat Additiona	n: Irritant t :: Irritating ion: No ser I toxicolog	to skin and mucous membranes.
Carcinoge	enic catego	pries
		l Agency for Research on Cancer)
	2 dichloro	
	_	ipropylamine



Version Number 3

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

	(Contd. of page	
59-89-2 N-nitrosomorpholine	21	
10595-95-6 N-Nitrosomethylethylamine		
930-55-2 1-nitrosopyrrolidine		
924-16-3 N-nitrosodibutylamine	21	
55-18-5 diethylnitrosoamine		
62-75-9 dimethylnitrosoamine	24	
86-30-6 nitrosodiphenylamine		
100-75-4 1-nitrosopiperidine		
·NTP (National Toxicology Program)		
75-09-2 dichloromethane]	
621-64-7 nitrosodipropylamine		
59-89-2 N-nitrosomorpholine		
930-55-2 1-nitrosopyrrolidine		
924-16-3 N-nitrosodibutylamine		
55-18-5 diethylnitrosoamine		
62-75-9 dimethylnitrosoamine]	
100-75-4 1-nitrosopiperidine		

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Additional ecological information:

· General notes:

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

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

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

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

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

(Contd. on page 9)



according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

(Contd. of page 8)

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

Not Regulated, De minimus Quantities	-
UN-Number	
DOT, TDG, IMDG, IATA	UN1593
· UN proper shipping name	
DOT	Dichloromethane
TDG	1593 DICHLOROMETHANE
IMDG, IATA	DICHLOROMETHANE
Transport hazard class(es)	
DOT, TDG, IMDG, IATA	
s s	
· Class	6.1 Toxic substances
Label	6.1
Packing group DOT, TDG, 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
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
Hazardous substance:	1000 lbs, 454 kg
TDG	
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
·IMDG	
· Limited quantities (LQ)	5L
	(Contd. on page



*

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

	(Contd. of page 9)
• 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 • Sara

	· Section 355 (extremely hazardous substances):			
62-75-9 c	62-75-9 dimethylnitrosoamine			
· Section 3	Section 313 (Specific toxic chemical listings):			
75-09-2	dichloromethane			
621-64-7	nitrosodipropylamine			
	N-nitrosomorpholine			
	N-nitrosodibutylamine			
55-18-5	diethylnitrosoamine			
	dimethylnitrosoamine			
	86-30-6 nitrosodiphenylamine			
100-75-4	1-nitrosopiperidine			
· TSCA (T	oxic Substances Control Act):			
75-09-2	dichloromethane			
621-64-7	nitrosodipropylamine			
930-55-2	1-nitrosopyrrolidine			
	924-16-3 N-nitrosodibutylamine			
	55-18-5 diethylnitrosoamine			
	5-9 dimethylnitrosoamine			
86-30-6	6 nitrosodiphenylamine			
	75-4 1-nitrosopiperidine			
	fanadian substance listings:			
	n Domestic Substances List (DSL)			
	lichloromethane			
86-30-6 r	nitrosodiphenylamine			
· Canadiar	· Canadian Ingredient Disclosure list (limit 0.1%)			
75-09-2	dichloromethane			
621-64-7	nitrosodipropylamine			
59-89-2	N-nitrosomorpholine			
930-55-2	1-nitrosopyrrolidine			
924-16-3	N-nitrosodibutylamine			
55-18-5	diethylnitrosoamine			
62-75-9	dimethylnitrosoamine			
	(Contd. on page 11)			



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Nitrosamines Standard (1X1 mL)

86-30-6 nitrosodiphenylamine

100-75-4 1-nitrosopiperidine

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· National regulations:

Printing date 03/31/2019

· Additional classification according to Decree on Hazardous Materials:

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.

- · Department issuing SDS: Document Control / Regulatory
- · Contact: regulatory@ultrasci.com
- Date of the latest revision of the safety data sheet 03/31/2019 / 2
- · Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation 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) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

• * Data compared to the previous version altered.



(Contd. of page 10)

Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification

· Product identifier

· Trade name: Base/Neutrals Standard (1X1 mL)

· Part number: US-114-1

· Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use

\cdot Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture

GHS08 Health hazard

Carcinogenicity - Category 1A	H350 May cause cancer.
Specific Target Organ Toxicity - Repeated Exposure -	H373 May cause damage to organs through prolonged
Category 2	or repeated exposure.
GHS07	

Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Skin Sensitizer - Category 1	H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure -	H335 May cause respiratory irritation.
Category 3	

· Label elements

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



· Signal word Danger

• Hazard-determining components of labeling: dichloromethane 4-dimethylaminoazobenzene

(Contd. on page 2)

⁻ CA

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 1) diphenylamine o-toluidine 3.3'-dichlorobenzidine p-phenylenediamine · Hazard statements Harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. 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. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. 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. · Classification system: · NFPA ratings (scale 0 - 4) Health = 2Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH Health = *20 Fire = 0FIRE **REACTIVITY** Reactivity = 0



(Contd. on page 3)

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:				
75-09-2	dichloromethane	98.0396% w/w		
53-96-3	3 2-acetylaminofluorene 0.151% w/v			
	0-11-7 4-dimethylaminoazobenzene 0.151% w/w			
91-94-1	91-94-1 3,3'-dichlorobenzidine 0.151% w/v			
119-93-7	119-93-7 4,4'-bi-o-toluidine 0.151% w			
91-59-8	-8 2-naphthylamine 0.151% w			
99-55-8	8 5-nitro-o-toluidine 0.151% w			
106-50-3	3 p-phenylenediamine 0.151% w			
62-44-2	2 phenacetin 0.151% w			
95-53-4	4 o-toluidine 0.151% w/w			
92-67-1	4-aminobiphenyl 0.151% w/w			

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

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

- · After inhalation:
- Supply fresh air and to be sure call for a doctor.
- In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

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

- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available. · Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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)



Printing date 03/31/2019

according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (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 protection against explosions and fires: 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 receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Components with limit values that require monitoring at the workplace: 75-09-2 dichloromethane EL Long-term value: 25 ppm IARC 2A EV Long-term value: 175 mg/m³, 50 ppm 91-94-1 3.3'-dichlorobenzidine EL Skin; IARC 2B 119-93-7 4,4'-bi-o-toluidine EL Skin, IARC 2B EV Long-term value: (L) ppm Skin 91-59-8 2-naphthylamine EL ACGIH A1; IARC 1



Printing date 03/31/2019

(Contd. on page 5)

[·] Control parameters

(Contd. of page 4)

Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

99-55-8 5-nitro-o-toluidine

EL Long-term value: 1 mg/m³ Inhalable

EV Long-term value: 1 mg/m³ inhalable

95-53-4 o-toluidine

- EL Long-term value: 2 ppm Skin; IARC 1
- EV Long-term value: 9 mg/m³, 2 ppm Skin
- 92-67-1 4-aminobiphenyl
- EL Skin; ACGIH A1; IARC 1

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

· Exposure controls

- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· Breathing equipment:

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

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

Protection of hands:

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

· Material of gloves

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

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

· Penetration time of glove material

For normal use: nitrile rubber: 1 hour

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

Eye protection:

Safety glasses



Tightly sealed goggles





according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 5)

Information on basis abusical and shamical monautics			
 Information on basic physical and chemical properties General Information 			
· Appearance:			
Form:	Fluid		
Color:	Colorless		
· Odor:	Like chlorine		
Odor threshold:	Not determined.		
pH-value:	Not determined.		
· Change in condition			
Melting point/Melting range:	-95.1 °C		
Boiling point/Boiling range: 40 °C			
· Flash point:	Not applicable.		
Flammability (solid, gaseous):	Not applicable.		
· Ignition temperature: 605 °C			
• Decomposition temperature: Not determined.			
Auto igniting:	Product is not selfigniting.		
Danger of explosion:	Product does not present an explosion hazard.		
· Explosion limits:			
Lower: 13 Vol %			
Upper: 22 Vol %			
· Vapor pressure at 20 °C:	360 hPa		
Density at 20 °C:	1.3 g/cm^3		
· Relative density	Not determined.		
· Vapor 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 %		
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.

(Contd. on page 7) CA



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 6)

- · 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 effect 	 Information 	on	toxico	logical	effect
---	---------------------------------	----	--------	---------	--------

· Acute toxi	· Acute toxicity:		
	· LD/LC50 values that are relevant for classification:		
		y Estimate)	
Oral	LD50	1,499 mg/kg	
Dermal	LD50	>1,928 mg/kg	
Inhalative	LC50/4 h	24.3 mg/L	
75-09-2 di	chloromet	thane	
Oral	LD50	1,600 mg/kg (rat)	
Dermal	LD50	>2,000 mg/kg (rat)	
Inhalative	LC50/4 h	88 mg/L (rat)	
53-96-3 2-	acetylami	nofluorene	
Oral	LD50	850 mg/kg (mouse)	
60-11-7 4-	dimethyla	minoazobenzene	
Oral	LD50	200 mg/kg (rat)	
		obenzidine	
	LD50	4,740 mg/kg (rat)	
119-93-7 4	1,4'-bi-o-ta	oluidine	
Oral	LD50	404 mg/kg (rat)	
122-39-4 0			
Oral	LD50	1,120 mg/kg (rat)	
91-59-8 2-	- •	imine	
Oral	LD50	727 mg/kg (rat)	
106-50-3 p			
	LD50	80 mg/kg (rat)	
		0.92 mg/L (rat)	
-	62-44-2 phenacetin		
	LD50	1,650 mg/kg (rat)	
95-53-4 0-	toluidine		
Oral	LD50	900 mg/kg (rat)	
Dermal	LD50	3,244 mg/kg (rabbit)	
		862 mg/L (rat)	
92-67-1 4-	-	•	
Oral	LD50	500 mg/kg (rat)	
		(Contd. on page 8)	

(Contd. on page 8)

CA



Agilent

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 7)

- **Primary irritant effect:** • **on the skin:** Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.
- · Additional toxicological information:
- The product shows the following dangers according to internally approved calculation methods for preparations: Harmful
- Irritant

· Carcinogenic categories

· IARC (Iı	nternational Agency for Research on Cancer)	
75-09-2	dichloromethane	2A
60-11-7	4-dimethylaminoazobenzene	2B
91-94-1	3,3'-dichlorobenzidine	2B
119-93-7	4,4'-bi-o-toluidine	2B
134-32-7	1-naphthylamine	3
91-59-8	2-naphthylamine	1
99-55-8	5-nitro-o-toluidine	3
106-50-3	p-phenylenediamine	3
62-44-2	phenacetin	1
95-53-4	o-toluidine	1
92-67-1	4-aminobiphenyl	1
· NTP (Na	tional Toxicology Program)	
75-09-2	dichloromethane	R
53-96-3	2-acetylaminofluorene	R
60-11-7	4-dimethylaminoazobenzene	R
91-94-1	3,3'-dichlorobenzidine	R
119-93-7	4,4'-bi-o-toluidine	R
91-59-8	2-naphthylamine	K
62-44-2	phenacetin	R
95-53-4	o-toluidine	K
92-67-1	4-aminobiphenyl	K

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:
- Water hazard class 3 (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.

(Contd. on page 9)



Printing date 03/31/2019

A

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 8)

· Results of PBT and vPvB assessment

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

• Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantities	-
· UN-Number · DOT, TDG, IMDG, IATA	UN1593
 · UN proper shipping name · DOT · TDG · IMDG, IATA 	Dichloromethane 1593 DICHLOROMETHANE DICHLOROMETHANE
· Transport hazard class(es)	
· DOT, TDG, IMDG, IATA	
· Class	6.1 Toxic substances
· Label	6.1
· Packing group · DOT, TDG, 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 MARPOL73/78 and the IBC Code	of Not applicable.
	(Contd. on page 10)



Printing date 03/31/2019

according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

	(Contd. of page
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 60 L
•	On cargo aircraft only: 220 L
Hazardous substance:	1000 lbs, 454 kg
TDG	
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
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

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

inone of t	ne ingredients is listed.	
	13 (Specific toxic chemical listings):	
75-09-2	dichloromethane	
53-96-3	2-acetylaminofluorene	
60-11-7	4-dimethylaminoazobenzene	
91-94-1	3,3'-dichlorobenzidine	
119-93-7	4,4'-bi-o-toluidine	
122-39-4	diphenylamine	
134-32-7	1-naphthylamine	
91-59-8	2-naphthylamine	
99-55-8	5-nitro-o-toluidine	
106-50-3	p-phenylenediamine	
95-53-4	o-toluidine	
92-67-1	4-aminobiphenyl	
TSCA (T	oxic Substances Control Act):	
75-09-2	dichloromethane	
	2-acetylaminofluorene	
	4-dimethylaminoazobenzene	
91-94-1	3,3'-dichlorobenzidine	
119-93-7	4,4'-bi-o-toluidine	
122-09-8	alpha,alpha-dimethylphenethylamine	



according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

	(Contd. of page 1
	diphenylamine
	1-naphthylamine
	5-nitro-o-toluidine
	p-phenylenediamine
	phenacetin
	o-toluidine
	4-aminobiphenyl
	n substance listings:
	n Domestic Substances List (DSL)
	dichloromethane
	4-dimethylaminoazobenzene
	4,4'-bi-o-toluidine
	diphenylamine
	1-naphthylamine
	2-naphthylamine
	p-phenylenediamine
	phenacetin
95-53-4	o-toluidine
	n Ingredient Disclosure list (limit 0.1%)
	dichloromethane
	2-acetylaminofluorene
	4-dimethylaminoazobenzene
	3,3'-dichlorobenzidine
	4,4'-bi-o-toluidine
	diphenylamine
	2-naphthylamine
	p-phenylenediamine
95-53-4	o-toluidine
92-67-1	4-aminobiphenyl
· Canadiar	n Ingredient Disclosure list (limit 1%)
	he ingredients is listed.

· National regulations:

· Additional classification according to Decree on Hazardous Materials:

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.

(Contd. on page 12)

CA



according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 11)

16 Other information

Printing date 03/31/2019

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

- · Department issuing SDS: Document Control / Regulatory
- · **Contact:** regulatory@ultrasci.com
- · Date of the latest revision of the safety data sheet 03/31/2019 / 2
- Abbreviations and acronyms:
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation 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)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative
- * Data compared to the previous version altered.



Printing date 03/31/2019

Version Number 4

Reviewed on 03/31/2019

1 Identification

· Product identifier

· Trade name: Base/Neutrals Standard (1X1 mL)

- · Part number: US-115-1
- · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



GHS06 Skull and crossbones

GHS08 Health hazard

Acute Toxicity (Dermal) - Category 3

Respiratory Sensitizer - Category 1

Germ Cell Mutagenicity - Category 1A Carcinogenicity - Category 1B Reproductive Toxicity - Category 1B Specific Target Organ Toxicity - Repeated Exposure -Category 2



Acute Toxicity (Oral) - Category 4H302Skin Irritation - Category 2H315Eye Irritation - Category 2AH319Skin Sensitizer - Category 1H317Specific Target Organ Toxicity - Single Exposure -
Category 3H335

H311 Toxic in contact with skin.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- H340 May cause 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.

H302 Harmful if swallowed.

- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.

· Label elements

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

(Contd. on page 2)



Reviewed on 03/31/2019

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Printing date 03/31/2019

Version Number 4

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 1) · Hazard pictograms GHS07 GHS06 GHS08 · Signal word Danger · Hazard-determining components of labeling: dichloromethane 1.3-dinitrobenzene 1,3,5-trinitrobenzene 2,4-dinitrotoluene 1,4-naphthoquinone quintozene (ISO) · Hazard statements Harmful if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. 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. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. [In case of inadequate ventilation] wear respiratory protection. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. (Contd. on page 3)

Version Number 4

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 2) If experiencing respiratory symptoms: Call a poison center/doctor. 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. · Classification system: · NFPA ratings (scale 0 - 4) Health = 2Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *2 Health = *2Fire = 0FIRE 0 Reactivity = 0**REACTIVITY** 0

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerou	is components:	
75-09-2	dichloromethane	98.0396% w/w
62-50-0	ethyl methanesulfonate	0.151% w/w
66-27-3	methyl methanesulfonate	0.151% w/w
121-14-2	2,4-dinitrotoluene	0.151% w/w
606-20-2	2,6-dinitrotoluene	0.151% w/w
130-15-4	1,4-naphthoquinone	0.151% w/w
98-95-3	nitrobenzene	0.151% w/w
82-68-8	quintozene (ISO)	0.151% w/w
94-59-7	safrole	0.151% w/w
78-59-1	3,5,5-trimethylcyclohex-2-enone	0.151% w/w

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:

Supply fresh air and to be sure call for a doctor.

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

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

(Contd. on page 4)



CA -

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 3)

- After eye contact:
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.
- Open and handle receptacle with care.
- Prevent formation of aerosols.
- Information about protection against explosions and fires: 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 receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

(Contd. on page 5)



Printing date 03/31/2019

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 4)

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

Printing date 03/31/2019

· Components with limit values that require monitoring at the workplace

- 75-09-2 dichloromethane
- EL Long-term value: 25 ppm
 - IARC 2A
- EV Long-term value: 175 mg/m³, 50 ppm

98-95-3 nitrobenzene

- EL Long-term value: 1 ppm Skin; IARC 2B
- EV Long-term value: 5 mg/m³, 1 ppm Skin

82-68-8 quintozene (ISO)

- EL Long-term value: 0.5 mg/m³
- EV Long-term value: 0.5 mg/m³

78-59-1 3,5,5-trimethylcyclohex-2-enone

- EL Ceiling limit value: 5 ppm
- EV Ceiling limit value: 28 mg/m³, 5 ppm

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

· Exposure controls

- · Personal protective equipment:
- · General protective and hygienic measures:
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

Breathing equipment:

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

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

· Protection of hands:

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

· Material of gloves

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

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

- · Penetration time of glove material
- For normal use: nitrile rubber: 1 hour

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

(Contd. on page 6)



Version Number 4

Revi

according to HPR, Schedule 1 Version Number 4

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 5)

· Eye protection:

Safety glasses



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Tightly sealed goggles

· Information on basic physical and	chemical properties	
General Information		
· Appearance:		
Form: Color:	Fluid Colorless	
· Odor:	Like chlorine	
· Odor threshold:	Not determined.	
· pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	-95.1 °C	
Boiling point/Boiling range:	40 °C	
Flash point:	Not applicable.	
· Flammability (solid, gaseous):	Not applicable.	
Ignition temperature:	605 °C	
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
• Explosion limits:		
Lower:	13 Vol %	
Upper:	22 Vol %	
· Vapor pressure at 20 °C:	360 hPa	
· Density at 20 °C:	1.3 g/cm ³	
· Relative density	Not determined.	
· Vapor density	Not determined.	
• Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water at 20 °C:	20 g/l	
Partition coefficient (n-octanol/wat	er): Not determined.	
Viscosity:		
Dynamic at 20 °C:	0.43 mPas	
Kinematic:	Not determined.	
Solvent content:	98.3 %	



(Contd. of page 6)

Safety Data Sheet

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

Solids content: · Other information

1.1 % 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 tha	at are relevant for classification:
ATE (Acu	te Toxicit	y Estimate)
Oral	LD50	1,495 mg/kg (rat)
Dermal	LD50	>902 mg/kg
Inhalative	LC50/4 h	55 mg/L
75-09-2 di	chloromet	thane
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
62-50-0 et	hyl metha	nesulfonate
Oral	LD50	470 mg/kg (mouse)
66-27-3 m	ethyl metł	hanesulfonate
Oral	LD50	225 mg/kg (rat)
99-65-01,	3-dinitrob	benzene
Oral	LD50	83 mg/kg (rat)
121-14-2 2	2,4-dinitro	toluene
Oral	LD50	268 mg/kg (rat)
606-20-2 2	2,6-dinitro	
Oral	LD50	177 mg/kg (rat)
130-15-4 1	· •	loquinone
Oral	LD50	190 mg/kg (rat)
		46 mg/L (rat)
98-95-3 ni	trobenzen	le
Oral	LD50	390 mg/kg (rat)
		(Contd. on page 3



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Version Number 4

Dermal InhalativeLD502.100 mg/kg (rat)InhalativeLC50/4 h556 mg/L (rat)S2-68-8 quintozene (KSO)OralLD501.100 mg/kg (rat)99.35-1 J.3.5-trinitrotrozene (KSG)OralLD501.950 mg/kg (rat)94.597 safroleOralLD501.950 mg/kg (rat)DermalLD501.870 mg/kg (rat)DermalLD501.870 mg/kg (rat)OralLD501.200 mg/kg (rat)DermalLD501.200 mg/kg (rat)DermalLD501.200 mg/kg (rat)Primary irritant to skin and mucous membranes.on the eye:Irritant to skin and mucous membranes.Sensitizationpossible through inhalation.Sensitizationpossible through skin contact.Additional toxicological information:The product shows the following dangers according to internally approved calculation methods for preparati ToxicIrritantCarcinogenic categoriesIARC (International Agency for Research on Cancer)75.09-23.04-bitorou-eue89-95-389-95-389-95-3120-14-22-4-dinitro-luce89-95-389-95-380-20-26-27-3methyl methanesulfonate120-14-294-59789-95-3 <t< th=""><th>of pag</th></t<>	of pag	
82-68-8 quintozene (ISO) Oral LD50 1,100 mg/kg (rat) 99-35-4 1,3,5-trinitrobenzene Oral LD50 275 mg/kg (rat) 94-59-7 safrole 94-59-7 safrole Oral LD50 1,950 mg/kg (rab)i) 78-59-1 3,5,5-trimethylcyclohex-2-enone 97 Oral LD50 1,870 mg/kg (rab)i) 78-59-1 3,5,5-trimethylcyclohex-2-enone 97 Oral LD50 1,200 mg/kg (rab)i) Primary irritant effect: 97 on the skin: Irritant to skin and mucous membranes. 97 on the eye: Irritating effect. 98 Sensitization: Sensitization: Sensitization: Sensitization possible through skin contact. Additional toxicological information: 1.870 mg/kg (rab) mg/kg (rab) mg/kg mg/kg (rab) The product shows the following dangers according to internally approved calculation methods for preparati Toxic Harmful Inritant Carcinogenic categories 1.400 mg/kg (rab) I-ARC (International Agency for Research on Cancer) 75.092 75.092 dichlormethane 66-27-3 66-27-3 methyl methanesulfonate 120-581		
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CA –

according to HPR, Schedule 1 Version Number 4

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

94-59-7 safrole

Printing date 03/31/2019

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:
- Water hazard class 3 (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 of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantities	-	
· UN-Number · DOT, TDG, IMDG, IATA	UN1593	
· UN proper shipping name		
·DOT	Dichloromethane	
· TDG	1593 DICHLOROMETHANE	
· IMDG	DICHLOROMETHANE, MARINE POLLUTANT	
·IATA	DICHLOROMETHANE	
· Transport hazard class(es)		
· DOT, IMDG		
· Class	6.1 Toxic substances	
		(Contd. on page 10)
		CA



(Contd. of page 8)

R

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL) (Contd. of page 9) 6.1 · Label · TDG, IATA · Class 6.1 Toxic substances · Label 6.1 · Packing group · DOT, TDG, IMDG, IATA III · Environmental hazards: · Marine pollutant: Yes (DOT) Symbol (fish and tree) · Special precautions for user Warning: Toxic substances · Danger code (Kemler): 60 · EMS Number: F-A,S-A Liquid halogenated hydrocarbons · Segregation groups · Stowage Category А · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. · Transport/Additional information: · DOT · Quantity limitations On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L · Hazardous substance: 1000 lbs, 454 kg Special marking with the symbol (fish and tree). · Remarks: ·TDG · Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml ·IMDG · Limited quantities (LQ) 5L Code: E1 · Excepted quantities (EQ) 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 • Sara

· Section 355 (extremely hazardous substances):

98-95-3 nitrobenzene

(Contd. on page 11)



CA -

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

Geed! 2	(Contd. of page
	13 (Specific toxic chemical listings):
	dichloromethane
	isosafrole
	1,3-dinitrobenzene
	2,4-dinitrotoluene
	2,6-dinitrotoluene
	nitrobenzene
82-68-8	quintozene (ISO)
	acetophenone
94-59-7	safrole
· TSCA (T	oxic Substances Control Act):
U	lients are listed.
	n substance listings:
· Canadiar	n Domestic Substances List (DSL)
75-09-2	dichloromethane
120-58-1	isosafrole
99-65-0	1,3-dinitrobenzene
121-14-2	2,4-dinitrotoluene
130-15-4	1,4-naphthoquinone
98-95-3	nitrobenzene
98-86-2	acetophenone
78-59-1	3,5,5-trimethylcyclohex-2-enone
· Canadiar	n Ingredient Disclosure list (limit 0.1%)
75-09-2	dichloromethane
· Canadiar	n Ingredient Disclosure list (limit 1%)
NI CA	he ingredients is listed.

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.

· Department issuing SDS: Document Control / Regulatory

- · Contact: regulatory@ultrasci.com
- · Date of the latest revision of the safety data sheet 03/31/2019 / 3
- · Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation

(Contd. on page 12)

Printing date 03/31/2019

Agilent

Reviewed on 03/31/2019

Trade name: Base/Neutrals Standard (1X1 mL)

(Contd. of page 11)

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) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative * *** Data compared to the previous version altered.**



Printing date 03/31/2019

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

1 Identification

- · Product identifier
- · Trade name: PAH Standard (1X1 mL)
- · Part number: US-116N-1
- · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

Classification of the substance or mixture	
GHS02 Flame	
Flammable Liquids - Category 2	H225 Highly flammable liquid and vapour.
GHS06 Skull and crossbones	
Acute Toxicity (Dermal) – Category 2	H310 Fatal in contact with skin.
GHS08 Health hazard	
Germ Cell Mutagenicity - Category 1B	H340 May cause genetic defects.
Carcinogenicity - Category 1A	H350 May cause cancer.
Specific Target Organ Toxicity - Repeated Exposure - Category 1	H372 Causes damage to organs through prolonged or repeated exposure.
Aspiration Hazard - Category 1	H304 May be fatal if swallowed and enters airways.
GHS07	
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Specific Target Organ Toxicity - Single Exposure - Category 3	H335 May cause respiratory irritation.
Label elements	



Reviewed on 03/31/2019

Printing date 03/31/2019

Version Number 3

Trade name: PAH Standard (1X1 mL)

(Contd. of page 1) · Hazard pictograms GHS02 GHS06 GHS07 GHS08 · Signal word Danger · Hazard-determining components of labeling: benzene dichloromethane 3-methylcholanthrene 7,12-dimethylbenz[a]anthracene · Hazard statements Highly flammable liquid and vapour. Fatal in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause genetic defects. May cause cancer. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. · Precautionary statements If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take actions to prevent static discharges. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. 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. Do NOT induce vomiting. IF ON SKIN: Gently wash with plenty of soap and water. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Get medical advice/attention if you feel unwell. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label).



Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 2) If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse. In case of fire: Use for extinction: CO2, powder or water spray. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. • Classification system: • NFPA ratings (scale 0 - 4) Health = 3 Fire = 3 Reactivity = 0 • HMIS-ratings (scale 0 - 4)

HEALTH*3Health = *3FIRE3Fire = 3REACTIVITY0Reactivity = 0

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangero	· Dangerous components:	
71-43-2	benzene	49.818% w/w
75-09-2	dichloromethane	49.818% w/w
56-49-5	3-methylcholanthrene	0.182% w/w
57-97-6	7,12-dimethylbenz[a]anthracene	0.182% w/w

4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

- Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

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

- After swallowing: If symptoms persist consult doctor.
- · Information for doctor:

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

(Contd. on page 4)

CA.



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 3)

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

· Extinguishing media

Printing date 03/31/2019

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

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Mount respiratory protective device.
- Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: Do not allow 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 protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges. Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed. Store in cool, dry conditions in well sealed receptacles.

(Contd. on page 5)



CA

Version Number 3

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 4)

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

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

71-43-2 benzene

Printing date 03/31/2019

- EL Short-term value: 2.5 ppm Long-term value: 0.5 ppm Skin; ACGIH A1; IARC 1
- EV Short-term value: 2.5 ppm Long-term value: 0.5 ppm Skin

75-09-2 dichloromethane

EL Long-term value: 25 ppm

IARC 2A

EV Long-term value: 175 mg/m³, 50 ppm

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· Breathing equipment:

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

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

· Protection of hands:

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

· Material of gloves

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

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

· Penetration time of glove material

For normal use: nitrile rubber: 1 hour

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

(Contd. on page 6)

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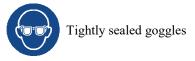
Version Number 3

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 5)

· Eye protection:



 Information on basic physical and e General Information 	chemical properties
· General Information · Appearance:	
Form:	Fluid
Color:	According to product specification
· Odor:	Characteristic
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	40 °C
· Flash point:	-11 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	555 °C
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	22 Vol %
· Vapor pressure at 20 °C:	360 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/wat	er): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.6 %



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

Solids content: • Other information

Printing date 03/31/2019

0.4 % 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

 \cdot Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)		
Oral	LD50	2,171 mg/kg (rat)
Dermal	LD50	>94 1 mg/kg

Dermai		- 74.1 mg/kg
Inhalative	LC50/4 h	177 mg/L (rat)

71-43-2 benzene

Oral	LD50	3,340 mg/kg (rat)
Dermal	LD50	48 mg/kg (mouse)
		>8,260 mg/kg (rabbit)
Inhalative	LC50/4 h	9,980 mg/L (mouse)

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)

Primary irritant effect:

• on the skin: Irritant to skin and mucous membranes.

• on the eye: Irritating effect.

• Sensitization: No sensitizing effects known.

· Additional toxicological information:

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

The product can cause inheritable damage.

(Contd. on page 8)



(Contd. of page 6)

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

(Contd. of page 7)

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 · Carcinogenic categories
· IARC (International Agency for Research on Cancer)

71-43-2 benzene

Printing date 03/31/2019

75-09-2 dichloromethane

••••••

· NTP (National Toxicology Program)

71-43-2 benzene

75-09-2 dichloromethane

57-97-6 7,12-dimethylbenz[a]anthracene

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:
- Water hazard class 3 (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 of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimus Quantit	ties -
· UN-Number · DOT, TDG, IMDG, IATA	UN1992
· UN proper shipping name	
DOT	Flammable liquids, toxic, n.o.s. (Benzene)
· TDG	1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (BENZENE)
· IMDG, IATA	FLAMMABLE LIQUID, TOXIC, N.O.S. (BENZENE)





Safety Data Sheet according to HPR, Schedule 1 Version Number 3

rinting date 03/31/2019	Version Number 3	Reviewed on 03/31/20
rade name: PAH Standard (1X1 mL)		
		(Contd. of page
· Transport hazard class(es)		
·DOT		
·Class	3 Flammable liquids	
· Label	3, 6.1	
• TDG (Transport dangerous goods):		
· Class	3 Flammable liquids	
·Label	3+6.1	
· IMDG		
· Class	3 Flammable liquids 3/6.1	
· Label · IATA	5/0.1	
· Class	3 Flammable liquids	
·Label	3 (6.1)	
 Packing group DOT, TDG, IMDG, IATA 	II	
· Environmental hazards:	Not applicable.	
· Special precautions for user	Warning: Flammable liquids	
· Danger code (Kemler):	336	
EMS Number:	F-E,S-D	
· Stowage Category · Stowage Code	B SW2 Clear of living quarters.	
• Transport in bulk according to Annex	• •	
MARPOL73/78 and the IBC Code	Not applicable.	
· Transport/Additional information:		
· DOT		
· Quantity limitations	On passenger aircraft/rail: 1 L	
	On cargo aircraft only: 60 L	
		(Contd. on page 1

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

	(Contd. of page
· TDG	
· Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
·IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2
• • • • • •	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (BENZENE),
	3 (6.1), II

15 Regulatory information

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

· Section 355 (extremely hazardous substances):
None of the ingredients is listed.
· Section 313 (Specific toxic chemical listings):
All ingredients are listed.
· TSCA (Toxic Substances Control Act):
All ingredients are listed.
· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· National regulations:

Additional classification according to Decree on Hazardous Materials:

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.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

(Contd. on page 11)



Printing date 03/31/2019

⁻ CA

Reviewed on 03/31/2019

Trade name: PAH Standard (1X1 mL)

Date of the latest revision of the safety data sheet 03/31/2019 / 2	
Abbreviations and acronyms:	
IMDG: International Maritime Code for Dangerous Goods	
DOT: US Department of Transportation	
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)	
NFPA: National Fire Protection Association (USA)	
HMIS: Hazardous Materials Identification System (USA)	
LC50: Lethal concentration, 50 percent	
LD50: Lethal dose, 50 percent	
PBT: Persistent, Bioaccumulative and Toxic	
vPvB: very Persistent and very Bioaccumulative	



Printing date 03/31/2019

Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification

- · Product identifier
- · Trade name: Phenols Standard (1X1 mL)
- · Part number: US-117N-1
- · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



GHS08 Health hazard

Carcinogenicity - Category 1B	H350 May cause cancer.
Reproductive Toxicity - Category 1B	H360 May damage fertility or the unborn child.
Specific Target Organ Toxicity - Repeated Exposure - Category 2	H373 May cause damage to organs through prolonged or repeated exposure.
GHS07	
Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Specific Target Organ Toxicity - Single Exposure - Category 3	H335 May cause respiratory irritation.

· Label elements

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



· Signal word Danger

• Hazard-determining components of labeling: dichloromethane dinoseb

(Contd. on page 2)

⁻ CA

Reviewed on 03/31/2019

Printing date 03/31/2019

Version Number 3

	(Contd. of page 1)
o-cresol	
m-cresol	
· Hazard statements	
Harmful if swallowed or in contact with skin.	
Causes skin irritation.	
Causes serious eye irritation.	
May cause cancer.	
May damage fertility or the unborn child.	
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.	
If swallowed: Call a poison center/doctor if you feel unwell.	
Rinse mouth.	
If on skin: Wash with plenty of water.	
IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present a	nd easy to do.
Continue rinsing.	
IF exposed or concerned: Get medical advice/attention.	
Get medical advice/attention if you feel unwell.	
Take off contaminated clothing and wash it before reuse.	
Specific measures (see on this label).	
If skin irritation occurs: Get medical advice/attention.	
If eye irritation persists: Get medical advice/attention.	
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	•
· Classification system:	
·NFPA ratings (scale 0 - 4)	
Health = 2	
Fire = 0	
2 Reactivity = 0	
· HMIS-ratings (scale 0 - 4)	
HEALTH Health = $*2$	
FIRE 0 Fire = 0	
$\frac{1}{\text{REACTIVITY}[0]} \text{Reactivity} = 0$	

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Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:		
75-09-2	dichloromethane	98.794% w/w
88-85-7	dinoseb	0.151% w/w

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: Immediately call a doctor.
- [•] Information for doctor:

• Most important symptoms and effects, both acute and delayed No further relevant information available. • Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.

(Contd. on page 4)

CA



Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 3)

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 protection against explosions and fires: 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 receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

75-09-2 dichloromethane

- EL Long-term value: 25 ppm IARC 2A
- EV Long-term value: 175 mg/m³, 50 ppm

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

- · Personal protective equipment:
- General protective and hygienic measures:
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Breathing equipment:

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

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

Protection of hands:

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



Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Phenols Standard (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: Color: Odor: Odor threshold: 	Fluid Colorless Like chlorine Not determined.	
· pH-value:	Not determined.	
 Change in condition Melting point/Melting range: Boiling point/Boiling range: 	-95.1 °C 40 °C	
· Flash point:	Not applicable.	
· Flammability (solid, gaseous):	Not applicable.	
· Ignition temperature:	605 °C	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Product does not present an explosion hazard.	
[·] Explosion limits: Lower: Upper:	13 Vol % 22 Vol %	
· Vapor pressure at 20 °C:	360 hPa	
 Density at 20 °C: Relative density Vapor density Evaporation rate 	1.3 g/cm ³ Not determined. Not determined. Not determined.	
· Solubility in / Miscibility with Water at 20 °C:	20 g/l	
· Partition coefficient (n-octanol/wate	er): Not determined.	
	(Contd. on page 6	



Printing date 03/31/2019

CA

Safety Data Sheet according to HPR, Schedule 1

Version Number 3

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)	
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		(Contd. of page 5
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	99.1 %	
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:

Г

· LD/LC50 values that are relevant for classification:
ATE (Acute Toxicity Estimate)

ATE (Acute Toxicity Estimate)			
Oral		1,360 mg/kg (rat)	
Dermal		>1,925 mg/kg	
Inhalative	LC50/4 h	85.3 mg/L	

75-09-2 dichloromethane

75-09-2 u	icilior offici	
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
70-30-4 2,	2'-methyle	enebis-(3,4,6-tri-chlorophenol)
Oral	LD50	60 mg/kg (rat)
Inhalative	LC50/4 h	340 mg/L (rat)
58-90-2 2,	, 3,4,6-tetra	ichlorophenol
Oral	LD50	140 mg/kg (rat)
Dermal	LD50	250 mg/kg (rabbit)
95-95-4 2,	4,5-trichlo	prophenol
Oral	LD50	820 mg/kg (rat)
88-85-7 d i	inoseb	
Oral	LD50	27 mg/kg (rat)
Dermal	LD50	217.5 mg/kg (rat)
		(Contd. on page 7)

Agilent

Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 6)

- · Primary irritant effect: • on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

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

Irritant

· Carcinogenic categories

· IARC (I	nternational Agency for Research on Cancer)	
75-09-2	dichloromethane	2A
	2,2'-methylenebis-(3,4,6-tri-chlorophenol)	3
	2,3,4,6-tetrachlorophenol	2B
95-95-4	2,4,5-trichlorophenol	2B
87-65-0	2,6-dichlorophenol	2B
· NTP (N	ational Toxicology Program)	
75-09-2	dichloromethane	R

12 Ecological information

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

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

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

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

(Contd. on page 8)



Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 7)

Transport information	
· Not Regulated, De minimus Quantities	-
[.] UN-Number [.] DOT, TDG, IMDG, IATA	UN1593
[•] UN proper shipping name • DOT • TDG • IMDG, IATA	Dichloromethane 1593 DICHLOROMETHANE DICHLOROMETHANE
· Transport hazard class(es)	
DOT, TDG, IMDG, IATA	
Class Label	6.1 Toxic substances 6.1
	0.1
[.] Packing group [.] DOT, TDG, 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 MARPOL73/78 and the IBC Code	II of Not applicable.
Transport/Additional information:	
DOT Quantity limitations Hazardous substance:	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L 1000 lbs, 454 kg
TDG Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L 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

(Contd. on page 9)



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 8)

15 Regulatory information

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

· Section 355 (extremely hazardous substances):

95-48-7 o-cresol

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Printing date 03/31/2019

88-85-7 dinoseb

· Section 313 (Specific toxic chemical listings):

All ingredients are listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

75-09-2 dichloromethane

95-48-7 o-cresol

108-39-4 m-cresol

106-44-5 p-cresol

70-30-4 2,2'-methylenebis-(3,4,6-tri-chlorophenol)

58-90-2 2,3,4,6-tetrachlorophenol

88-85-7 dinoseb

· Canadian Ingredient Disclosure list (limit 0.1%)

75-09-2 dichloromethane

70-30-4 2,2'-methylenebis-(3,4,6-tri-chlorophenol)

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· National regulations:

· 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.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

- Date of the latest revision of the safety data sheet 03/31/2019 / 2
- · Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

- DOT: US Department of Transportation
- 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)

NFPA: National Fire Protection Association (USA)

(Contd. on page 10)

Reviewed on 03/31/2019

Trade name: Phenols Standard (1X1 mL)

(Contd. of page 9)

HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative



Printing date 03/31/2019

Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification

· Product identifier

• Trade name: Pesticides Standard (1X1 mL)

· Part number: US-118-1

· Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds author@agilent.com · Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture



Carcinogenicity - Category 1B	H350 May cause cancer.
Specific Target Organ Toxicity - Repeated Exposure - Category 2	H373 May cause damage to organs through prolonged or repeated exposure.
GHS07	
Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.
Erro Invitation Cotocomy 24	11210 Courses somious and imitation

Eye Irritation - Category 2A Specific Target Organ Toxicity - Single Exposure -Category 3

- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

· Label elements

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



· Signal word Danger

· Hazard-determining components of labeling: dichloromethane isodrin chlordecone (ISO)

(Contd. on page 2)

CA

Reviewed on 03/31/2019

Printing date 03/31/2019

Version Number 3

Trade name: Pesticides Standard (1X1 mL)	
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(Contd. of page 1) · Hazard statements Harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eve 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. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep 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. Take off contaminated clothing and wash it before reuse. Specific measures (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. 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. · Classification system: NFPA ratings (scale 0 - 4) Health = 2Fire = 0Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH *2 Health = *2FIRE • Fire = 0**REACTIVITY** Reactivity = 0



(Contd. on page 3)

Reviewed on 03/31/2019

Trade name: Pesticides Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:		
75-09-2	dichloromethane	99.095% w/w
143-50-0	chlordecone (ISO)	0.151% w/w
140-57-8	aramite	0.151% w/w
23950-58-5	propyzamide (ISO)	0.151% w/w

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: Immediately call a doctor.

· Information for doctor:

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

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.

(Contd. on page 4)



Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Pesticides Standard (1X1 mL)

(Contd. of page 3)

See Section 13 for disposal information.

7 Handling and storage

· Handling:

Printing date 03/31/2019

· Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

• Information about protection against explosions and fires: 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 receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

75-09-2 dichloromethane

EL Long-term value: 25 ppm IARC 2A

EV Long-term value: 175 mg/m³, 50 ppm

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Breathing equipment:

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

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

Protection of hands:

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



Reviewed on 03/31/2019

Trade name: Pesticides Standard (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 c General Information 	hemical properties
 Appearance: Form: Color: Odor: Odor threshold: 	Fluid Colorless Like chlorine Not determined.
· pH-value:	Not determined.
 Change in condition Melting point/Melting range: Boiling point/Boiling range: 	-95.1 °C 40 °C
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	605 °C
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
[·] Explosion limits: Lower: Upper:	13 Vol % 22 Vol %
· Vapor pressure at 20 °C:	360 hPa
 Density at 20 °C: Relative density Vapor density Evaporation rate 	1.3 g/cm ³ Not determined. Not determined. Not determined.
· Solubility in / Miscibility with Water at 20 °C:	20 g/l
· Partition coefficient (n-octanol/wate	er): Not determined.
	(Contd. on page 6)



Printing date 03/31/2019

Reviewed on 03/31/2019



Printing date 03/31/2019

Version Number 3

Trade name: Pesticides Standard (1X1 mL)

		(Contd. of page 5
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	99.1 %	
Solids content:	0.5 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

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

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

ATE (Ac	ute Toxicit	y Estimate)
Oral	LD50	1,175 mg/kg (rat)
Dermal	LD50	>1,769 mg/kg
	e LC50/4 h	
75-09-2 0	lichloromet	thane
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	e LC50/4 h	88 mg/L (rat)
510-15-6	chlorobenz	zilate (ISO)
Oral	LD50	700 mg/kg (rat)
Dermal	LD50	>1,000 mg/kg (rabbit)
143-50-0	chlordecor	ne (ISO)
Oral	LD50	91.3 mg/kg (rat)
Dermal	LD50	475 mg/kg (rat)
		345 mg/kg (rabbit)
140-57-8	aramite	
Oral	LD50	3,900 mg/kg (rat)
465-73-6	isodrin	
Oral	LD50	7 mg/kg (rat)
		(Contd. on pa

Reviewed on 03/31/2019

Trade name: Pesticides Standard (1X1 mL)

		(0	Contd. of page 6)
Dermal	LD50	23 mg/kg (rat)	
23950-58	-5 propyz	zamide (ISO)	
Oral	LD50	3,350 mg/kg (rat)	
2303-16-4	4 di-allate	e (ISO)	
Oral	LD50	395 mg/kg (rat)	
• on the ey • Sensitiza • Addition The produ Harmful Irritant • Carcinog	in: Irritan e: Irritatin tion: No s al toxicolo uct shows genic cates	t to skin and mucous membranes. ng effect. sensitizing effects known. ogical information: the following dangers according to internally approved calculation methods for pr	eparations:
	2 dichloro		2A
		enzilate (ISO)	3
		cone (ISO)	2B
	8 aramite		2B
2303-16-4	4 di-allate	e (ISO)	3
· NTP (Na	tional To:	xicology Program)	
75-09-2	dichloror	methane	R

143-50-0 chlordecone (ISO)

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.

· Behavior in environmental systems:

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

Additional ecological information:

· General notes:

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

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

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

· Results of PBT and vPvB assessment

• **PBT:** Not applicable.

· vPvB: Not applicable.

• Other adverse effects No further relevant information available.

(Contd. on page 8)

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Version Number 3

Printing date 03/31/2019

according to HPR, Schedule 1 Version Number 3

Reviewed on 03/31/2019

Trade name: Pesticides Standard (1X1 mL)

(Contd. of page 7)

CA

13 Disposal considerations

· Waste treatment methods

· Recommendation:

Printing date 03/31/2019

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

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information

Not Regulated, De minimus Quantities	-
UN-Number	
DOT, TDG, IMDG, IATA	UN1593
UN proper shipping name	
DOT	Dichloromethane
TDG	1593 DICHLOROMETHANE, ENVIRONMENTALLY
	HAZARDOUS
IMDG	DICHLOROMETHANE, MARINE POLLUTANT
IATA	DICHLOROMETHANE
Transport hazard class(es)	
DOT, IATA	
Class	6.1 Toxic substances
Label TDG, IMDG	6.1
Class	6.1 Toxic substances
Label	6.1
Packing group	
DOT, TDG, IMDG, IATA	III
Environmental hazards:	Product contains environmentally hazardous substances: di-allate (ISO), isodrin
Marine pollutant:	Symbol (fish and tree)
Special marking (TDG):	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



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according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Pesticides Standard (1X1 mL)

	(Contd. of pag
· Stowage Category	А
• Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.
· Transport/Additional information:	
·DOT	
· Quantity limitations	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
· Hazardous substance:	1000 lbs, 454 kg
· TDG	
· Excepted quantities (EQ)	Code: E1
• • • • • •	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· 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,
č	ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

• Section 355 465-73-6 is	(extremely hazardous substances):	
· Section 313	6 (Specific toxic chemical listings):	
75-09-2	dichloromethane	
510-15-6	chlorobenzilate (ISO)	
465-73-6	isodrin	
23950-58-5	propyzamide (ISO)	
2303-16-4	di-allate (ISO)	
· TSCA (Tox	ic Substances Control Act):	
75-09-2 di	ichloromethane	
510-15-6 ch	hlorobenzilate (ISO)	
465-73-6 is	odrin	
· Canadian s	ubstance listings:	
· Canadian D	Domestic Substances List (DSL)	
75-09-2 dic	hloromethane	
Canadian I	ngredient Disclosure list (limit 0.1%)	
75-09-2 dic	hloromethane	
	(Contd. on page	ge 1



Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Pesticides Standard (1X1 mL)

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· National regulations:

Printing date 03/31/2019

· 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.

· Department issuing SDS: Document Control / Regulatory

· Contact: regulatory@ultrasci.com

· Date of the latest revision of the safety data sheet 03/31/2019 / 2

 Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation 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) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative * Data compared to the previous version altered.



(Contd. of page 9)

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

1 Identification

- · Product identifier
- · Trade name: Organophosphorous Pesticides Standard (1X1 mL)
- · Part number: US-119-1
- \cdot Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use
- · Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

· Information department:

Telephone: 800-227-9770 e-mail: pdl-msds_author@agilent.com • Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

· Classification of the substance or mixture

GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 3H301 Toxic if swallowed.Acute Toxicity (Dermal) - Category 3H311 Toxic in contact with skin.

GHS08 Health hazard

Carcinogenicity - Category 1B Specific Target Organ Toxicity - Repeated Exposure -Category 2

GHS07

Skin Irritation - Category 2 Eye Irritation - Category 2A Specific Target Organ Toxicity - Single Exposure -Category 3

or repeated exposure.

H373 May cause damage to organs through prolonged

H350 May cause cancer.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· Label elements

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



· Signal word Danger

(Contd. on page 2)



Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 1)

Hazard-determining components of labeling: lichloromethane),O-diethyl (O-pyrazin-2-yl phosphorothioate arathion -methyl (ISO) ulfotep (ISO) Hazard statements Texai f swallowed or in contact with skin. Causes skin irritation. Causes skin irritation. Causes scious eye irritation. May cause cancer. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Precutionary statements Tendical advice is needed, have product container or label at hand. Keep out of reach of children. Read label 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. Jse only outdoors or in a well-ventilated area. Vear protective gloves/protective clothing/eye protection/face protection. f swallowed: Immediately call a poison center/doctor. Kinse mouth. f on skin: Wash with plenty of water. F INHALED: Remove person to fresh air and keep comfortable for breathing. F NEYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. F exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Cate off contaminated clothing and wash it before reuse. Specific measures (see on this label). f skin irritation occurs: Get medical advice/attention. Take off inmediately all contaminated clothing. f skin irritation persists: Get medical advice/attention. f ake off contaminated clothing before reuse. Specific measures (see on this label). f skin irritation occurs: Get medical advice/attention. f ake off contaminated clothing before reuse. Specific measures (see on this label). f skin irritation occurs: Get medical advice/attention. f ake off contaminated clothing before reuse. Specific measures (see on this label). f skin irritation persists: Get medical advice/attention. f ake off contaminated clothing before reuse. Spe
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Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.
Dispose of contents/container in accordance with local/regional/national/international regulations.
NFPA ratings (scale 0 - 4)
Health $= 2$
Fire $= 0$
2 U Reactivity = 0
HMIS-ratings (scale 0 - 4)
HEALTH Health = $*2$
REACTIVITY 0 Reactivity = 0

according to HPR, Schedule 1

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 2)

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

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

Dangerous components:	
-----------------------	--

0	•	
75-09-2	dichloromethane	98.643% w/w
56-38-2	parathion (ISO)	0.151% w/w

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; immediately call for medical help.
- · 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 Firefighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · 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.

(Contd. on page 4)



Printing date 03/31/2019

Version Number 3

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Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 3)

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 protection against explosions and fires: 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 receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

75-09-2 dichloromethane

- EL Long-term value: 25 ppm IARC 2A
- EV Long-term value: 175 mg/m³, 50 ppm

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

· Personal protective equipment:

• General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Breathing equipment:

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

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

Protection of hands:

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



Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (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 c · General Information	chemical properties
 Appearance: Form: Color: Odor: Odor threshold: 	Fluid Colorless Like chlorine Not determined.
· pH-value:	Not determined.
 Change in condition Melting point/Melting range: Boiling point/Boiling range: 	-95.1 °C 40 °C
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	605 °C
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits: Lower: Upper:	13 Vol % 22 Vol %
· Vapor pressure at 20 °C:	360 hPa
 Density at 20 °C: Relative density Vapor density Evaporation rate 	1.3 g/cm³Not determined.Not determined.Not determined.
 Solubility in / Miscibility with Water at 20 °C: 	20 g/l
· Partition coefficient (n-octanol/wate	er): Not determined.
	(Contd. on page 6



Printing date 03/31/2019

Version Number 3

CA

Safety Data Sheet

according to HPR, Schedule 1

Agilent

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

		(Contd. of page 5
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	99.1 %	
Solids content:	0.5 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

Chemical stability

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.

• Conditions to avoid No further relevant information available.

- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

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

ATE (Acute Toxicity Estimate)				
	LD50	244 mg/kg (rat)		
Dermal	LD50	244 mg/kg (rat) >593 mg/kg		
Inhalative	LC50/4 h	21.1 mg/L		

75-09-2 dichloromethane

75 07 2 ui	childr office	
Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/L (rat)
297-97-2 (),O-diethy	yl O-pyrazin-2-yl phosphorothioate
Oral	LD50	3.5 mg/kg (rat)
Dermal	LD50	8 mg/kg (rat)
3689-24-5	sulfotep (ISO)
Oral	LD50	5 mg/kg (rat)
Dermal	LD50	20 mg/kg (rat)
Inhalative	LC50/4 h	38 mg/L (rat)
298-00-0 p	oarathion -	-methyl (ISO)
Oral	LD50	6.01 mg/kg (rat)
Dermal	LD50	67 mg/kg (rat)
		300 mg/kg (rabbit)
I		(Contd. on page 7)

according to HPR, Schedule 1

Agilent

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

298-04-4	disulfoto	n	(Contd. of page
Oral	LD50	2 mg/kg (rat)	
Dermal	LD50	20 mg/kg (rat)	
56-38-2	parathion	(ISO)	
Oral	LD50	2 mg/kg (rat)	
Dermal	LD50	6.8 mg/kg (rat)	
298-02-2	2 phorate ((ISO)	
Oral	LD50	1.6 mg/kg (rat)	
Dermal	LD50	2.5 mg/kg (rat)	
Sensitiza Additior	nal toxicol	sensitizing effects known. ogical information:	ls for preparations:
Sensitiza Addition The prod Toxic Irritant	ntion: No s nal toxicol	sensitizing effects known. ogical information: the following dangers according to internally approved calculation method	ls for preparations:
Sensitiza Addition The prod Toxic Irritant Carcino	ation: No s nal toxicolo luct shows genic cates	sensitizing effects known. ogical information: the following dangers according to internally approved calculation method	ls for preparations:
Sensitiza Addition The prod Toxic Irritant Carcino IARC (I	ation: No s nal toxicolo luct shows genic cates	sensitizing effects known. ogical information: the following dangers according to internally approved calculation method gories nal Agency for Research on Cancer)	
Sensitiza Addition The prod Toxic Irritant Carcino IARC (I 75-09-2	ntion: No s nal toxicolo luct shows genic cates nternation	sensitizing effects known. ogical information: the following dangers according to internally approved calculation method gories nal Agency for Research on Cancer)	
Sensitiza Addition The prod Toxic Irritant Carcino IARC (I 75-09-2 298-00-0	ntion: No s nal toxicolo luct shows genic cates nternation	sensitizing effects known. ogical information: the following dangers according to internally approved calculation method gories nal Agency for Research on Cancer) methane n -methyl (ISO)	21
Sensitiza Addition The prod Toxic Irritant Carcino IARC (I 75-09-2 298-00-0 56-38-2	ation: No s nal toxicolo luct shows genic cates nternation dichloror parathior parathior	sensitizing effects known. ogical information: the following dangers according to internally approved calculation method gories nal Agency for Research on Cancer) methane n -methyl (ISO)	2.

12 Ecological information

· Toxicity

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

(Contd. on page 8)

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

(Contd. of page 7)

CA

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number	
DOT, TDG, IMDG, IATA	UN1593
UN proper shipping name	
DOT	Dichloromethane
TDG	1593 DICHLOROMETHANE, ENVIRONMENTALLY
NINC	HAZARDOUS
IMDG IATA	DICHLOROMETHANE, MARINE POLLUTANT DICHLOROMETHANE
	DICHLOROMETHANE
Transport hazard class(es)	
DOT, IATA	
Class	6.1 Toxic substances
Label	6.1
TDG, IMDG	
Class	6.1 Toxic substances
Label	6.1
Packing group	
DOT, TDG, IMDG, IATA	III
Environmental hazards:	
Marine pollutant:	Symbol (fish and tree)
Special marking (TDG):	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



according to HPR, Schedule 1

Agilent

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

	(Contd. of page
· Stowage Category	A
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
Hazardous substance:	1000 lbs, 454 kg
TDG	
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
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,
0	ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· Section 35	55 (extremely hazardous substances):
297-97-2	O,O-diethyl O-pyrazin-2-yl phosphorothioate
3689-24-5	sulfotep (ISO)
298-00-0	parathion -methyl (ISO)
298-04-4	disulfoton
60-51-5	dimethoate (ISO)
56-38-2	parathion (ISO)
298-02-2	phorate (ISO)
· Section 31	3 (Specific toxic chemical listings):
75-09-2	dichloromethane
52-85-7	famphur
298-00-0	parathion -methyl (ISO)
60-51-5	dimethoate (ISO)
56-38-2	parathion (ISO)
· TSCA (To	oxic Substances Control Act):
75-09-2	dichloromethane
297-97-2	O,O-diethyl O-pyrazin-2-yl phosphorothioate
52-85-7	famphur
· · · · ·	(Contd. on page 10)
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(Contd. of page 9)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/31/2019

Trade name: Organophosphorous Pesticides Standard (1X1 mL)

60-51-5 dimethoate (ISO)

Canadian substance listings:
 Canadian Domestic Substances List (DSL)

75-09-2 dichloromethane

· Canadian Ingredient Disclosure list (limit 0.1%)

75-09-2 dichloromethane

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· National regulations:

· 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.

- · Department issuing SDS: Document Control / Regulatory
- · Contact: regulatory@ultrasci.com
- · Date of the latest revision of the safety data sheet 03/31/2019 / 2
- Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

- DOT: US Department of Transportation
- 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)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative



Printing date 03/31/2019

Agilent

Version Number 3

Reviewed on 03/31/2019

1 Identification · Product identifier · Trade name: Pyridines Standard (1X1 mL) · Part number: US-120AN-1 · Application of the substance / the mixture Reagents and Standards for Analytical Chemical Laboratory Use · Details of the supplier of the safety data sheet · Manufacturer/Supplier: Agilent Technologies, Inc. 5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA · Information department: Telephone: 800-227-9770 e-mail: pdl-msds author@agilent.com · Emergency telephone number: CHEMTREC®: 1-800-424-9300 **2** Hazard identification · Classification of the substance or mixture GHS02 Flame Flammable Liquids - Category 2 H225 Highly flammable liquid and vapour. GHS08 Health hazard Carcinogenicity - Category 1A H350 May cause cancer. GHS07 Eye Irritation - Category 2A H319 Causes serious eye irritation. Specific Target Organ Toxicity - Single Exposure -H336 May cause drowsiness or dizziness. Category 3 · Label elements • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). · Hazard pictograms GHS02 GHS07 GHS08 · Signal word Danger · Hazard-determining components of labeling: acetone 4-Nitroquinoline-1-oxide

• Hazard statements Highly flammable liquid and vapour.

(Contd. on page 2)

⁻ CA

Reviewed on 03/31/2019

Printing date 03/31/2019

Version Number 3

(Contd. of pag	e 1)
Causes serious eye irritation.	51)
May cause cancer.	
May cause drowsiness or dizziness.	
Precautionary statements	
If medical advice is needed, have product container or label at hand.	
Keep out of reach of children.	
Read label before use.	
Obtain special instructions before use.	
Do not handle until all safety precautions have been read and understood.	
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
Ground and bond container and receiving equipment.	
Use explosion-proof [electrical/ventilating/lighting] equipment.	
Use non-sparking tools.	
Take actions to prevent static discharges.	
Avoid breathing dust/fume/gas/mist/vapours/spray.	
Wash thoroughly after handling.	
Use only outdoors or in a well-ventilated area.	
Wear protective gloves/protective clothing/eye protection/face protection.	
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].	
IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.	
Continue rinsing.	
IF exposed or concerned: Get medical advice/attention.	
Call a poison center/doctor if you feel unwell.	
If eye irritation persists: Get medical advice/attention.	
In case of fire: Use for extinction: CO2, powder or water spray.	
Store in a well-ventilated place. Keep container tightly closed.	
Store in a well-ventilated place. Keep cool.	
Store locked up.	
Dispose of contents/container in accordance with local/regional/national/international regulations.	
Classification system:	
· NFPA ratings (scale 0 - 4)	
Health $= 2$	
$\frac{3}{\text{Fire}=3}$	
20 Reactivity = 0	
· HMIS-ratings (scale 0 - 4)	
HEALTH ¹² Health = *2	
FIRE 3 Fire = 3	
$\frac{1}{\text{REACTIVITY}} = 0$	
REACTIVITY	
3 Composition/Information on ingredients	
· Chemical characterization: Mixtures	
• Chemical characterization: Mixtures • Description• Mixture of the substances listed below with nonhazardous additions	

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

· Dangerous	components:
-------------	-------------

67-64-1 acetone

*

98.9888% w/w



(Contd. of page 2)

0.253% w/w

Safety Data Sheet according to HPR, Schedule 1

Version Number 3

Reviewed on 03/31/2019

Trade name: Pyridines Standard (1X1 mL)

56-57-5 4-Nitroquinoline-1-oxide

4 First aid measures

Printing date 03/31/2019

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

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
- Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
- Wear protective equipment. Keep unprotected persons away.
- \cdot 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.





on Number 3

Version Number 3

Reviewed on 03/31/2019

Trade name: Pyridines Standard (1X1 mL)

(Contd. of page 3)

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· Conditions for safe storage, including any incompatibilities

· Storage:

Printing date 03/31/2019

- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:
- Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls/ Personal protection

• Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

67-64-1 acetone

- EL Short-term value: 500 ppm
- Long-term value: 250 ppm
- EV Short-term value: 750 ppm Long-term value: 500 ppm

• Additional information: The lists that were valid during the creation were used as basis.

- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Breathing equipment:

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

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

· Protection of hands:

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

· Material of gloves

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

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

(Contd. on page 5)



Reviewed on 03/31/2019

Trade name: Pyridines Standard (1X1 mL)

· Penetration time of glove material

For normal use: nitrile rubber: 1 hour

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

· Eye protection:

Tightly sealed goggles

Physical and chemical properties				
· Information on basic physical and chemical properties				
· General Information				
· Appearance:				
Form:	Fluid			
Color:	Colorless			
Odor:	Characteristic			
· Odor threshold:	Not determined.			
· pH-value:	Not determined.			
· Change in condition				
Melting point/Melting range:	-94.7 °C			
Boiling point/Boiling range:	55.8-56.6 °C			
· Flash point:	-17 °C			
· Flammability (solid, gaseous):	Not applicable.			
· Ignition temperature:	465 °C			
· Decomposition temperature:	Not determined.			
· Auto igniting:	Product is not selfigniting.			
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.			
· Explosion limits:				
Lower:	2.6 Vol %			
Upper:	13 Vol %			
· Vapor pressure at 20 °C:	245.3 hPa			
· Density at 20 °C:	0.791 g/cm ³			
· Relative density	Not determined.			
· Vapor density	Not determined.			
· Evaporation rate	Not determined.			
· Solubility in / Miscibility with				
Water:	Not miscible or difficult to mix.			
· Partition coefficient (n-octanol/wat	er): Not determined.			
· Viscosity:				
Dynamic at 20 °C:	32 mPas			
	(Contd. on page 6			

(Contd. on page 6)

CA



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Printing date 03/31/2019

Version Number 3

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(Contd. of page 4)

Reviewed on 03/31/2019

Trade name: Pyridines Standard (1X1 mL)

	(Contd. c	of page 5)
Kinematic:	Not determined.	
 Solvent content: Organic solvents: 	99.2 %	
Solids content: • Other information	0.0 % No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

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

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values that are relevant for classification:

67-64-1 acetone

Oral LD50 5,800 mg/kg (rat)

Dermal LD50 20,000 mg/kg (rabbit)

- · Primary irritant effect:
- on the skin: No irritant effect.
- on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- · Additional toxicological information:

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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

110-86-1 pyridine

· NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.

(Contd. on page 7)

3



Printing date 03/31/2019

Version Number 3

⁻ CA

Version Number 3

Reviewed on 03/31/2019

Trade name: Pyridines Standard (1X1 mL)

(Contd. of page 6)

 \cdot Mobility in soil No further relevant information available.

· Additional ecological information:

· General notes:

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

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

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

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

· Uncleaned packagings:

• Recommendation: Disposal must be made according to official regulations.

14 Transport information

Not Regulated, De minimus Quantities		
UN-Number DOT, TDG, IMDG, IATA	UN1090	
UN proper shipping name		
DOT	Acetone	
TDG	1090 ACETONE	
IMDG, IATA	ACETONE	
Transport hazard class(es)		
DOT, TDG, IMDG, IATA		
Class	3 Flammable liquids	
Label	3	
Packing group		
DOT, TDG, IMDG, IATA	II	
Environmental hazards:	Not applicable.	
Special precautions for user	Warning: Flammable liquids	
Danger code (Kemler):	33	
EMS Number:	F-E,S-D	
Stowage Category	E	
Transport in bulk according to Annex	II of	
MARPOL73/78 and the IBC Code	Not applicable.	

Agilent

Printing date 03/31/2019

Reviewed on 03/31/2019

Trade name: Pyridines Standard (1X1 mL)

Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 5 L
	On cargo aircraft only: 60 L
TDG	
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
IMDG	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 1090 ACETONE, 3, II

15 Regulatory information

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

 109-06-8
 2-methylpyridine

 110-86-1
 pyridine

 • Canadian Ingredient Disclosure list (limit 0.1%)

 None of the ingredients is listed.

 • Canadian Ingredient Disclosure list (limit 1%)

 All ingredients are listed.

 • National regulations:

• Additional classification according to Decree on Hazardous Materials: Carcinogenic hazardous material group III (dangerous).

(Contd. on page 9)



Printing date 03/31/2019

CA -

Reviewed on 03/31/2019

Trade name: Pyridines Standard (1X1 mL)

(Contd. of page 8)

[.] 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.

- · Department issuing SDS: Document Control / Regulatory
- · Contact: regulatory@ultrasci.com
- Date of the latest revision of the safety data sheet 03/31/2019 / 2

 Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation 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) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative * Data compared to the previous version altered.



Printing date 03/31/2019

Version Number 3

3/31/2019