



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 26.03.2018

Version 5.0

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

1.1 Product identifier

Catalogue No.	1.4510
Product name	Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB n (20°C)=1,4969 Certipur®
	Toluene
REACH Registration Number	01-2119471310-51-xxxx
CAS-No.	108-88-3

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

Identified uses	Reagent for analysis For additional information on uses please refer to the Neutron Pharma Chemicals portal (www.neutronpharmachemical.com).
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1.3 Details of the supplier of the safety data sheet

Company	NEUTRON PHARMACHEMICAL CO
Responsible Department	98, 9th Floor, Borjsaz Building, Azadi Ave, Tehran, Iran. T 021-66906732-3 - F 021-66581408

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

Skin irritation, Category 2, H315

Specific target organ toxicity - repeated exposure, Category 2, Central nervous system, H373

Reproductive toxicity, Category 2, H361d

Aspiration hazard, Category 1, H304

Specific target organ toxicity - single exposure, Category 3, Central nervous system, H336

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

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Product name	Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB $n(20^{\circ}\text{C})=1,4969$ Certipur®
	Toluene

2.2 Label elements

Labelling.(REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary statements

Prevention

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

P240 Ground/bond container and receiving equipment.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

P314 Get medical advice/ attention if you feel unwell.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

According to the criteria, the general hazard statement can be replaced by the hazard statement indicating only the property of concern, where either fertility or developmental effects are proven to be not relevant. See Annex VI, 1.2.3, General hazard statement not specifying the route of exposure as the necessary information is not available. See Annex VI, 1.2.2

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Toluene

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H304 May be fatal if swallowed and enters airways.

H361d Suspected of damaging the unborn child.

Precautionary statements

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Contains: Toluene

Index-No. 601-021-00-3

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	$\text{C}_6\text{H}_5\text{CH}_3$	C_7H_8 (Hill)
Index-No.	601-021-00-3	
EC-No.	203-625-9	
Molar mass	92,14 g/mol	

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Toluene

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

Chemical name (Concentration)

CAS-No.	Registration number	Classification
Toluene (<= 100 %)		
108-88-3	01-2119471310-51-xxxx	Flammable liquid, Category 2, H225 Skin irritation, Category 2, H315 Specific target organ toxicity - repeated exposure, Category 2, H373 Reproductive toxicity, Category 2, H361d Aspiration hazard, Category 1, H304 Specific target organ toxicity - single exposure, Category 3, H336

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

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Call a physician immediately. Pulmonary failure possible after aspiration of vomit.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, Headache, Drowsiness, Dizziness, Nausea, Vomiting, inebriation, Convulsions, somnolence, Circulatory collapse, CNS disorders, respiratory paralysis, respiratory arrest, Unconsciousness, death

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

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	Toluene

5.1 Extinguishing media

Suitable extinguishing media

Foam, Carbon dioxide (CO₂), 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.

Pay attention to flashback.

Vapours are heavier than air and may spread along floors.

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

Forms explosive mixtures with air at ambient temperatures.

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

Remove container from danger zone and cool with water. 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: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. 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 let product enter 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). Take up carefully 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

Observe label precautions.

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	Toluene

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

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

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Recommended storage temperature see product label.

The data applies to the entire pack.

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

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Product name Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB n (20°C)=1,4969 Certipur®
Toluene

Derived No Effect Level (DNEL)

Worker DNEL, acute	Systemic effects	inhalation	384 mg/m ³
Worker DNEL, acute	Local effects	inhalation	343 mg/m ³
Worker DNEL, longterm	Systemic effects	inhalation	192 mg/m ³
Worker DNEL, longterm	Local effects	inhalation	192 mg/m ³
Worker DNEL, longterm	Systemic effects	dermal	384 mg/kg Body weight
Consumer DNEL, acute	Systemic effects	inhalation	226 mg/m ³
Consumer DNEL, acute	Local effects	inhalation	226 mg/m ³
Consumer DNEL, longterm	Systemic effects	inhalation	56,5 mg/m ³
Consumer DNEL, longterm	Systemic effects	oral	8,13 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	dermal	226 mg/kg Body weight

Predicted No Effect Concentration (PNEC)

PNEC Fresh water	0,68 mg/l
PNEC Fresh water sediment	16,39 mg/kg
PNEC Soil	2,89 mg/kg
PNEC Sewage treatment plant	13,61 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:	Viton (R)
Glove thickness:	0,70 mm
Break through time:	> 480 min

splash contact:

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Toluene

Glove material: Viton (R)
Glove thickness: 0,70 mm
Break through time: > 480 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 890 Vitoject® (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.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur 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 let product enter drains.

Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	characteristic
Odour Threshold	0,2 - 68,6 ppm
pH	Not applicable
Melting point	-95 °C
Boiling point/boiling range	110,6 °C at 1.013 hPa

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	Toluene

Flash point	4 °C at 1.013 hPa
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Method: c.c.

Evaporation rate	No information available.
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Flammability (solid, gas)	No information available.
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Lower explosion limit	1,1 %(V)
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Upper explosion limit	7,1 %(V)
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Vapour pressure	29 hPa at 20 °C
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Relative vapour density	3,18
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Density	0,87 g/cm ³ at 20 °C
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Relative density	No information available.
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Water solubility	0,52 g/l at 20 °C
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Partition coefficient: n-octanol/water	log Pow: 2,65 (experimental) (IUCALID) Bioaccumulation is not expected.
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Auto-ignition temperature	No information available.
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Decomposition temperature	Distillable in an undecomposed state at normal pressure.
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Viscosity, dynamic	0,6 mPa.s at 20 °C
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Explosive properties	Not classified as explosive.
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Oxidizing properties	none
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9.2 Other data

Ignition temperature	535 °C Method: DIN 51794
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Viscosity, kinematic	0,7 mm ² /s at 20 °C
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Conductivity	< 0,01 $\mu\text{S/cm}$
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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) .

10.3 Possibility of hazardous reactions

Risk of explosion with:

fuming sulfuric acid, Nitric acid, silver, perchlorates, nitrogen dioxide, nonmetallic halides, acetic acid, halogen-halogen compounds, uranium hexafluoride, organic nitro compounds

Violent reactions possible with:

Strong acids, Strong oxidizing agents
sulfur, with, Heat

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

rubber, various plastics

10.6 Hazardous decomposition products

no information available

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: 5.580 mg/kg

Tested according to Directive 92/69/EEC.

Symptoms: Nausea, Vomiting

Acute inhalation toxicity

LC50 Rat: 25,7 mg/l; 4 h ; vapour

OECD Test Guideline 403

Symptoms: Irritation symptoms in the respiratory tract.

Acute dermal toxicity

LD50 Rabbit: 12.124 mg/kg (ECHA)

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Toluene

Skin irritation

Rabbit

Result: irritating

(ECHA)

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Causes skin irritation.

Eye irritation

Rabbit

Result: No eye irritation

(ECHA)

Sensitisation

This information is not available.

Germ cell mutagenicity

Genotoxicity in vivo

Chromosome aberration test

Rat

i.p.

Bone marrow

Result: negative

(ECHA)

Genotoxicity in vitro

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

Method: OECD Test Guideline 476

Ames test

Result: negative

(Lit.)

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

CMR effects

Teratogenicity:

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. Target Organs: Central nervous system

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Toluene

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.
Target Organs: Central nervous system

Aspiration hazard

Aspiration hazard, Aspiration may cause pulmonary oedema and pneumonitis.

11.2 Further information

Systemic effects:

After absorption:

Headache, Vomiting, Nausea, Dizziness, CNS disorders, inebriation, Convulsions, Circulatory collapse, respiratory paralysis, respiratory arrest, Unconsciousness, death

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50 *Oncorhynchus mykiss* (rainbow trout): 5,8 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 6 mg/l; 48 h (ECOTOX Database)

NOEC *E.sulcatum*: 456 mg/l; 72 h (IUCLID)

Toxicity to algae

IC50 *Pseudokirchneriella subcapitata* (green algae): 12 mg/l; 72 h (Lit.)

Toxicity to bacteria

EC50 *Photobacterium phosphoreum*: 20 mg/l; 30 min (Lit.)

12.2 Persistence and degradability

Biodegradability

69 - 81 %; 5 d; aerobic

APHA NO. 219

(ECHA)

Readily biodegradable

Theoretical oxygen demand (ThOD)

3.130 mg/g

(Lit.)

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 2,65

(experimental)

(IUCLID) Bioaccumulation is not expected.

12.4 Mobility in soil

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Toluene

Distribution among environmental compartments

Adsorption/Soil

log K_{oc}: 2,15

(experimental)

Moderately mobile in soils (Lit.)

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

Henry constant

683 Pa·m³/mol

(Lit.) Distribution preferentially in air.

Discharge into the environment must be avoided.

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 3316
14.2 Proper shipping name CHEMICAL KIT
14.3 Class 9
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
Tunnel restriction code E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 3316
14.2 Proper shipping name CHEMICAL KIT
14.3 Class 9
14.4 Packing group II
14.5 Environmentally hazardous --

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	Toluene

14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-A S-P

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation	96/82/EC Highly flammable 7b Quantity 1: 5.000 t Quantity 2: 50.000 t
	SEVESO III FLAMMABLE LIQUIDS P5c Quantity 1: 5.000 t Quantity 2: 50.000 t

Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
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Toluene

Substances of very high concern (SVHC)

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

National legislation

Storage class 3

The data applies to the entire pack.

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.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

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	Toluene

Hazard statements

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary statements

Prevention

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

P240 Ground/bond container and receiving equipment.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

P314 Get medical advice/ attention if you feel unwell.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

EC Label

Contains: Toluene

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.

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.

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Revision Date 26.03.2018

Version 5.0

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Catalogue No.	108961
Product name	Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB n (20°C)=1,4969 Certipur®
	Water
REACH Registration Number	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.
CAS-No.	7732-18-5

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

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * 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**

This substance is not classified as dangerous according to European Union legislation.

2.2 Label elements

Labelling.(REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

None known.

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Catalogue No.	108961
Product name	Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB $n(20^{\circ}\text{C})=1,4969$ Certipur® Water

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	H ₂ O	H ₂ O (Hill)
Molar mass	18,02 g/mol	

Remarks	No disclosure requirement according to Regulation (EC) No. 1907/2006.
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3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

No hazards which require special first aid measures.

4.2 Most important symptoms and effects, both acute and delayed

We have no description of any symptoms of toxicity.

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Not combustible.

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	Water

5.3 Advice for firefighters

Special protective equipment for firefighters

none

Further information

none

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

none

6.2 Environmental precautions

No special precautionary measures necessary.

6.3 Methods and materials for containment and cleaning up

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

Pour into drain.

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

Observe label precautions.

Hygiene measures

not required

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Recommended storage temperature see product label.

The data applies to the entire pack.

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

8.2 Exposure controls

Engineering measures

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Product name Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB $n(20^{\circ}\text{C})=1,4969$ Certipur®
Water

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

not required

Hand protection

not required

Respiratory protection

not required

Environmental exposure controls

No special precautionary measures necessary.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	odourless
Odour Threshold	Not applicable
pH	at 20 °C neutral
Melting point	0 °C
Boiling point/boiling range	100 °C at 1.013 hPa
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108961
Product name	Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB $n(20^{\circ}\text{C})=1,4969$ Certipur® Water

Upper explosion limit	Not applicable
Vapour pressure	23 hPa at 20 °C
Relative vapour density	No information available.
Density	1,00 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	completely soluble
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	0,952 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Ignition temperature	Not applicable
Minimum ignition energy	Not applicable

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4 Conditions to avoid

none

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	108961
Product name	Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB n (20°C)=1,4969 Certipur®
	Water

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

none

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

This information is not available.

Acute inhalation toxicity

This information is not available.

Acute dermal toxicity

This information is not available.

Skin irritation

This information is not available.

Eye irritation

This information is not available.

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

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

No toxic effects are to be expected when the product is handled appropriately.

SECTION 12. Ecological information

12.1 Toxicity

No information available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108961
Product name Refractive index standard kit 2 Toluene/water, traceable to SRM from NIST and PTB $n(20^{\circ}\text{C})=1,4969$ Certipur®
Water

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Not applicable

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

No ecological problems are to be expected when the product is handled and used with due care and attention.

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 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	II
14.5 Environmentally hazardous	--

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108961
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Water

14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 3316
14.2 Proper shipping name CHEMICAL KIT
14.3 Class 9
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-P

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard 96/82/EC
Legislation Directive 96/82/EC does not apply
SEVESO III
Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

National legislation

Storage class 3
The data applies to the entire pack.

15.2 Chemical safety assessment

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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SECTION 16. Other information

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

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.

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.