

1 Identification

- **Product identifier**
- **Trade name:** MIX A LC 610 PAH CALIBRATION
- **Article number** 00891543
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.
710 Bridgeport Avenue
Shelton, Connecticut 06484 USA
CustomerCareUS@perkinelmer.com

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

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2 H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Carcinogenicity - Category 1B H350 May cause cancer.



GHS09 Environment

Aquatic Chronic 2

H411 Toxic to aquatic life with long lasting effects.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS02, GHS08, GHS09
- **Signal word** Danger

- **Hazard-determining components of labeling:**

dichloromethane
benzo[a]pyrene
dibenz[a,h]anthracene

- **Hazard statements**

H225 Highly flammable liquid and vapour.
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 / eye protection / face protection.
P240 Ground and bond container and receiving equipment.

(Contd. on page 2)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 1)

- P233 *Keep container tightly closed.*
- 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.*

- **Hazard description:**
- **WHMIS-symbols:**
B2 - Flammable liquid
D2A - Very toxic material causing other toxic effects



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



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

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

- **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, pure
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- **vPvB:** Not applicable.

3 Composition/information on ingredients

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

· **Hazardous components:**

75-09-2	dichloromethane	60-100%
208-96-8	acenaphthylene	0.1-<1%
120-12-7	anthracene, pure	0.1-≤1%
56-55-3	benz[a]anthracene	0.025-<0.1%
50-32-8	benzo[a]pyrene	0.01-<0.1%
53-70-3	dibenz[a,h]anthracene	0.025-<0.25%

· **Additional Components**

90-12-0	1-methylnaphthalene	0.1-≤1%
91-57-6	2-methylnaphthalene	0.1-≤1%
83-32-9	acenaphthene	0.1-≤1%

(Contd. on page 3)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 2)

86-73-7	fluorene	0.1-≤1%
205-99-2	benz[e]acephenanthrylene	<0.1%
191-24-2	Benzo(g,h,i)perylene	<0.1%
205-82-3	benzo[j]fluoranthene	<0.1%
207-08-9	benzo[k]fluoranthene	<0.1%
218-01-9	chrysene	<0.1%
206-44-0	fluoranthene	<0.1%
193-39-5	indeno[1,2,3-cd]pyrene	<0.1%
85-01-8	phenanthrene, pure	<0.1%
129-00-0	pyrene	<0.1%
91-20-3	naphthalene	<0.1%
· SVHC		
120-12-7	anthracene, pure	

4 First-aid measures

· **Description of first aid measures**

· **General information:**

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult 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, sand, extinguishing powder. Do not use water.

· **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:** Mouth respiratory protective device.

6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

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

Prevent seepage into sewage system, workpits and cellars.

(Contd. on page 4)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 3)

- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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

75-09-2 dichloromethane	
EL	Long-term value: 25 ppm IARC 2B
EV	Long-term value: 175 mg/m ³ , 50 ppm
56-55-3 benz[a]anthracene	
EL	ACGIH A2; IARC 2B
50-32-8 benzo[a]pyrene	
EL	ACGIH A2; IARC 1

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.

(Contd. on page 5)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 4)

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

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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 or safety glasses

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

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

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/Melting range:	-95.1 °C
· Boiling point/Boiling range:	64 °C

· **Flash point:** ≤ 21 °C

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

· **Ignition temperature:** 605 °C

· **Decomposition temperature:** Not determined.

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

(Contd. on page 6)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 5)

· Danger of explosion:	<i>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</i>
· Explosion limits:	
Lower:	13 Vol %
Upper:	22 Vol %
· Vapor pressure at 20 °C:	453 hPa
· Density at 20 °C:	1.33 g/cm ³
· Relative density	<i>Not determined.</i>
· Vapour density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with Water at 20 °C:	20 g/l
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
· Solvent content:	
Organic solvents:	98.8 %
Solids content:	0.1 %
· Other information	<i>No further relevant information available.</i>

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:**

75-09-2 dichloromethane

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

- **Primary irritant effect:**
- **on the skin:** *No irritant effect.*
- **on the eye:** *No 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

(Contd. on page 7)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 6)

Carcinogenic.

· **Carcinogenic categories**

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

75-09-2	dichloromethane	2B
83-32-9	acenaphthene	3
120-12-7	anthracene, pure	3
86-73-7	fluorene	3
56-55-3	benz[a]anthracene	2B
50-32-8	benzo[a]pyrene	1
205-99-2	benz[e]acephenanthrylene	2B
191-24-2	Benzo(g,h,i)perylene	3
205-82-3	benzo[j]fluoranthene	2B
207-08-9	benzo[k]fluoranthene	2B
218-01-9	chrysene	2B
53-70-3	dibenz[a,h]anthracene	2A
206-44-0	fluoranthene	3
193-39-5	indeno[1,2,3-cd]pyrene	2B
85-01-8	phenanthrene, pure	3

· **NTP (National Toxicology Program)**

75-09-2	dichloromethane	R
56-55-3	benz[a]anthracene	R
50-32-8	benzo[a]pyrene	R
205-99-2	benz[e]acephenanthrylene	R
205-82-3	benzo[j]fluoranthene	R
207-08-9	benzo[k]fluoranthene	R
53-70-3	dibenz[a,h]anthracene	R
193-39-5	indeno[1,2,3-cd]pyrene	R
91-20-3	naphthalene	R

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

75-09-2	dichloromethane	
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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.

· **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.

(Contd. on page 8)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 7)

Toxic for aquatic organisms
· **Results of PBT and vPvB assessment**

· **PBT:**

120-12-7 | anthracene, pure

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Dispose of container and materials in accordance with local, regional and national regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT, TDG, IMDG, IATA** UN1993

· **UN proper shipping name**

· **DOT, TDG**

Flammable liquids, n.o.s. (1-methylnaphthalene, Naphthalene, crude)

· **IMDG**

FLAMMABLE LIQUID, N.O.S. (1-methylnaphthalene, NAPHTHALENE, CRUDE), MARINE POLLUTANT

· **IATA**

FLAMMABLE LIQUID, N.O.S. (1-methylnaphthalene, NAPHTHALENE, CRUDE)

· **Transport hazard class(es)**

· **DOT**



· **Class**

3 Flammable liquids

· **Label**

3

· **TDG (Transport dangerous goods):**



· **Class**

3 (F1) Flammable liquids

· **Label**

3

(Contd. on page 9)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 8)

· **IMDG, IATA**



· **Class** 3 Flammable liquids
· **Label** 3

· **Packing group**
· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Product contains environmentally hazardous substances: benz[a]anthracene, dibenz[a,h]anthracene
· **Marine pollutant:** No

· **Special precautions for user** Warning: Flammable liquids
· **Danger code (Kemler):** 33
· **EMS Number:** F-E,S-E

· **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

· **TDG**
· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **IMDG**
· **Limited quantities (LQ)** 1L
· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1993 FLAMMABLE LIQUIDS, N.O.S. (1-METHYLNAPHTHALENE, NAPHTHALENE, CRUDE), 3, II

15 Regulatory information

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

75-09-2	dichloromethane	60-100%
90-12-0	1-methylnaphthalene	0.1-≤1%
91-57-6	2-methylnaphthalene	0.1-≤1%

· **Sara**

· **Section 355 (extremely hazardous substances):**

129-00-0	pyrene
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· **Section 313 (Specific toxic chemical listings):**

75-09-2	dichloromethane
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(Contd. on page 10)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 9)

120-12-7	anthracene, pure
56-55-3	benz[a]anthracene
50-32-8	benzo[a]pyrene
205-99-2	benz[e]acephenanthrylene
191-24-2	Benzo(g,h,i)perylene
205-82-3	benzo[j]fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
206-44-0	fluoranthene
193-39-5	indeno[1,2,3-cd]pyrene
85-01-8	phenanthrene, pure
91-20-3	naphthalene

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

75-09-2	dichloromethane
90-12-0	1-methylnaphthalene
91-57-6	2-methylnaphthalene
83-32-9	acenaphthene
208-96-8	acenaphthylene
120-12-7	anthracene, pure
86-73-7	fluorene
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
193-39-5	indeno[1,2,3-cd]pyrene
85-01-8	phenanthrene, pure
129-00-0	pyrene

· **Proposition 65**

· **Chemicals known to cause cancer:**

75-09-2	dichloromethane
56-55-3	benz[a]anthracene
50-32-8	benzo[a]pyrene
205-99-2	benz[e]acephenanthrylene
205-82-3	benzo[j]fluoranthene
207-08-9	benzo[k]fluoranthene
218-01-9	chrysene
53-70-3	dibenz[a,h]anthracene
193-39-5	indeno[1,2,3-cd]pyrene
91-20-3	naphthalene

(Contd. on page 11)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 10)

· 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.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

75-09-2	dichloromethane	L
91-57-6	2-methylnaphthalene	I
83-32-9	acenaphthene	A (oral)
208-96-8	acenaphthylene	D
120-12-7	anthracene, pure	D
86-73-7	fluorene	D
56-55-3	benz[a]anthracene	B2
50-32-8	benzo[a]pyrene	B2
205-99-2	benz[e]acephenanthrylene	B2
191-24-2	Benzo(g,h,i)perylene	D
207-08-9	benzo[k]fluoranthene	B2
218-01-9	chrysene	B2
53-70-3	dibenz[a,h]anthracene	B2
206-44-0	fluoranthene	D
193-39-5	indeno[1,2,3-cd]pyrene	B2

· TLV (Threshold Limit Value established by ACGIH)

75-09-2	dichloromethane	A3
90-12-0	1-methylnaphthalene	A4
91-57-6	2-methylnaphthalene	A4
56-55-3	benz[a]anthracene	A2
50-32-8	benzo[a]pyrene	A2
205-99-2	benz[e]acephenanthrylene	A2
218-01-9	chrysene	A3
91-20-3	naphthalene	A4

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

75-09-2	dichloromethane
50-32-8	benzo[a]pyrene
218-01-9	chrysene

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

75-09-2	dichloromethane
90-12-0	1-methylnaphthalene
91-57-6	2-methylnaphthalene
83-32-9	acenaphthene

(Contd. on page 12)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 11)

120-12-7	anthracene, pure
86-73-7	fluorene
50-32-8	benzo[a]pyrene
218-01-9	chrysene
85-01-8	phenanthrene, pure
129-00-0	pyrene
91-20-3	naphthalene

· **Canadian Ingredient Disclosure list (limit 0.1%)**

75-09-2	dichloromethane
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· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

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

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

· **Signal word** Danger

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

dichloromethane

benzo[a]pyrene

dibenz[a,h]anthracene

· **Hazard statements**

H225 Highly flammable liquid and vapour.

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 / eye protection / face protection.

P240 Ground and bond container and receiving equipment.

P233 Keep container tightly closed.

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.

· **National regulations:**

· **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.

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

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

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

(Contd. on page 13)

Trade name: MIX A LC 610 PAH CALIBRATION

(Contd. of page 12)

should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer shall not be held liable for any damage resulting from handling or from contact with the product.

· **Contact:**

With in the USA: 1-(800)-762-4000

Out side the USA: 1-(203)-712-8488

· **Date of preparation / last revision 08/07/2015 / -**

· **Abbreviations and acronyms:**

ICAO: International Civil Aviation Organisation

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)

WHMIS: Workplace Hazardous Materials Information System (Canada)

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

Flammable Liquids - Category 2: Flammable liquids, Hazard Category 2

Carcinogenicity - Category 1B: Carcinogenicity, Hazard Category 1B

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

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