

According to EC Directive 91/155/EEC

Date of print: 09.08.2001

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1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No.: 101583
Product name: Caffeine / Pyrene Standards Kit for Instruments PQ / OQ
Pyrenlösung 3mg/l in Methanol

Manufacturer/supplier identification

Company: Merck KGaA * 64271 Darmstadt * Germany * Tel: +49 (0)6151/72-0
Emergency telephone No.: +49 (0)6151/72112 * Telefax: +49 (0)6151/72-7780 *

2. Composition/information on ingredients

Preparation contains organic compounds.

Hazardous ingredients:

Name according to EC Directives:

CAS-No.	EC No.	EC-Index-No.	Labelling according to EC Directives	Content:
methanol				
67-56-1	200-659-6	603-001-00-X	F, T R 11-23/24/25-39/23/24/25	≥ 50 %

3. Hazards identification

Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

4. First aid measures

After inhalation: fresh air. If necessary, apply mouth-to-mouth resuscitation or mechanical ventilation.
After skin contact: wash off with plenty of water. Remove contaminated clothing.
After eye contact: rinse out with plenty of water with the eyelid held wide open. Summon eye specialist.
After swallowing: Fresh air. Induce vomiting. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Summon doctor, mentioning methanol ingestion.
If breathing stops: mouth-to-mouth respiration or mechanical ventilation.

5. Fire-fighting measures

Suitable extinguishing media:
Water, CO₂, foam, powder.

Special risks:

Combustible. Vapours heavier than air. Forms explosive mixtures with air at ambient temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

Special protective equipment for fire fighting:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Other information:

Prevent fire-fighting water from entering surface water or groundwater.

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6. Accidental release measures

Person-related precautionary measures:

Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:

Do not allow to enter sewerage system; risk of explosion!

Procedures for cleaning / absorption:

Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

Notes for prevention of fire and explosion:

Keep away from sources of ignition. Take measures to prevent electrostatic charging.

Notes for safe handling:

Avoid generation of vapours/aerosols. Work under hood. Do not inhale substance.

Storage:

Tightly closed. In a well-ventilated place. Keep away from sources of ignition and heat. At +15°C to +25°C.

Accessible only for authorized persons.

8. Exposure controls/personal protection

Specific control parameter

BAT Germany (biol. tolerance value)

Name	Methanol
Parametr	Methanol
Values	30 mg/l
Test material	urine
test extraction, time	c,b

TRGS 900

Name	Methanol
Value	200 ml/m ³ 270 mg/m ³

Peak limit 4 exceeding factor: 4-fold in 15 minutes

Embryotoxic Y Substances with which no foetotoxic risk is to be expected when observing the maximum allowable concentration (MAC Germany) and the biological tolerance value at the workplace (BAT Germany).

Skin resorption Risk of skin absorption

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Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when vapours/aerosols are generated. Filter A (acc. to DIN 3181) for vapours of organic compounds

Eye protection: required

Hand protection: required

Industrial hygiene:

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood . Do not inhale substance.

9. Physical and chemical properties

Form:	liquid		
Colour:	colourless		
Odour:	characteristic		
pH value		not available	
Viscosity dynamic	(20 °C)	0.597	mPa*s
Melting point		-98	°C
Boiling point	(1013 hPa)	64.5	°C
Ignition temperature		455	°C
Flash point		11	°C c.c.
Explosion limits	lower	5.5	Vol%
	upper	36.5	Vol%
Vapour pressure	(20 °C)	128	hPa
Relative vapour density		1.11	
Density	(20 °C)	0.79	g/cm ³
Solubility in water	(20 °C)	soluble	
log P(oct):		-0.74	
Bioconcentration factor		1	

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10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

acid halides, alkali metals, alkaline earth metals, oxidizing agent (i.a. perchloric acid, perchlorates, salts of oxyhalogenic acids, CrO₃, halogen oxides, nitric acid, nitrogen oxides, nonmetallic oxides, chromosulfuric acid), hydrides, zinc diethyl, halogens.

Hazardous decomposition products

no information available

Further information

hygroscopic; highly inflammable;
unsuitable working materials: various plastics, aluminium, zinc alloys.
Explosible with air in a vaporous/gaseous state.

11. Toxicological information

Acute toxicity

LD₅₀ (oral, rat): 5628 mg/kg (methanol).
LDLo (oral, human): 143 mg/kg (methanol).
LC₅₀ (inhalation, rat): 64000 ppm(V) /4 h (methanol).

Subacute to chronic toxicity

Applicable to the main component:

An embryotoxic effect need not be feared when the threshold limit value is observed.

Sensitization test (guinea pig): negative.
Noncarcinogenic in animal experiments.

Bacterial mutagenicity:
Salmonella typhimurium: negative.
Escherichia coli: negative.
Ames-Test: negative.

Mikronucleus-Test: negative.

Further toxicological information

Property that must be anticipated on the basis from the components of the preparation:

After inhalation of vapours: Irritation symptoms in the respiratory tract.

After skin contact: slow absorption.

After eye contact: Slight irritations. mucosal irritations.

After swallowing: absorption.

After absorption: nausea, vomiting, headache, dizziness, inebriation, impaired vision, blindness (Irreversible damage of the optical nerve.).

Systemic effects: acidosis, drop in blood pressure, agitation, spasms, narcosis, coma. Symptoms may occur after a latency period has elapsed.

Further data

Further hazardous properties cannot be excluded.
The product should be handled with the care usual when dealing with chemicals.

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12. Ecological information

The following data refer to the toxicologically determinant component of the formulation:

Abiotic degradation:
Slow degradation. (air)

Biologic degradation:
BOD 76 % from TOD /5 d (closed bottle test)
Readily biodegradable (reduction: DOC >70 %; BOD >60 %; BOD₅ to COD >50 %).

Behavior in environmental compartments:
Distribution: log p(o/w): -0.74;
No bioaccumulation is to be expected (log P(o/w) <1).

Ecotoxic effects:
Biological effects: Harmfull effect on aquatic organisms. Risk of formation of explosive vapours above water surface. When used properly, no impairments in the function of waste- water-treatment plants are to be expected.
Fish toxicity: *L.macrochirus* LC₅₀: 15400 mg/l /96 h (in soft water).
Daphnia toxicity: *Daphnia magna* EC₅₀: >10000 mg/l /48 h;
Maximum permissible toxic concentration:
Algal toxicity: *Sc.quadricauda* IC₅: 8000 mg/l /8 d;
Bacterial toxicity: *Ps.putida* EC₅: 6600 mg/l /16 h;
Protozoa: *E.sulcatum* EC₅: >10000 mg/l /72 h;

Further ecologic data:
Degradability:
BOD: 0.60-1.12 g/g; COD: 1.42 g/g; TOD: 1.5 g/g; COD 94.7 % from TOD;

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

There are no harmonised regulations on the disposal of chemicals in the member states of the EU. In Germany, the Recycling and Waste Management Act (KrW-/AbfG) stipulates recycling as a requirement. This means that a distinction must be made between "wastes for recycling" and "wastes for disposal". Particular aspects - in the main concerning delivery - are also governed by the Laender. Please contact the competent body (authority or waste disposal company) where you will obtain information on recycling or disposal.

Packaging:

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

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14. Transport information

Land transport GGVS, GGVE, ADR, RID
Classification 3/17b
Name 1230 METHANOL, LOESUNG

Transport by river ADN, ADNR
Classification not tested

Transport by sea IMDG, GGVSee
Classification 3.2/UN 1230/PG II
Ems 3-06
M FAG 306
Name METHANOL SOLUTION

Transport by air ICAO, IATA
Classification 3/6.1/UN 1230/PG II
Name METHANOL SOLUTION

The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVS/GGVE). Possible national deviations in other countries are not considered.

THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK !

15. Regulatory information*Labelling according to EC Directives*

Symbol: F Highly flammable
T Toxic

R-phrases: 23/24/25-39/23/24/25 Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

S-phrases: 36/37-45 Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

contains: methanol

German regulations

Water pollution class 1 (slightly polluting substance) VwVwS Anh. 2 KennNr. 145

Storage class VCI 3 A

Data sheet of the Chemical Professional Association M017 Solvents
M051 Dangerous chemical substances

Other national regulations

Swiss toxic class: 3

16. Other information*Contact for information:*

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.