

Safety Data Sheet

acc. to OSHA HCS

Revision date 08/23/2024

1 Identification

- **Product identifier**
- **Product 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

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Germ Cell Mutagenicity 1B

H340 May cause genetic defects.

Carcinogenicity 1A

H350 May cause cancer.

Toxic to Reproduction 1B

H360 May damage fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 2

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

Aspiration Hazard 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure 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

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 1)

· **Signal word** Danger· **Hazard-determining components of labeling:**toluene
benzo[a]pyrene
dibenz[a,h]anthracene
phenanthrene
anthracene· **Hazard statements**H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.· **Precautionary statements**P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P240 Ground/bond container and receiving equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P301+P310 If swallowed: Immediately call a poison center/doctor.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P321 Specific treatment (see on this label).
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a poison center/doctor if you feel unwell.
P363 Wash contaminated clothing before reuse.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P331 Do NOT induce vomiting.
P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 2)

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



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**

· PBT:

50-32-8	benzo[a]pyrene
56-55-3	benz[a]anthracene
120-12-7	anthracene
129-00-0	pyrene
191-24-2	benzo[ghi]perylene
206-44-0	fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene

· vPvB:

50-32-8	benzo[a]pyrene
56-55-3	benz[a]anthracene
85-01-8	phenanthrene
129-00-0	pyrene
191-24-2	benzo[ghi]perylene
206-44-0	fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene

3 Composition/information on ingredients

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

· Dangerous components:

108-88-3	toluene	96.3056%
50-32-8	benzo[a]pyrene	0.2309%
53-70-3	dibenz[a,h]anthracene	0.2309%
56-55-3	benz[a]anthracene	0.2309%
85-01-8	phenanthrene	0.2309%
86-73-7	fluorene	0.2309%

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 3)

91-20-3	naphthalene	0.2309%
120-12-7	anthracene	0.2309%
129-00-0	pyrene	0.2309%
191-24-2	benzo[ghi]perylene	0.2309%
193-39-5	indeno[1,2,3-cd]pyrene	0.2309%
205-99-2	benz[e]acephenanthrylene	0.2309%
206-44-0	fluoranthene	0.2309%
207-08-9	benzo[k]fluoranthene	0.2309%
218-01-9	chrysene	0.2309%

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.

- **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).

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 4)

Dispose contaminated material as waste according to section 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
50-32-8	benzo[a]pyrene	0.6 mg/m ³
53-70-3	dibenz[a,h]anthracene	0.093 mg/m ³
56-55-3	benz[a]anthracene	0.6 mg/m ³
83-32-9	acenaphthene	3.6 mg/m ³
85-01-8	phenanthrene	5.4 mg/m ³
86-73-7	fluorene	6.6 mg/m ³
91-20-3	naphthalene	15 ppm
120-12-7	anthracene	48 mg/m ³
129-00-0	pyrene	0.15 mg/m ³
191-24-2	benzo[ghi]perylene	30 mg/m ³
193-39-5	indeno[1,2,3-cd]pyrene	1.2 mg/m ³
205-99-2	benz[e]acephenanthrylene	0.12 mg/m ³
206-44-0	fluoranthene	8.2 mg/m ³
208-96-8	acenaphthylene	10 mg/m ³
218-01-9	chrysene	0.6 mg/m ³

· **PAC-2:**

108-88-3	toluene	560 ppm
50-32-8	benzo[a]pyrene	120 mg/m ³
53-70-3	dibenz[a,h]anthracene	1 mg/m ³
56-55-3	benz[a]anthracene	1.4 ppm
83-32-9	acenaphthene	40 mg/m ³
85-01-8	phenanthrene	1.8 ppm
86-73-7	fluorene	72 mg/m ³
91-20-3	naphthalene	83 ppm
120-12-7	anthracene	530 mg/m ³
129-00-0	pyrene	1.7 ppm
191-24-2	benzo[ghi]perylene	330 mg/m ³
193-39-5	indeno[1,2,3-cd]pyrene	13 mg/m ³
205-99-2	benz[e]acephenanthrylene	1.3 mg/m ³
206-44-0	fluoranthene	8.0 ppm
208-96-8	acenaphthylene	110 mg/m ³
218-01-9	chrysene	12 mg/m ³

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 5)

· PAC-3:		
108-88-3	toluene	3700* ppm
50-32-8	benzo[a]pyrene	700 mg/m ³
53-70-3	dibenz[a,h]anthracene	2.9 mg/m ³
56-55-3	benz[a]anthracene	8.5 ppm
83-32-9	acenaphthene	240 mg/m ³
85-01-8	phenanthrene	10 ppm
86-73-7	fluorene	430 mg/m ³
91-20-3	naphthalene	500 ppm
120-12-7	anthracene	3,200 mg/m ³
129-00-0	pyrene	10 ppm
191-24-2	benzo[ghi]perylene	2,000 mg/m ³
193-39-5	indeno[1,2,3-cd]pyrene	79 mg/m ³
205-99-2	benz[e]acephenanthrylene	7.9 mg/m ³
206-44-0	fluoranthene	48 ppm
208-96-8	acenaphthylene	660 mg/m ³
218-01-9	chrysene	69 mg/m ³

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 section 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 6)

At this time, the other constituents have no known exposure limits.

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: 20 ppm BEI, OTO, A4

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, A2

56-55-3 benz[a]anthracene

TLV	L; BEI-P, A2
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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: 10 ppm Skin; BEI, A3

205-99-2 benz[e]acephenanthrylene

TLV	L; BEIp, A2
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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, A3

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)

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 7)

50-32-8 benzo[a]pyrene

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

56-55-3 benz[a]anthracene

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

91-20-3 naphthalene

BEI	-
	Medium: -
	Time: end of shift
	Parameter: 1-Naphthol with hydrolysis + 2-Naphthol with hydrolysis (Nq,Ns)

205-99-2 benz[e]acephenanthrylene

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)

· **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 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

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 8)

- **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):** Highly flammable.

- **Auto igniting:** 535 °C (995 °F)

- **Decomposition temperature:** Not determined.

- **Ignition temperature:** 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:	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/cm³ (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

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 9)

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:**

108-88-3 toluene

Oral	LD50	5,580 mg/kg (rat)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/L (mouse)
		28.1 mg/L (rat)

85-01-8 phenanthrene

Oral	LD50	700 mg/kg (mouse)
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91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5,000 mg/kg (rat)
		20,000 mg/kg (rabbit)

129-00-0 pyrene

Oral	LD50	2,700 mg/kg (rat)
Inhalative	LC50/4 h	170 mg/L (rat)

206-44-0 fluoranthene

Oral	LD50	2,000 mg/kg (rat)
Dermal	LD50	3,180 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 10)

· **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
50-32-8	benzo[a]pyrene	1
53-70-3	dibenz[a,h]anthracene	2A
56-55-3	benz[a]anthracene	2B
83-32-9	acenaphthene	3
85-01-8	phenanthrene	3
86-73-7	fluorene	3
91-20-3	naphthalene	2B
120-12-7	anthracene	2B
129-00-0	pyrene	3
191-24-2	benzo[ghi]perylene	3
193-39-5	indeno[1,2,3-cd]pyrene	2B
205-99-2	benz[e]acephenanthrylene	2B
206-44-0	fluoranthene	3
207-08-9	benzo[k]fluoranthene	2B
218-01-9	chrysene	2B

· **NTP (National Toxicology Program)**

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

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

None of the ingredients is listed.

US

(Contd. on page 12)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 11)

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:	
50-32-8	benzo[a]pyrene
56-55-3	benz[a]anthracene
120-12-7	anthracene
129-00-0	pyrene
191-24-2	benzo[ghi]perylene
206-44-0	fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene

· vPvB:	
50-32-8	benzo[a]pyrene
56-55-3	benz[a]anthracene
85-01-8	phenanthrene
129-00-0	pyrene
191-24-2	benzo[ghi]perylene
206-44-0	fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene

- **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 13)

Safety Data Sheet

acc. to OSHA HCS





Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 12)

14 Transport information

· Not Regulated, De minimis Quantities	-
· UN-Number · DOT, IMDG, IATA	UN1294
· UN proper shipping name · DOT · IMDG · IATA	Toluene solution TOLUENE solution, MARINE POLLUTANT TOLUENE solution
· Transport hazard class(es) · DOT	
	
· Class · Label	3 Flammable liquids 3
· IMDG	
 	
· Class · Label	3 Flammable liquids 3
· IATA	
	
· Class · Label	3 Flammable liquids 3
· Packing group · DOT, IMDG, IATA	II
· Environmental hazards: · Marine pollutant:	Product contains environmentally hazardous substances: acenaphthene, benz[a]anthracene Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids 33 F-E,S-D B
· Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code	Not applicable.

(Contd. on page 14)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 13)

· Transport/Additional information:
· DOT
· Quantity limitations

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

· 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 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

· Section 313 (Specific toxic chemical listings):

108-88-3 toluene

50-32-8 benzo[a]pyrene

53-70-3 dibenz[a,h]anthracene

56-55-3 benz[a]anthracene

85-01-8 phenanthrene

91-20-3 naphthalene

120-12-7 anthracene

191-24-2 benzo[ghi]perylene

193-39-5 indeno[1,2,3-cd]pyrene

205-99-2 benz[e]acephenanthrylene

206-44-0 fluoranthene

207-08-9 benzo[k]fluoranthene

218-01-9 chrysene

· TSCA (Toxic Substances Control Act):

108-88-3 toluene

ACTIVE

50-32-8 benzo[a]pyrene

ACTIVE

53-70-3 dibenz[a,h]anthracene

ACTIVE

56-55-3 benz[a]anthracene

ACTIVE

83-32-9 acenaphthene

ACTIVE

85-01-8 phenanthrene

ACTIVE

86-73-7 fluorene

ACTIVE

91-20-3 naphthalene

ACTIVE

(Contd. on page 15)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 14)

120-12-7	anthracene	ACTIVE
129-00-0	pyrene	ACTIVE
193-39-5	indeno[1,2,3-cd]pyrene	ACTIVE
206-44-0	fluoranthene	ACTIVE
208-96-8	acenaphthylene	ACTIVE
218-01-9	chrysene	ACTIVE

· Hazardous Air Pollutants

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

· Proposition 65
· Chemicals known to cause cancer:

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

· 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
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(Contd. on page 16)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 15)

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

· TLV (Threshold Limit Value)

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

· 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.

· Contact:
· Date of preparation / last revision 08/23/2024 / 3

· Abbreviations and acronyms:

ADR: Accord relatif au transport international 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

(Contd. on page 17)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/23/2024

Revision date 08/23/2024

Product Name: PAH Standard (1X1 mL)

(Contd. of page 16)

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
Flammable Liquids 2: Flammable liquids – Category 2
Skin Irritation 2: Skin corrosion/irritation – Category 2
Sensitization - Skin 1: Skin sensitisation – Category 1
Germ Cell Mutagenicity 1B: Germ cell mutagenicity – Category 1B
Carcinogenicity 1A: Carcinogenicity – Category 1A
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
Aspiration Hazard 1: Aspiration hazard – Category 1

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

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