

according to 1907/2006/EC, Article 31

Printing date 27.07.2021

Revision: 27.07.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: MIX A LC 610 PAH CALIBRATION**
- **Article number: 00891543**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.
710 Bridgeport Avenue
Shelton, Connecticut 06484 USA
CustomerCareUS@perkinelmer.com
203-925-4600

PerkinElmer, Inc.
Chalfont Road Buckinghamshire
Seer Green HP9 2FX
cc.uk@perkinelmer.com
United Kingdom
P: 0800 896 046
F: 0800-89 17 14

PerkinElmer, Inc.
Llantrisant Business Park, Unit A
Llantrisant CF72 8YW
United Kingdom
cc.uk@perkinelmer.com
P: 44 1443 234005

- **1.4 Emergency telephone number:**
CHEMTREC (within US) 800-424-9300
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
CHEMTREC (within AU) +(61)-290372994

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

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



GHS08 health hazard

Carc. 1B H350 May cause cancer.

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GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms** GHS02, GHS07, GHS08, GHS09

· **Signal word** Danger

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

dichloromethane

dibenz[a,h]anthracene

benzo[a]pyrene

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H350 May cause cancer.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

· **PBT:**

120-12-7	anthracene
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· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

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

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· Dangerous components:		
CAS: 75-09-2 EINECS: 200-838-9	dichloromethane ☠ Carc. 2, H351 ⚠ Acute Tox. 4, H302	98.79%
CAS: 120-12-7 EINECS: 204-371-1	anthracene non-classified PBT substance	0.1%
CAS: 208-96-8 EINECS: 205-917-1	acenaphthylene ⚠ Acute Tox. 1, H310; Acute Tox. 1, H330	0.1%
CAS: 50-32-8 EINECS: 200-028-5	benzo[a]pyrene ☠ Muta. 1B, H340; Carc. 1B, H350; Repr. 1B, H360FD ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Skin Sens. 1, H317	0.05%
CAS: 53-70-3 EINECS: 200-181-8	dibenz[a,h]anthracene ☠ Carc. 1B, H350 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.05%
CAS: 56-55-3 EINECS: 200-280-6	benz[a]anthracene ☠ Carc. 1B, H350 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.05%
· Additional Components		
CAS: 83-32-9 EINECS: 201-469-6	acenaphthene	0.1%
CAS: 86-73-7 EINECS: 201-695-5	fluorene	0.1%
CAS: 90-12-0 EINECS: 201-966-8	1-methylnaphthalene ⚠ Acute Tox. 4, H302	0.1%
CAS: 91-57-6 EINECS: 202-078-3	2-methylnaphthalene ⚠ Acute Tox. 4, H302	0.1%
CAS: 85-01-8 EINECS: 201-581-5	phenanthrene, pure ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	0.05%
CAS: 129-00-0 EINECS: 204-927-3	pyrene	0.05%
CAS: 191-24-2	Benzo(g,h,i)perylene	0.05%
CAS: 193-39-5 EINECS: 205-893-2	indeno[1,2,3-cd]pyrene	0.05%
CAS: 205-82-3 EINECS: 205-910-3	benzo[j]fluoranthene ☠ Carc. 1B, H350 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.05%
CAS: 205-99-2 EINECS: 205-911-9	benz[e]acephenanthrylene ☠ Carc. 1B, H350 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.05%
CAS: 206-44-0 EINECS: 205-912-4	fluoranthene ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H332	0.05%
CAS: 207-08-9 EINECS: 205-916-6	benzo[k]fluoranthene ☠ Carc. 1B, H350 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.05%

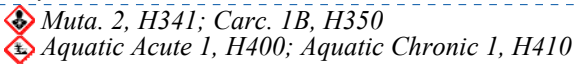
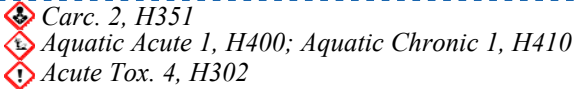
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CAS: 218-01-9 EINECS: 205-923-4	<i>chrysene</i> 	0.05%
CAS: 91-20-3 EINECS: 202-049-5	<i>naphthalene</i> 	0.01%

· **SVHC**

120-12-7 | *anthracene*

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 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.

· **After swallowing:** Call for a doctor immediately.

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

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.

· **5.3 Advice for firefighters**

· **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Prevent seepage into sewage system, workpits and cellars.

· **6.3 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.

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- Ensure adequate ventilation.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **7.2 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 container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:

75-09-2 dichloromethane

WEL	Short-term value: 706 mg/m ³ , 200 ppm Long-term value: 353 mg/m ³ , 100 ppm BMGV, Sk
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Ingredients with biological limit values:

75-09-2 dichloromethane

BMGV	30 ppm Medium: end-tidal breath Sampling time: post shift Parameter: carbon monoxide
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- **Additional information:** The lists valid during the making were used as basis.

- **8.2 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.

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Store protective clothing separately.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Liquid
· Colour:	Transparent
· Odour:	Like alcohol
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/freezing point:	-95.1 °C
· Initial boiling point and boiling range:	64 °C

· **Flash point:** 11 °C

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

· **Ignition temperature:** 605 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

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· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	13 Vol %
Upper:	22 Vol %
· Vapour pressure at 20 °C:	453 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water at 20 °C:	20 g/l
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	98.8 %
Solids content:	0.1 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

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

75-09-2 dichloromethane

Oral	LD50	1600 mg/kg (rat)
Inhalative	LC50/4 h	88 mg/l (rat)

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- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
May cause cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**

· **PBT:**

120-12-7	anthracene
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- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

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

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SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1993
· 14.2 UN proper shipping name · ADR · IMDG · IATA	1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (1-methylnaphthalene, NAPHTHALENE, CRUDE), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (1-methylnaphthalene, NAPHTHALENE, CRUDE), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (1-methylnaphthalene, NAPHTHALENE, CRUDE)
· 14.3 Transport hazard class(es) · ADR	
· Class · Label	3 (F1) Flammable liquids. 3
· IMDG	
· Class · Label	3 Flammable liquids. 3
· IATA	
	
· Class · Label	3 Flammable liquids. 3
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Product contains environmentally hazardous substances: benz[a]anthracene, dibenz[a,h]anthracene No Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number:	Warning: Flammable liquids. 33 F-E,S-E

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· Stowage Category	B
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· 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
· Transport category	2
· Tunnel restriction code	D/E
· 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 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (1-METHYLNAPHTHALENE, NAPHTHALENE, CRUDE), 3, II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

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

CAS: 75-09-2 EINECS: 200-838-9	dichloromethane	 Carc. 2, H351 Acute Tox. 4, H302	98.79%
CAS: 83-32-9 EINECS: 201-469-6	acenaphthene		0.1%
CAS: 86-73-7 EINECS: 201-695-5	fluorene		0.1%

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)		
50-32-8	benzo[a]pyrene	Annex III Part B
193-39-5	indeno[1,2,3-cd]pyrene	Annex III Part B
205-99-2	benz[e]acephenanthrylene	Annex III Part B
207-08-9	benzo[k]fluoranthene	Annex III Part B

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· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 28, 50a, 50c, 50h, 59, 72

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **National regulations:**

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

· **Information about limitation of use:**

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

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.

· **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

· **Substances of very high concern (SVHC) according to REACH, Article 57**

120-12-7 | anthracene

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

SECTION 16: Other information

Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**

H302 Harmful if swallowed.

H310 Fatal in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H330 Fatal if inhaled.

H332 Harmful if inhaled.

H340 May cause genetic defects.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H351 Suspected of causing cancer.

H360FD May damage fertility. May damage the unborn child.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· **Department issuing SDS:**

Environmental, Health and Safety

PerkinElmer

Chalfont Road

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Seer Green

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· Contact:

Within the USA: 1-(800)-762-4000

Outside the USA: 1-(203)-712-8488

· Abbreviations and acronyms

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 1: Acute toxicity – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 1B: Germ cell mutagenicity – Category 1B

Carc. 1B: Carcinogenicity – Category 1B

Carc. 2: Carcinogenicity – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· * Data compared to the previous version altered.