

according to Regulation (EC) No. 1907/2006

Revision Date 19.11.2012

Version 11.1

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

1.1 Product identifier

Catalogue No. 101383

Product name Wright's eosin methylene blue solution for microscopy

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

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

Identified uses In vitro diagnostic reagent, Reagent for analysis

For additional information on uses please refer to the Merck Chemicals

portal (www.merck-chemicals.com).

1.3 Details of the supplier of the safety data sheet

Company Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0

Responsible Department EQ-RS * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone

number

Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 2, H225 Acute toxicity, Category 3, Oral, H301

Acute toxicity, Category 3, Inhalation, H331 Acute toxicity, Category 3, Dermal, H311

Specific target organ toxicity - single exposure, Category 1, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

F Highly flammable R11

T Toxic R23/24/25 - 39/23/24/25

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms







Signal word
Danger

according to Regulation (EC) No. 1907/2006

Catalogue No. 101383

Product name Wright's eosin methylene blue solution for microscopy

Hazard statements

H225 Highly flammable liquid and vapour.

H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled

H370 Causes damage to organs.

Precautionary statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280 Wear protective gloves/ protective clothing.

P233 Keep container tightly closed.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for

breathing.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or

doctor/physician.

Reduced labelling (≤125 ml)

Hazard pictograms







Signal word Danger

Hazard statements

H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled

H370 Causes damage to organs.

Precautionary statements

P280 Wear protective gloves/ protective clothing.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

Contains: methanol

Labelling (67/548/EEC or 1999/45/EC)

Т

Symbol(s) F Highly flammable

R-phrase(s) 11-23/24/25- Highly flammable. Toxic by inhalation, in contact with skin

39/23/24/25 and if swallowed. Toxic: danger of very serious irreversible

effects through inhalation, in contact with skin and if

swallowed.

S-phrase(s) 16-36/37-45 Keep away from sources of ignition - No smoking. Wear

suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the

label where possible).

Reduced labelling (≤125 ml)

Symbol(s) F Highly flammable

T To:

R-phrase(s) 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-phrase(s) 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).

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Product name Wright's eosin methylene blue solution for microscopy

Contains: methanol

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature

Methanolic dye solution.

3.1 Substance

not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No. Registration number Classification

methanol (>= 50 % - <= 100 %)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

67-56-1 01-2119433307-44- Flammable liquid, Category 2, H225

XXXX Acute toxicity, Category 3, H331 Acute toxicity, Category 3, H311

Acute toxicity, Category 3, H311 Acute toxicity, Category 3, H301

Specific target organ toxicity - single exposure, Category 1, H370

ethylene glycol (>= 1 % - < 10 %)

107-21-1 *) Acute toxicity, Category 4, H302

For the full text of the H-Statements mentioned in this Section, see Section 16.

Hazardous components (1999/45/EC)

Chemical Name (Concentration)
CAS-No. Classification
methanol (>= 50 % - <= 100 %)

67-56-1 F, Highly flammable; R11

T, Toxic; R23/24/25-39/23/24/25

ethylene glycol (>= 1 % - < 10 %) 107-21-1 Xn, Harmful; R22

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

After inhalation: fresh air. If breathing stops: immediately apply artificial respiration, if necessary oxygen. Immediately call in physician.

In case of skin contact: Immediately remove contaminated clothing. Wash off immediately with plenty of water. Consult a physician.

^{*)} A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, Drowsiness, Dizziness, narcosis, agitation, spasms, inebriation, Nausea, Vomiting, Headache, blindness, Impairment of vision, Coma Drying-out effect resulting in rough and chapped skin.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible material

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Cool closed containers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapours, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

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Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

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

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep locked up or in an area accessible only to qualified or authorised persons. Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Store at +15°C to +25°C.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

methanol (67-56-1	
mathanalihi ha 1)

Worker DNEL, acute	Systemic effects	dermal	40 mg/kg Body weight
Worker DNEL, acute	Systemic effects	inhalation	260 mg/m³
Worker DNEL, acute	Local effects	inhalation	260 mg/m³
Worker DNEL, longterm	Systemic effects	dermal	40 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	260 mg/m³
Worker DNEL, longterm	Local effects	inhalation	260 mg/m³
Consumer DNEL, acute	Systemic effects	dermal	8 mg/kg Body weight
Consumer DNEL, acute	Systemic effects	inhalation	50 mg/m³
Consumer DNEL, acute	Systemic effects	oral	8 mg/kg Body weight
Consumer DNEL, acute	Local effects	inhalation	50 mg/m³
Consumer DNEL, longterm	Systemic effects	dermal	8 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	50 mg/m³

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Consumer DNEL, Systemic effects oral 8 mg/kg Body weight

longterm
Consumer DNEL, Local effects inhalation 50 mg/m³

longterm

Predicted No Effect Concentration (PNEC)

methanol (67-56-1)

PNEC Fresh water 154 mg/l

PNEC Fresh water sediment 570,4 mg/kg

PNEC Marine water 15,4 mg/l

PNEC Soil 23,5 mg/kg

PNEC Sewage treatment plant 100 mg/l

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material: butyl-rubber
Glove thickness: 0,7 mm
Break through time: > 480 min

splash contact:

Glove material: Viton (R)
Glove thickness: 0,70 mm
Break through time: > 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 890 Vitoject® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

Flame retardant antistatic protective clothing

Respiratory protection

required when vapours/aerosols are generated.

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Recommended Filter type: Filter AX (EN 371)

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not empty into drains.

Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form liquid

Colour blue

Odour of methanol

Odour Threshold No information available.

pH 7-8

at 20 °C

Melting point No information available.

Boiling point No information available.

Flash point 11 °C

Method: c.c. Methanol

Evaporation rate No information available.

Flammability (solid, gas) No information available.

Lower explosion limit 5,5 %(V)

Methanol

Upper explosion limit 36,5 %(V)

Methanol

Vapour pressure No information available.

Relative vapor density No information available.

Relative density 0,80 g/cm³

at 20 °C

Water solubility at 20 °C

soluble

log Pow: -0,77

Partition coefficient: n-

octanol/water (experimental)

(experimental)

(Lit.) Methanol Bioaccumulation is not expected.

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Product name Wright's eosin methylene blue solution for microscopy

Auto-ignition temperature No information available.

Decomposition temperature No information available.

Viscosity, dynamic No information available.

Explosive properties No information available.

Oxidizing properties No information available.

9.2 Other data

Ignition temperature 455 °C

Method: DIN 51794

Methanol

SECTION 10. Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Stabilizer

dimethylamine sulphate (2:1)

10.3 Possibility of hazardous reactions

Risk of explosion with:

Oxidizing agents, perchloric acid, perchlorates, salts of oxyhalogenic acids, chromium(VI) oxide, halogen oxides, nitrogen oxides, nonmetallic oxides, chromosulfuric acid, chlorates, hydrides, zinc diethyl, halogens, magnesium, hydrogen peroxide, Nitric acid

Exothermic reaction with:

acid halides, Acid anhydrides, Reducing agents, acids

Generates dangerous gases or fumes in contact with:

Alkaline earth metals, Alkali metals

10.4 Conditions to avoid

Warming.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.5 Incompatible materials

various plastics, zinc alloys, magnesium

10.6 Hazardous decomposition products

no information available

according to Regulation (EC) No. 1907/2006

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Product name Wright's eosin methylene blue solution for microscopy

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Acute toxicity estimate: 103,96 mg/kg

Calculation method

absorption

Symptoms: Nausea, Vomiting

Acute inhalation toxicity

Acute toxicity estimate: 3,15 mg/l; vapour

Calculation method

absorption

Symptoms: Irritation symptoms in the respiratory tract.

Acute dermal toxicity

Acute toxicity estimate: 314,59 mg/kg

Calculation method

absorption

Skin irritation

Drying-out effect resulting in rough and chapped skin.

Eye irritation slight irritation

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

Mixture causes damage to organs.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Quantitative data on the toxicity of this product are not available.

Further toxicological data:

Systemic effects:

acidosis, drop in blood pressure, agitation, spasms, inebriation, Dizziness, Drowsiness,

Headache, Impairment of vision, blindness, Irreversible damage of the optical nerve.

narcosis, Coma

Symptoms may be delayed.

Damage to:

Liver, Kidney, Cardiac

according to Regulation (EC) No. 1907/2006

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Product name Wright's eosin methylene blue solution for microscopy

Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

methanol

Acute oral toxicity

LDLO human: 143 mg/kg (RTECS) LD50 rat: 5.628 mg/kg (IUCLID) Symptoms: Nausea, Vomiting

Acute inhalation toxicity

LC50 rat: 85,26 mg/l; 4 h (IUCLID)

Symptoms: Irritation symptoms in the respiratory tract.

Acute dermal toxicity

LD50 rabbit: ca. 17.100 mg/kg (External MSDS)

Sensitisation

Sensitisation test: guinea pig

Result: negative

(IUCLID)

Germ cell mutagenicity

Genotoxicity in vivo

Mutagenicity (mammal cell test): micronucleus.

Result: negative (IUCLID)

Genotoxicity in vitro

Ames test

Result: negative

(IUCLID)

ethylene glycol

Acute oral toxicity

LD50 rat: > 2.000 mg/kg (IUCLID) LDLO human: 786 mg/kg (RTECS)

Skin irritation

rabbit

Result: slight irritation

(IUCLID)

Eye irritation

rabbit

Result: slight irritation

(IUCLID)

Sensitisation

Patch test:

Result: negative

(IUCLID)

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Result: negative

(IUCLID)

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

(National Toxicology Program)

according to Regulation (EC) No. 1907/2006

Catalogue No. 101383

Product name Wright's eosin methylene blue solution for microscopy

Mutagenicity (mammal cell test): Result: negative (IUCLID)

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: -0,77 (experimental)

(Lit.) Methanol Bioaccumulation is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

Components

methanol

Toxicity to fish

LC50 Lepomis macrochirus (Bluegill sunfish): 15.400 mg/l; 96 h (in soft water) (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC5 E.sulcatum: > 10.000 mg/l; 72 h (Lit.)

EC50 Daphnia magna (Water flea): > 10.000 mg/l; 48 h (IUCLID)

Toxicity to algae

EC50 Pseudokirchneriella subcapitata (green algae): ca. 22.000 mg/l; 96 h (External MSDS)

IC5 Scenedesmus quadricauda (Green algae): 8.000 mg/l; 8 d (IUCLID)

Toxicity to bacteria

EC5 Pseudomonas fluorescens: 6.600 mg/l; 16 h (IUCLID)

Toxicity to fish (Chronic toxicity)

NOEC Oryzias latipes (Orange-red killifish): 7.900 mg/l; 200 h

(External MSDS)

Biodegradability

99 %; 30 d

OECD Test Guideline 301D

Readily biodegradable.

Biochemical Oxygen Demand (BOD)

600 - 1.120 mg/g (5 d)

(IUCLID)

Chemical Oxygen Demand (COD)

1.420 mg/g

(IUCLID)

according to Regulation (EC) No. 1907/2006

Catalogue No. 101383

Product name Wright's eosin methylene blue solution for microscopy

Theoretical oxygen demand (ThOD)
1.500 mg/g

(Lit.)

Ratio BOD/ThBOD BOD5 76 % Closed Bottle test

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Stability in water

2,2 yr

reaction with hydroxyl radicals (IUCLID)

ethylene glycol

Toxicity to fish

LC50 Oncorhynchus mykiss (rainbow trout): > 18.500 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia magna (Water flea): 74.000 mg/l; 24 h (Lit.)

EC5 E.sulcatum: > 10.000 mg/l; 72 h (Lit.)

Toxicity to algae

IC5 Scenedesmus quadricauda (Green algae): > 10.000 mg/l; 7 d (Lit.)

Toxicity to bacteria

microtox test EC50 Photobacterium phosphoreum: 112.000 mg/l; 5 min

EC5 Pseudomonas putida: > 10.000 mg/l; 16 h (Lit.)

EC50 Pseudomonas putida: > 10.000 mg/l; 16 h (Lit.)

Biodegradability

83 - 96 %; 14 d

OECD Test Guideline 301C

Readily biodegradable.

Biochemical Oxygen Demand (BOD)

780 mg/g (5 d)

(IUCLID)

Chemical Oxygen Demand (COD)

1.190 mg/g

(IUCLID)

Theoretical oxygen demand (ThOD)

1.290 mg/g

(IUCLID)

Ratio BOD/ThBOD

BOD5 60 %

(IUCLID)

according to Regulation (EC) No. 1907/2006

Catalogue No. 101383

Product name Wright's eosin methylene blue solution for microscopy

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number UN 1230

14.2 Proper shipping name METHANOL SOLUTION

14.3 Class3 (6.1)14.4 Packing groupII14.5 Environmentally hazardous--14.6 Special precautions foryes

user

Tunnel restriction code D/E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 1230

14.2 Proper shipping name METHANOL SOLUTION

14.3 Class3 (6.1)14.4 Packing groupII14.5 Environmentally hazardous--14.6 Special precautions forno

user

Sea transport (IMDG)

14.1 UN number UN 1230

14.2 Proper shipping name METHANOL SOLUTION

14.3 Class3 (6.1)14.4 Packing groupII14.5 Environmentally hazardous--14.6 Special precautions foryes

user

EmS F-E S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

SECTION 15. Regulatory information

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

EU regulations

according to Regulation (EC) No. 1907/2006

Catalogue No. 101383

Product name Wright's eosin methylene blue solution for microscopy

Major Accident Hazard

Legislation

96/82/EC Toxic

2

Quantity 1: 50 t Quantity 2: 200 t

96/82/FC

Highly flammable

7b

Quantity 1: 5.000 t Quantity 2: 50.000 t

96/82/EC Methanol 26

Quantity 1: 500 t Quantity 2: 5.000 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at

work. Take note of Dir 92/85/EEC on the safety and health at work

of pregnant workers.

National legislation

Storage class 3

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H370 Causes damage to organs.

Full text of R-phrases referred to under sections 2 and 3

R11 Highly flammable. R22 Harmful if swallowed.

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R39/23/24/25 Toxic: danger of very serious irreversible effects through

inhalation, in contact with skin and if swallowed.

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

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Product name Wright's eosin methylene blue solution for microscopy

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