Safety data sheet

format according to Regulation (EC) No.1907/2006 (REACH)

Trade name: Calibration liquid PAH 50 µg/L

Revision:	-	**Date of compilation:**	25.08.2022
Version:	1 en	**Replaces version of:**	-

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

1.1 Product identifier

Identification of the substance:	Calibration liquid PAH 50 µg/L
Registration number (REACH):	This substance is exempted under Article 2(7) and Annex V of REACH.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:	Calibration of a PAH fluorometer.

1.3 Details of the supplier of the safety data sheet

Supplier:	TriOS Mess- und Datentechnik GmbH
Address:	Bürgermeister-Brötje-Straße 25, 26180 Rastede, Germany
Telephone:	+49 (0) 4402 69670-0
Fax:	+49 (0)4402 69670-20
E-Mail:	safety@trios.de
Website:	www.trios.de

Competent person responsible for the safety data sheet:

E-Mail:	safety@trios.de

1.4 Emergency telephone number

Telephone number:	Giftinformationszentrum Nord (Germany) +49 551-19240

Section 2: Hazards identification

2.1 Classification of the substance or mixture

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 Label elements

Hazard pictograms:	None.
Signal word:	None.
Hazard statements:	None.
Safety instructions:	P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

This substance/mixture does not contain components classified as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting or endocrine disrupting properties are not known.

Section 3: Composition/information on ingredients

3.2 Mixtures

Name of substance:	Phenanthrene	Ethanol	Water
CAS-No:	85-01-8	64-17-5	7732-18-5
EC No:	201-581-5	200-17-5	-
Registration number (REACH):	-	01-2119457610-43-xxxx	-
Ratio:	<0.1 %	<0.1 %	>99 %
Classification according to Regulation (EC) No 1272/2008:	Acute Tox. 4, H302	Flam. Liq. 2, H225	
	Aquatic Chronic 1, H410	Eye Irrit. 2, H319	
	Aquatic Acute 1, H400		

For full text of abbreviations: see section 16.

Section 4: First aid measures

4.1 Description of first aid measures

General notes:	No special measures are necessary.
Following inhalation:	Provide fresh air.
Following skin contact:	Clear with water.
Following eye contact:	Rinse cautiously with water for several minutes.
Following ingestion:	Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

None.

Section 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:	Match the extinguishing measures to the surrounding area. Standard extinguishing agents such as carbon dioxide, foam, powder and water mist can be used.
Unsuitable extinguishing media:	None.

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5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released: Carbon monoxide, Carbon dioxide (CO_2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

Section 6: Accidental release measure

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:	Use appropriate protective equipment in accordance with Section 8 to prevent contamination of skin, eyes, and personal clothing.
Operational forces:	Protective equipment see section 8.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid binders, universal binders, sawdust) and place in suitable container for disposal.

Rinse residues with water.

6.4 Reference to other sections

For information on safe handling, see section 7.

For information on personal protective equipment, see section 8.

For information on disposal, see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

Read the safety data sheet, before handling the product.

Avoid releasing the mixture into the environment.

Keep the product away from food.

7.2 Conditions for safe storage, including any incompatibilities

Information on the storage condition:	Keep container tightly closed. Observe hints for combined storage.
Special designs for storage rooms and containers:	Recommended storage temperature 15-25 °C

7.3 Specific end use(s)

No information available.

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Section 8: Exposure controls/personal protection

8.1 Control parameters

National limit values (Germany)

Occupational exposure limit values (Workplace Exposure Limits):

Name of substance	CAS-Nr.	SMW [ppm]	SMW [mg/m³]	KZW [ppm]	KZW [mg/m³]	Remark	Data Source
Ethanol	64-17-5	200	380	800	1,520	Y	TRGS 900

Note:

KZW (=Kurzzeitwert; Limit value for short-term exposure): The limit value is not to be exceeded, based on a duration of 15 minutes (unless otherwise specified).

SMW (Schichtmittelwert; Limit value for long-term exposure): The time-weighted average measured or calculated for a reference period of eight hours (unless otherwise specified).

Y: The substance is not teratogenic, if you work within the occupational exposure limit value and the biological limit value (BGW).

Relevant DNELs and other threshold levels of the component ethanol (64-17-5)

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	1,900 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	343 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
DNEL	950 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant PNECs and other threshold levels of the component ethanol (64-17-5)

Endpoint	Threshold level [mg/cm³]	Organism	Environmental compartment	Exposure time
PNEC	0.79	unknown	marine water	intermittent release
PNEC	2.75	unknown	air	intermittent release
PNEC	3.60	unknown	freshwater sediment	intermittent release
PNEC	580	unknown	sewage treatment plant (STP)	intermittent release
PNEC	0.63	unknown	soil	intermittent release
PNEC	0.96	unknown	freshwater	intermittent release

8.2 Exposure controls

Suitable technical control device	Not required
Individual protection measures (personal protective equipment)	Eye/face protection: Use safety goggle with side protection.
	Hand protection: The hand protection material must be impermeable and resistant to the substance.
	Respiratory protection: not required
Limitation and monitoring of environmental exposure:	Keep away from drains, surface and ground water.

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Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	Slightly after alcohol
Melting point/Freezing point:	No data available.
Boiling point or initial boiling point and boiling range:	No data available.
Flammability:	No data available.
Lower and upper explosion limits:	No data available.
Flash point:	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH value:	No data available.
Kinematic viscosity:	No data available.
Solubility:	Completely mixable.
Partition coefficient: n-octanol/water:	No data available.
Vapour pressure:	No data available.
Density:	About 1.0 $\frac{g}{cm^3}$ at 20 °C
relative vapour density:	No data available.
Particle characteristics:	Not applicable.

9.2 Other Information

None.

Section 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient conditions of temperature.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

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10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

Section 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity:	Shall not be classified as acutely toxic.
Skin corrosion/irritation:	Shall not be classified as corrosive/irritant to skin.
Serious eye damage/ Eye irritation:	Shall not be classified as seriously damaging to the eye or eye irritant.
Respiratory or skin sensitisation:	Shall not be classified as a respiratory or skin sensitiser.
Germ cell mutagenicity:	Shall not be classified as germ cell mutagenic.
Carcinogenicity:	Shall not be classified as carcinogenic.
Reproductive toxicity:	Shall not be classified as a reproductive toxicant.
Specific target organ toxicity (single exposure):	Shall not be classified as a specific target organ toxicant (single exposure).
Specific target organ toxicity (repeated exposure):	Shall not be classified as a specific target organ toxicant (repeated exposure).
Aspiration hazard:	Shall not be classified as presenting an aspiration hazard.

Information on the substances contained in the mixture:

Ethanol:

Acute toxicity:

Exposure route	Endpoint	Value	Species	Method
inhalation: vapour	LC50	95.6 mg/L/4h	rat	No specification
oral	LD50	7,060 mg/kg	rat	No specification

Serious eye damage/irritation: Ethanol Causes severe eye irritation.

Phenanthrene :

Acute toxicity:

Exposure route	Endpoint	Value	Species	Method
oral	LD50	700 mg/kg	mc	No specification

Respiratory/skin sensitization: Produces photosensitivity. Exposure to light may cause allergic reactions causing dermatological damage (sunburn, blisters, etc.).

11.2 Information about other hazards

There is no other information available.

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Section 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

This substance/mixture does not contain any components at concentrations of 0.1 % or higher that are classified as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

Data are not available.

Information on the substances contained in the mixture:

Ethanol:

Aquatic toxicity:

Endpoint	Value	Species	Exposure time
LC50	8,140 mg/L	*Leuciscus idus*	96 h
EC50	9,000–14,000 mg/L	*Daphnia magna*	48 h

Bioaccumulative potential:

Does not significantly accumulate in organisms. (n-octanol/water (log KOW): -0,31)

Phenanthrene:

Aquatic toxicity:

Endpoint	Value	Species	Exposure time
LC50	3.2 mg/L	*Oncorhynchus mykiss*	96 h
EC50	0.35 mg/L	*Daphnia pulex*	48 h

Bioaccumulative potential:

Pimephales promelas – 28 d – 0.00255 mg/L

Bioconcentration factor (BCF): 5,100

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Section 13: Disposal considerations

13.1 Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal. Do not allow to enter drains.

Section 14: Transport information

The product is not dangerous, according to the regulations in force in the field of road transport of dangerous goods (ADR), by rail (RID), by sea (IMDG Code) and by air (IATA).

14.1 UN number or ID number

Not subject to transport regulations.

14.2 UN proper shipping name

Not assigned.

14.3 Transport hazard class(es)

None.

14.4 Packing group

Not assigned.

14.5 Environmental hazards

Non-environmentally hazardous acc. to the dangerous goods regulations.

14.6 Special precautions for user

There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Section 15: Regulatory information

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

Relevant provisions of the European Union (EU):	Not listed.
National inventories	Follow national regulation for work with chemical agents. Germany: Water hazard class (WGK): not hazardous to water Storage class (LGK) according to TRGS 510: 12 (non-flammable liquids)

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

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Section 16: Other information

Indication of changes (revised safety data sheet):

No changes have been made yet.

List of relevant phrases (code and full text as stated in section 2 and 3):

H302	Acute Tox. 4	Harmful if swallowed.
H410	Aquatic Chronic 1	Very toxic to aquatic life with long lasting effects.
H400	Aquatic Acute 1	Very toxic to aquatic life.
H225	Flam. Liq. 2	Highly flammable liquid and vapour.
H319	Eye Irrit. 2	Causes serious eye irritation.

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Abkürzungen und Akronyme:	
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways).
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road).
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances).
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
DGR	Dangerous Goods Regulations (see IATA/DGR).
DNEL	Derived No-Effect Level.
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (eg on growth) during a specified time interval.
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union).
EINECS	European Inventory of Existing Commercial Chemical Substances.
ELINCS	European List of Notified Chemical Substances.
IATA	International Air Transport Association.
IMDG	International Maritime Dangerous Goods Code.
KZW	Kurzzeitwert (Limit value for short-term exposure): Limit value not to be exceeded, based on a duration of 15 minutes (unless otherwise specified).
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval.
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval.
LGK	Lagerklasse gemäß TRGS 510, Germany (Storage class).
PAH	polycyclic aromatic hydrocarbons.
PBT	Persistent, Bioaccumulative and Toxic.
PNEC	Predicted No-Effect Concentration.
ppm	Parts per million.
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail).
SMW	Schichtmittelwert (Limit value for long-term exposure): Time-weighted average measured or calculated for a reference period of eight hours (unless otherwise specified).
TRGS	Technische Regeln für GefahrStoffe; Germany (Technical Rules for Hazardous Substances).
vPvB	Very Persistent and very Bioaccumulative.

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Key literature references and sources for data:

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.
Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations

concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Technical Rules for Hazardous Substances (TRGS)

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