

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/29/2019

Version Number 2

Reviewed on 03/29/2019

1 Identification

- **Product identifier**
- **Trade name:** PAH Standard (1X1 mL)
- **Part number:** PAH-630-1
- **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.



GHS08 Health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

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

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

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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **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

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· Hazard-determining components of labeling:

toluene
benzo[a]pyrene
dibenz[a,h]anthracene
anthracene
phenanthrene

· Hazard statements

Highly flammable liquid and vapor.
Causes skin irritation.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
May damage fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

· Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Immediately call a poison center/doctor.
Specific treatment (see on this label).
Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
If skin irritation or rash occurs: 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 = 1
Fire = 3
Reactivity = 0

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· HMIS-ratings (scale 0 - 4)

HEALTH	*1	Health = *1
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

· Other hazards
· Results of PBT and vPvB assessment
· PBT:

120-12-7 anthracene

· vPvB: Not applicable.

3 Composition/information on ingredients

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

· Dangerous components:

108-88-3	toluene	96.306%
120-12-7	anthracene	0.231%
56-55-3	benz[a]anthracene	0.231%
205-99-2	benz[e]acephenanthrylene	0.231%
207-08-9	benzo[k]fluoranthene	0.231%
191-24-2	benzo[ghi]perylene	0.231%
50-32-8	benzo[a]pyrene	0.231%
218-01-9	chrysene	0.231%
53-70-3	dibenz[a,h]anthracene	0.231%
206-44-0	fluoranthene	0.231%
86-73-7	fluorene	0.231%
193-39-5	indeno[1,2,3-cd]pyrene	0.231%
91-20-3	naphthalene	0.231%
85-01-8	phenanthrene	0.231%
129-00-0	pyrene	0.231%

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.

· After swallowing: If symptoms persist consult doctor.

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- **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**
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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

108-88-3	toluene	67 ppm
83-32-9	acenaphthene	3.6 mg/m ³
208-96-8	acenaphthylene	10 mg/m ³
120-12-7	anthracene	48 mg/m ³
56-55-3	benz[a]anthracene	0.6 mg/m ³
205-99-2	benz[e]acephenanthrylene	0.12 mg/m ³
191-24-2	benzo[ghi]perylene	30 mg/m ³
50-32-8	benzo[a]pyrene	0.6 mg/m ³
218-01-9	chrysene	0.6 mg/m ³
53-70-3	dibenz[a,h]anthracene	0.093 mg/m ³
206-44-0	fluoranthene	8.2 mg/m ³
86-73-7	fluorene	6.6 mg/m ³
193-39-5	indeno[1,2,3-cd]pyrene	1.2 mg/m ³
91-20-3	naphthalene	15 ppm

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85-01-8	phenanthrene	5.4 mg/m ³
129-00-0	pyrene	0.15 mg/m ³
· PAC-2:		
108-88-3	toluene	560 ppm
83-32-9	acenaphthene	40 mg/m ³
208-96-8	acenaphthylene	110 mg/m ³
120-12-7	anthracene	530 mg/m ³
56-55-3	benz[a]anthracene	120 mg/m ³
205-99-2	benz[e]acephenanthrylene	1.3 mg/m ³
191-24-2	benzo[ghi]perylene	330 mg/m ³
50-32-8	benzo[a]pyrene	120 mg/m ³
218-01-9	chrysene	12 mg/m ³
53-70-3	dibenz[a,h]anthracene	1 mg/m ³
206-44-0	fluoranthene	90 mg/m ³
86-73-7	fluorene	72 mg/m ³
193-39-5	indeno[1,2,3-cd]pyrene	13 mg/m ³
91-20-3	naphthalene	83 ppm
85-01-8	phenanthrene	59 mg/m ³
129-00-0	pyrene	1.7 mg/m ³
· PAC-3:		
108-88-3	toluene	3700* ppm
83-32-9	acenaphthene	240 mg/m ³
208-96-8	acenaphthylene	660 mg/m ³
120-12-7	anthracene	3,200 mg/m ³
56-55-3	benz[a]anthracene	700 mg/m ³
205-99-2	benz[e]acephenanthrylene	7.9 mg/m ³
191-24-2	benzo[ghi]perylene	2,000 mg/m ³
50-32-8	benzo[a]pyrene	700 mg/m ³
218-01-9	chrysene	69 mg/m ³
53-70-3	dibenz[a,h]anthracene	2.9 mg/m ³
206-44-0	fluoranthene	400 mg/m ³
86-73-7	fluorene	430 mg/m ³
193-39-5	indeno[1,2,3-cd]pyrene	79 mg/m ³
91-20-3	naphthalene	500 ppm
85-01-8	phenanthrene	360 mg/m ³
129-00-0	pyrene	110 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.

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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:
108-88-3 toluene

PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m ³ , 150 ppm Long-term value: 375 mg/m ³ , 100 ppm
TLV	Long-term value: 75 mg/m ³ , 20 ppm BEI

56-55-3 benz[a]anthracene

TLV L; BEIp

205-99-2 benz[e]acephenanthrylene

TLV L; BEIp

50-32-8 benzo[a]pyrene

PEL	Long-term value: 0.2 mg/m ³ see Coal tar pitch volatiles
REL	Long-term value: 0.1 mg/m ³ Coal tar pitch volatile; Pocket Guide Apps. A+C
TLV	L; BEIp

218-01-9 chrysene

PEL	Long-term value: 0.2 mg/m ³ see Coal Tar Pitch Volatiles
REL	Long-term value: 0.1* mg/m ³ *Cyclohexane-extrble.fraction;PocketGuide Apps.A+C
TLV	L, BEIp

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91-20-3 naphthalene

PEL	Long-term value: 50 mg/m ³ , 10 ppm
REL	Short-term value: 75 mg/m ³ , 15 ppm Long-term value: 50 mg/m ³ , 10 ppm
TLV	Long-term value: 52 mg/m ³ , 10 ppm Skin; BEI

· Ingredients with biological limit values:
108-88-3 toluene

BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

56-55-3 benz[a]anthracene

BEI	- Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)
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205-99-2 benz[e]acephenanthrylene

BEI	- Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)
-----	---

50-32-8 benzo[a]pyrene

BEI	- Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)
-----	---

218-01-9 chrysene

BEI	- Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)
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· **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.

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Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

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

· **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: -93 °C (-135.4 °F)

Boiling point/Boiling range: 110-111 °C (230-231.8 °F)

· **Flash point:** 4 °C (39.2 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 535 °C (995 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	7 Vol %
· Vapor pressure at 20 °C (68 °F):	29.1 hPa (21.8 mm Hg)
· Density at 20 °C (68 °F):	0.865 g/cm ³ (7.21843 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water at 15 °C (59 °F):	0.5 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C (68 °F):	0.6 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	96.3 %
VOC content:	96.31 %
	963.1 g/l / 8.04 lb/gal
Solids content:	3.7 %
· 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)		
Inhalative	LC50/4 h	29.2 mg/L (rat)
108-88-3 toluene		
Oral	LD50	5,580 mg/kg (rat)

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Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/L (mouse) 28.1 mg/L (rat)
208-96-8 acenaphthylene		
Oral	LD50	1,760 mg/kg (mouse)
206-44-0 fluoranthene		
Oral	LD50	2,000 mg/kg (rat)
Dermal	LD50	3,180 mg/kg (rabbit)
91-20-3 naphthalene		
Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5,000 mg/kg (rat) 20,000 mg/kg (rabbit)
85-01-8 phenanthrene		
Oral	LD50	700 mg/kg (mouse)
129-00-0 pyrene		
Oral	LD50	2,700 mg/kg (rat)
Inhalative	LC50/4 h	170 mg/L (rat)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** No 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:

Irritant

The product can cause inheritable damage.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

108-88-3	toluene	3
83-32-9	acenaphthene	3
120-12-7	anthracene	3
56-55-3	benz[a]anthracene	2B
205-99-2	benz[e]acephenanthrylene	2B
207-08-9	benzo[k]fluoranthene	2B
191-24-2	benzo[ghi]perylene	3
50-32-8	benzo[a]pyrene	1
218-01-9	chrysene	2B
53-70-3	dibenz[a,h]anthracene	2A
206-44-0	fluoranthene	3
86-73-7	fluorene	3
193-39-5	indeno[1,2,3-cd]pyrene	2B
91-20-3	naphthalene	2B
85-01-8	phenanthrene	3

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

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

14 Transport information

· Not Regulated, De minimus Quantities	-
· UN-Number	
· DOT, IMDG, IATA	UN1294
· UN proper shipping name	
· DOT	Toluene solution
· IMDG	TOLUENE solution, MARINE POLLUTANT
· IATA	TOLUENE solution
· Transport hazard class(es)	
· DOT, IATA	
	
· Class	3 Flammable liquids
· Label	3
· IMDG	
 	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: acenaphthene, benz[a]anthracene
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· Transport in bulk according to Annex II of 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

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<ul style="list-style-type: none"> · 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
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN 1294 TOLUENE SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

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
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Section 313 (Specific toxic chemical listings):

108-88-3	toluene
120-12-7	anthracene
56-55-3	benz[a]anthracene
205-99-2	benz[e]acephenanthrylene
207-08-9	benzo[k]fluoranthene
191-24-2	benzo[ghi]perylene
50-32-8	benzo[a]pyrene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
206-44-0	fluoranthene
193-39-5	indeno[1,2,3-cd]pyrene
91-20-3	naphthalene
85-01-8	phenanthrene

TSCA (Toxic Substances Control Act):

108-88-3	toluene
83-32-9	acenaphthene
208-96-8	acenaphthylene
120-12-7	anthracene
56-55-3	benz[a]anthracene
50-32-8	benzo[a]pyrene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
206-44-0	fluoranthene
86-73-7	fluorene
193-39-5	indeno[1,2,3-cd]pyrene
91-20-3	naphthalene

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85-01-8	phenanthrene
129-00-0	pyrene

· TSCA new (21st Century Act): (Substances not listed)

56-55-3	benz[a]anthracene
205-99-2	benz[e]acephenanthrylene
207-08-9	benzo[k]fluoranthene
191-24-2	benzo[ghi]perylene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
86-73-7	fluorene

· Proposition 65
· Chemicals known to cause cancer:

56-55-3	benz[a]anthracene
205-99-2	benz[e]acephenanthrylene
207-08-9	benzo[k]fluoranthene
50-32-8	benzo[a]pyrene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
193-39-5	indeno[1,2,3-cd]pyrene
91-20-3	naphthalene

· 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:

108-88-3	toluene
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· Carcinogenic categories
· EPA (Environmental Protection Agency)

108-88-3	toluene	II
83-32-9	acenaphthene	A (oral)
208-96-8	acenaphthylene	D
120-12-7	anthracene	D
56-55-3	benz[a]anthracene	B2
205-99-2	benz[e]acephenanthrylene	B2
207-08-9	benzo[k]fluoranthene	B2
191-24-2	benzo[ghi]perylene	D
50-32-8	benzo[a]pyrene	CaH
218-01-9	chrysene	B2
53-70-3	dibenz[a,h]anthracene	B2
206-44-0	fluoranthene	D
86-73-7	fluorene	D

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193-39-5	indeno[1,2,3-cd]pyrene	B2
91-20-3	naphthalene	C, CBD
85-01-8	phenanthrene	D
129-00-0	pyrene	D

· TLV (Threshold Limit Value established by ACGIH)

108-88-3	toluene	A4
56-55-3	benz[a]anthracene	A2
205-99-2	benz[e]acephenanthrylene	A2
50-32-8	benzo[a]pyrene	A2
218-01-9	chrysene	A3
91-20-3	naphthalene	A4

· NIOSH-Ca (National Institute for Occupational Safety and Health)

50-32-8	benzo[a]pyrene
218-01-9	chrysene

· 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.

· Date of preparation / last revision 03/29/2019 / 1

· 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

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

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Skin Irrit. 2: Skin corrosion/irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

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

US