Safety Data Sheet
acc. to OSHA HCS

Printing date 03/30/2019 Version Number 3 Reviewed on 03/30/2019

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1 Identification

· **Product identifier**

· **Trade name: PAH Standard (1X1 mL)**

· **Part number:** PM-613A-1
· **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA

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

2 Hazard(s) identification

· **Classification of the substance or mixture**


GHS02 Flame

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


GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.

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


GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**
acetonitrile
· **Hazard statements**
Highly flammable liquid and vapor.
Harmful if swallowed.
Causes serious eye irritation.
· **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.

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

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 0

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

3 Composition/information on ingredients

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

· **Dangerous components:**		
75-05-8	acetonitrile	99.912%

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.

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

5 Fire-fighting measures

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

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
75-05-8	acetonitrile	13 ppm
91-20-3	naphthalene	15 ppm
86-73-7	fluorene	6.6 mg/m³
120-12-7	anthracene	48 mg/m³
85-01-8	phenanthrene	5.4 mg/m³
83-32-9	acenaphthene	3.6 mg/m³
208-96-8	acenaphthylene	10 mg/m³
129-00-0	pyrene	0.15 mg/m³
206-44-0	fluoranthene	8.2 mg/m³
53-70-3	dibenz[a,h]anthracene	0.093 mg/m³
193-39-5	indeno[1,2,3-cd]pyrene	1.2 mg/m³
218-01-9	chrysene	0.6 mg/m³
205-99-2	benz[e]acephenanthrylene	0.12 mg/m³
50-32-8	benzo[a]pyrene	0.6 mg/m³
56-55-3	benz[a]anthracene	0.6 mg/m³

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191-24-2	benzo[ghi]perylene	30 mg/m³

· **PAC-2:**		
75-05-8	acetonitrile	50 ppm
91-20-3	naphthalene	83 ppm
86-73-7	fluorene	72 mg/m³
120-12-7	anthracene	530 mg/m³
85-01-8	phenanthrene	59 mg/m³
83-32-9	acenaphthene	40 mg/m³
208-96-8	acenaphthylene	110 mg/m³
129-00-0	pyrene	1.7 mg/m³
206-44-0	fluoranthene	90 mg/m³
53-70-3	dibenz[a,h]anthracene	1 mg/m³
193-39-5	indeno[1,2,3-cd]pyrene	13 mg/m³
218-01-9	chrysene	12 mg/m³
205-99-2	benz[e]acephenanthrylene	1.3 mg/m³
50-32-8	benzo[a]pyrene	120 mg/m³
56-55-3	benz[a]anthracene	120 mg/m³
191-24-2	benzo[ghi]perylene	330 mg/m³

· **PAC-3:**		
75-05-8	acetonitrile	150 ppm
91-20-3	naphthalene	500 ppm
86-73-7	fluorene	430 mg/m³
120-12-7	anthracene	3,200 mg/m³
85-01-8	phenanthrene	360 mg/m³
83-32-9	acenaphthene	240 mg/m³
208-96-8	acenaphthylene	660 mg/m³
129-00-0	pyrene	110 mg/m³
206-44-0	fluoranthene	400 mg/m³
53-70-3	dibenz[a,h]anthracene	2.9 mg/m³
193-39-5	indeno[1,2,3-cd]pyrene	79 mg/m³
218-01-9	chrysene	69 mg/m³
205-99-2	benz[e]acephenanthrylene	7.9 mg/m³
50-32-8	benzo[a]pyrene	700 mg/m³
56-55-3	benz[a]anthracene	700 mg/m³
191-24-2	benzo[ghi]perylene	2,000 mg/m³

7 Handling and storage

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

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Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
75-05-8 acetonitrile	
PEL	Long-term value: 70 mg/m³, 40 ppm
REL	Long-term value: 34 mg/m³, 20 ppm
TLV	Long-term value: 34 mg/m³, 20 ppm Skin

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

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

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· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	Colorless
· **Odor:**	Aromatic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	-46 °C (-50.8 °F)
Boiling point/Boiling range:	81 °C (177.8 °F)
· **Flash point:**	2 °C (35.6 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	525 °C (977 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	4.4 Vol %
Upper:	16 Vol %
· **Vapor pressure at 20 °C (68 °F):**	0 hPa (0 mm Hg)
· **Density at 20 °C (68 °F):**	0.786 g/cm³ (6.55917 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.

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· **Solvent content:**	
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	0.1 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**		
ATE (Acute Toxicity Estimate)		
Oral	LD50	1,321 mg/kg (rat)
Dermal	LD50	>2,002 mg/kg (rabbit)
Inhalative	LC50/4 h	3,590 mg/L (mouse)

75-05-8 acetonitrile		
Oral	LD50	1,320 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3,587 mg/L (mouse)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
91-20-3	naphthalene	2B
86-73-7	fluorene	3
120-12-7	anthracene	3
85-01-8	phenanthrene	3

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83-32-9	acenaphthene	3
129-00-0	pyrene	3
206-44-0	fluoranthene	3
53-70-3	dibenz[a,h]anthracene	2A
193-39-5	indeno[1,2,3-cd]pyrene	2B
218-01-9	chrysene	2B
205-99-2	benz[e]acephenanthrylene	2B
50-32-8	benzo[a]pyrene	1
56-55-3	benz[a]anthracene	2B
191-24-2	benzo[ghi]perylene	3
207-08-9	benzo[k]fluoranthene	2B

· **NTP (National Toxicology Program)**

91-20-3	naphthalene	R
86-73-7	fluorene	R
120-12-7	anthracene	R
85-01-8	phenanthrene	R
129-00-0	pyrene	R
206-44-0	fluoranthene	R
53-70-3	dibenz[a,h]anthracene	R
193-39-5	indeno[1,2,3-cd]pyrene	R
218-01-9	chrysene	R
205-99-2	benz[e]acephenanthrylene	R
50-32-8	benzo[a]pyrene	R
56-55-3	benz[a]anthracene	R
207-08-9	benzo[k]fluoranthene	R

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

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

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· **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.

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14 Transport information

· **Not Regulated, De minimus Quantities**	-
· **UN-Number** · **DOT, IMDG, IATA**	UN1648
· **UN proper shipping name** · **DOT** · **IMDG, IATA**	Acetonitrile ACETONITRILE
· **Transport hazard class(es)** · **DOT, IMDG, IATA**	
· **Class** · **Label**	3 Flammable liquids 3
· **Packing group** · **DOT, IMDG, IATA**	II
· **Environmental hazards:**	Not applicable.
· **Special precautions for user** · **Danger code (Kemler):** · **EMS Number:** · **Stowage Category**	Warning: Flammable liquids 33 F-E,S-E B
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:** · **DOT** · **Quantity limitations**	 On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· **IMDG** · **Limited quantities (LQ)**	 1L

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· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1648 ACETONITRILE, 3, II

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**	
129-00-0	pyrene

· **Section 313 (Specific toxic chemical listings):**	
75-05-8	acetonitrile
91-20-3	naphthalene
120-12-7	anthracene
85-01-8	phenanthrene
206-44-0	fluoranthene
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
191-24-2	benzo[ghi]perylene
207-08-9	benzo[k]fluoranthene

· **TSCA (Toxic Substances Control Act):**	
75-05-8	acetonitrile
91-20-3	naphthalene
86-73-7	fluorene
120-12-7	anthracene
85-01-8	phenanthrene
83-32-9	acenaphthene
208-96-8	acenaphthylene
129-00-0	pyrene
206-44-0	fluoranthene
53-70-3	dibenz[a,h]anthracene
193-39-5	indeno[1,2,3-cd]pyrene
218-01-9	chrysene
50-32-8	benzo[a]pyrene
56-55-3	benz[a]anthracene

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· **Proposition 65**

· **Chemicals known to cause cancer:**	
91-20-3	naphthalene
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
207-08-9	benzo[k]fluoranthene

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**		
75-05-8	acetonitrile	CBD, D
91-20-3	naphthalene	C, CBD
86-73-7	fluorene	D
120-12-7	anthracene	D
85-01-8	phenanthrene	D
83-32-9	acenaphthene	A (oral)
208-96-8	acenaphthylene	D
129-00-0	pyrene	D
206-44-0	fluoranthene	D
53-70-3	dibenz[a,h]anthracene	B2
193-39-5	indeno[1,2,3-cd]pyrene	B2
218-01-9	chrysene	B2
205-99-2	benz[e]acephenanthrylene	B2
50-32-8	benzo[a]pyrene	CaH
56-55-3	benz[a]anthracene	B2
191-24-2	benzo[ghi]perylene	D
207-08-9	benzo[k]fluoranthene	B2

· **TLV (Threshold Limit Value established by ACGIH)**		
75-05-8	acetonitrile	A4
91-20-3	naphthalene	A4
218-01-9	chrysene	A3
205-99-2	benz[e]acephenanthrylene	A2
50-32-8	benzo[a]pyrene	A2

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56-55-3	benz[a]anthracene	A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
218-01-9	chrysene
50-32-8	benzo[a]pyrene

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

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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 preparation / last revision** 03/30/2019 / 2
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
· *** Data compared to the previous version altered.**