

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH)

Filtration · Rapid Tests · Water Analysis · Chromatography · Bioanalysis
 Filtration · Schnellteste · Wasseranalytik · Chromatographie · Bioanalytik

Printing date: 04.07.2011

Date of issue: 14.06.2011

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1 Identification of the Substance/Mixture and of the Company

1.1 Identification/Product Name

REF	814000
Product name	TLC Micro Set A
	1 x 100 mL Ammonia 25%/2-propanol (5:3)
	1 x 100 mL Chloroform/Acetone (1:1)
	1 x 100 mL Sodium citrate solution
	3 x 8 mL Test dye/mixture 1
	3 x 8 mL Test dye/mixture 2
	3 x 8 mL Test dye/mixture 3
	1 x 100 mL Toluene/Cyclohexane (2:1)
	1 x 100 mL Toluene

1.2 Use of the Substance/Mixture

Product for analytical use.
 Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

1.3 Manufacturer

MACHEREY-NAGEL GmbH & Co. KG
 Neumann-Neander-Strasse 6-8, D-52355 Dueren, GERMANY
 Tel.: +49 (0)2421 969 0 e-mail: msds@mn-net.com

1.4 Emergency Telephone

Outside Germany (DE):
 Call your regional Poisons Information Service or call local Life Saving Service.
 DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 (0)361 730 730

2 Hazard Identification

2.1 Hazard Symbols

Directive 1999/45/EC
 Symbols



Xn F N C
 R 11-34-40-50/53-63-66-67-98

GHS Directive 1272/2008/EC
 GHS Symbols



GHS02 GHS05 GHS07 GHS08

Signalword DANGER

Hazard identification **Hazard classes/categories**

H304	Asp. Tox. 1
H314	Skin Corr. 1B
H351	Carc. 2
H361d	Repr. 2

2.2 Hazard Description

Possible Hazards from physicochemical Properties

Generally in the case of pH values are less than 2 or higher than 11.5 then it is corrosive. In the case of pH values are less than 5 or higher than 9 then it is irritant.

Information pertaining to particular Risks to Human and possible Symptoms

Causes varying degrees of acid burns on the skin, to the eyes and to the mucous membranes and wounds which do not heal quickly depending on the concentration, temperature and the exposure time. Vapours especially which steam from hot liquids and mist can have a severe irritant effect upon the eyes and the respiratory organs. Suspected of damaging the unborn child.

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Information pertaining to particular Risks to the Environment
 Avoid contact of chemical/mixture to environment.

Other Hazards
 Flammable properties. Vapour forms explosive mixtures with air.

3 Composition/Information on Ingredients

3.1 Description of the Components

100 mL Ammonia 25%/2-propanol (5:3)

Directive 1999/45/EC

Symbols

R 34



C

GHS Directive 1272/2008/EC

GHS Symbols

H314



GHS02

GHS05

GHS07

Signalword

DANGER

100 mL Chloroform/Acetone (1:1)

Directive 1999/45/EC

Symbols

R 11-36-38-40-66-67-98



F

Xi

GHS Directive 1272/2008/EC

GHS Symbols

H351



GHS02

GHS07

GHS08

Signalword

DANGER

100 mL Sodium citrate solution

Directive 1999/45/EC

Symbols

- do not need labelling as hazardous

GHS Directive 1272/2008/EC

GHS Symbols

do not need labelling as hazardous

Signalword

do not need labelling as hazardous

8 mL Test dye/mixture 1

Directive 1999/45/EC

Symbols

R 63
 do not need labelling as hazardous

GHS Directive 1272/2008/EC

GHS Symbols

H304, H361d



GHS02

GHS07

GHS08

Signalword

DANGER

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8 mL Test dye/mixture 2

Directive 1999/45/EC

Symbols

R 40-98
do not need labelling as hazardous

GHS Directive 1272/2008/EC

GHS Symbols

H351



GHS07 GHS08

Signalword

WARNING

8 mL Test dye/mixture 3

Directive 1999/45/EC

Symbols

-
do not need labelling as hazardous

GHS Directive 1272/2008/EC

GHS Symbols

do not need labelling as hazardous

Signalword

do not need labelling as hazardous

100 mL Toluene/Cyclohexane (2:1)

Directive 1999/45/EC

Symbols

R 11-38-50/53-63-67



F Xi N

GHS Directive 1272/2008/EC

GHS Symbols

H304, H361d



GHS02 GHS07 GHS08

Signalword

DANGER

100 mL Toluene

Directive 1999/45/EC

Symbols

R 11-38-63-67



F Xi

GHS Directive 1272/2008/EC

GHS Symbols

H304, H361d



GHS02 GHS07 GHS08

Signalword

DANGER

3.2 Hazardous Components

100 mL Ammonia 25%/2-propanol (5:3)

Chemical: ammonia solution

CAS No.: 1336-21-6

Concentration: 10 - 25 %

Formula: NH₃ · H₂O

EC No.: 215-647-6

Indice No.: 007-001-01-2

RTECS: BQ9625000

MFCD: MFCD00011418

TSCA listed: listed

acc. 1999/45/EC: R 34

acc. CLP (GHS): H314, H335, H400

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Chemical: *2-propanol* CAS No.: 67-63-0
 Concentration: 20 - 50 %
 Formula: C₃H₈O
 EC No.: 200-661-7
 RTECS: NT8050000
 TSCA listed: listed
 acc. 1999/45/EC: R 10-36

Indice No.: 603-117-00-0
 MFCD: 00011674

acc. CLP (GHS): H226, H319

100 mL Chloroform/Acetone (1:1)

Chemical: *acetone* CAS No.: 67-64-1
 Concentration: 10 - 100 %
 Formula: C₃H₆O
 EC No.: 200-662-2
 RTECS: AL3150000
 TSCA listed: listed
 acc. 1999/45/EC: R 11-36-66-67

Indice No.: 606-001-00-8
 MFCD: 00008765

acc. CLP (GHS): H225, H319, H336, EUH066

Chemical: *chloroform* CAS No.: 67-66-3
 Concentration: 20 - 90 %
 Formula: CHCl₃
 EC No.: 200-663-8
 RTECS: FS9100000
 TSCA listed: listed
 acc. 1999/45/EC: R 22-38-40-48/20/22-98

Indice No.: 602-006-00-4
 MFCD: 00000826

acc. CLP (GHS): H302, H315, H351, H373

100 mL Sodium citrate solution

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3
 Concentration: 1 - 10 %
 Formula: C₆H₅Na₃O₇·2H₂O
 EC No.: 200-675-3
 RTECS: GE8300000
 TSCA listed: listed
 acc. 1999/45/EC: -

acc. CLP (GHS): not necessary

8 mL Test dye/mixture 1

Chemical: *toluene* CAS No.: 108-88-3
 Concentration: 10 - 100 %
 Formula: C₇H₈
 EC No.: 203-625-9
 RTECS: XS5250000
 TSCA listed: listed
 acc. 1999/45/EC: R 11-38-48/20-63-65-67

Indice No.: 601-021-00-3
 MFCD: 00008512

acc. CLP (GHS): H225, H304, H315, H336, H361d, H373

Chemical: *dye(s) for testing* CAS No.: -
 Concentration: 0,01 - 0,1 %
 acc. 1999/45/EC: -

acc. CLP (GHS): not necessary

8 mL Test dye/mixture 2

Chemical: *chloroform* CAS No.: 67-66-3
 Concentration: 90 - 100 %
 Formula: CHCl₃
 EC No.: 200-663-8
 RTECS: FS9100000
 TSCA listed: listed
 acc. 1999/45/EC: R 22-38-40-48/20/22-98

Indice No.: 602-006-00-4
 MFCD: 00000826

acc. CLP (GHS): H302, H315, H351, H373

Chemical: *dye(s) for testing* CAS No.: -
 Concentration: 0,01 - 0,1 %
 acc. 1999/45/EC: -

acc. CLP (GHS): not necessary

8 mL Test dye/mixture 3

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Chemical: *water* CAS No.: 7732-18-5
 Concentration: 90 - 100 %
 Formula: H₂O
 REACH Reg. No.: exempt, Annex IV
 EC No.: 231-791-2
 RTECS: ZC0110000
 TSCA listed: listed
 acc. 1999/45/EC: - acc. CLP (GHS): not necessary

Chemical: *dye(s) for testing* CAS No.: -
 Concentration: 0,01 - 0,1 %
 acc. 1999/45/EC: - acc. CLP (GHS): not necessary

100 mL Toluene/Cyclohexane (2:1)

Chemical: *toluene* CAS No.: 108-88-3
 Concentration: 10 - 100 %
 Formula: C₇H₈
 EC No.: 203-625-9 Indice No.: 601-021-00-3
 RTECS: XS5250000 MFCD: 00008512
 TSCA listed: listed
 acc. 1999/45/EC: R 11-38-48/20-63-65-67 acc. CLP (GHS): H225, H304, H315, H336, H361d, H373

Chemical: *cyclohexane* CAS No.: 110-82-7
 Concentration: 10 - 100 %
 Formula: C₆H₁₂
 EC No.: 203-806-2 Indice No.: 601-017-00-1
 RTECS: GU6300000 MFCD: 00003814
 TSCA listed: listed
 acc. 1999/45/EC: R 11-38-50/53-65-67 acc. CLP (GHS): H225, H304, H315, H336, H410

100 mL Toluene

Chemical: *toluene* CAS No.: 108-88-3
 Concentration: 10 - 100 %
 Formula: C₇H₈
 EC No.: 203-625-9 Indice No.: 601-021-00-3
 RTECS: XS5250000 MFCD: 00008512
 TSCA listed: listed
 acc. 1999/45/EC: R 11-38-48/20-63-65-67 acc. CLP (GHS): H225, H304, H315, H336, H361d, H373

3.3 Remarks

List of R and H phrases: see chapter 16

4 First Aid Measures

4.1 General Information

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor.

4.1.1 After SKIN Contact

Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes. under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.

4.1.3 After INHALATION of Vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. If vomiting and if insensible place patient in recovery position and keep airways free.

4.1.4 After ORAL Intake

After oral intake lots of water with activated charcoal supplement should be drunk after it has been ingested. Do not induce vomiting under any circumstances. Do not make any efforts to neutralise it. Contact medical advice for possible consequences.

4.2 Further Medical Treatment/Attention

CORROSIVE DAMAGE: After SKIN CONTACT rinse with water for a long time. Efforts to neutralise the substance can frequently make matters worse. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must be carried out by an eye specialist. After INTAKE administer aluminium oxide drug suspensions. Administer a prophylaxis to counter pulmonary oedema following the INGESTION of corrosive aerosols. In the event of RESPIRATORY DISTRESS ensure that the patient inhales oxygen.

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5 Fire-fighting Measures

5.1 Suitable Extinguishing Media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.2 Hazards, Combustion Products/Gases

Formation of hazardous and caustic vapour-air mixtures possible.
 Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances.

5.3 Special Protective Equipment required

If necessary protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

5.4 Additional Information

Product package burns like paper or plastic. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.

6 Accidental Release Measures

6.1 Personal Precautions

Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection, respectively face protection. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

6.2 Methods of Cleaning-up

Bind any escaping liquid with universal binder. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.

7 Handling and Storage

7.1 Handling

In accordance with the testing instructions, that comes with the product.

7.2 Storage

The original product package of MACHEREY-NAGEL allows a safe storage.
 Storage class (German chemical industry): see chapter 12.1

7.2.1 Requirements for Stock Rooms and Containers

Keep original product packages tightly closed during handling and storage. Use inbreakable container for transport of glass bottles.

8 Exposure Controls/Personal Protection

8.1 Exposure Limit Values

100 mL Ammonia 25%/2-propanol (5:3)

Chemical: *ammonia solution*

CAS No.: 1336-21-6

EU value: 20 ppm / 14 mg/m³

TRGS 900 (DE): 20 ppm / 14 mg/m³

Short-term exposure factor: 2 (I)

SUVA(CH) MAK value: 20 ppm / 14 mg/m³

Chemical: *2-propanol*

CAS No.: 67-63-0

TRGS 900 (DE): 200 ppm / 500 mg/m³

Short-term exposure factor: 2 (II)

SUVA(CH) MAK value: 200 ppm / 500 mg/m³

TRGS 903 (DE): B/b, U/b 50_{Aceton} µg/L

TRGS 905 (DE): R_F C

NIOSH REL: 500 ppm

NIOSH STEL: 1225 mg/m³

OSHA PEL: 400 ppm; 980 mg/m³

100 mL Chloroform/Acetone (1:1)

Chemical: *acetone*

CAS No.: 67-64-1

EU value: (500 ppm / 1200) mg/m³

TRGS 900 (DE): 500 ppm / 1200 mg/m³

Short-term exposure factor: 4

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SUVA(CH) MAK value: 500 ppm/ 1200 mg/m³
 SUVA(CH) BAT value: U/b 80 mg/L
 TRGS 903 (DE): U/b 80 mg/L
 OSHA PEL: 1000 ppm

Chemical: *chloroform* CAS No.: 67-66-3
 EU value: (0,5 ppm / 2,5) mg/m³
 TRGS 900 (DE): 0,5 ppm / 2,5 mg/m³
 Short-term exposure factor: 2 (II)
 TRGS 901 (DE): Nr. 107
 SUVA(CH) MAK value: 0,5 ppm / 2,5 mg/m³
 TRGS 905 (DE): No. 111: K2, M3, R_E 3

100 mL Sodium citrate solution

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3

8 mL Test dye/mixture 1

Chemical: *toluene* CAS No.: 108-88-3
 EU value: 50 ppm / 190 mg/m³
 TRGS 900 (DE): 50 ppm / 190 mg/m³
 Short-term exposure factor: 4 (II)
 SUVA(CH) MAK value: 50 ppm / 190 mg/m³
 SUVA(CH) BAT value: B/b 1,0 mg/L
 TRGS 903 (DE): B/b 1,0 mg/L
 TRGS 905 (DE): R_F C

Chemical: *dye(s) for testing* CAS No.: -

8 mL Test dye/mixture 2

Chemical: *chloroform* CAS No.: 67-66-3
 EU value: (0,5 ppm / 2,5) mg/m³
 TRGS 900 (DE): 0,5 ppm / 2,5 mg/m³
 Short-term exposure factor: 2 (II)
 TRGS 901 (DE): Nr. 107
 SUVA(CH) MAK value: 0,5 ppm / 2,5 mg/m³
 TRGS 905 (DE): No. 111: K2, M3, R_E 3

Chemical: *dye(s) for testing* CAS No.: -

8 mL Test dye/mixture 3

Chemical: *water* CAS No.: 7732-18-5

Chemical: *dye(s) for testing* CAS No.: -

100 mL Toluene/Cyclohexane (2:1)

Chemical: *toluene* CAS No.: 108-88-3
 EU value: 50 ppm / 190 mg/m³
 TRGS 900 (DE): 50 ppm / 190 mg/m³
 Short-term exposure factor: 4 (II)
 SUVA(CH) MAK value: 50 ppm / 190 mg/m³
 SUVA(CH) BAT value: B/b 1,0 mg/L
 TRGS 903 (DE): B/b 1,0 mg/L
 TRGS 905 (DE): R_F C

Chemical: *cyclohexane* CAS No.: 110-82-7

EU value: (200 ppm / 700) mg/m³
 TRGS 900 (DE): 200 ppm / 700 mg/m³
 Short-term exposure factor: 4 (II)
 SUVA(CH) MAK value: 200 ppm / 700 mg/m³
 SUVA(CH) BAT value: U/b,c 150_{Kreatinin} mg/g
 TRGS 903 (DE): U/b,c 170_{Kreatinin} µg/L

100 mL Toluene

Chemical: *toluene* CAS No.: 108-88-3
 EU value: 50 ppm / 190 mg/m³
 TRGS 900 (DE): 50 ppm / 190 mg/m³
 Short-term exposure factor: 4 (II)
 SUVA(CH) MAK value: 50 ppm / 190 mg/m³
 SUVA(CH) BAT value: B/b 1,0 mg/L
 TRGS 903 (DE): B/b 1,0 mg/L

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TRGS 905 (DE): R_F C

8.2 Exposure Controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory Protection

Only if additional recommendations in test instruction or packing insert.

8.2.2 Hand Protection

Yes, gloves according EN 374, consist of natural latex, butylrubber, viton or nitril (f.ex. Neopren® or Camatril from KCl), consist of viton (for chlorinated carbons). Use for short times all chemical resistant gloves (limited).

8.2.3 Eye Protection

Yes, safety glasses according EN 166 or face protection.

8.2.4 Skin Protection

Recommended, to avoid clothing damage, to avoid contamination with these hazards.

8.2.5 Personal Hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

9 Physical and Chemical Properties

9.1 General Information

100 mL Ammonia 25%/2-propanol (5:3)

Color: colourless Odor: aminic Appearance: liquid

100 mL Chloroform/Acetone (1:1)

Color: colourless Odor: like chloroform Appearance: liquid

100 mL Sodium citrate solution

Color: colourless Odor: odorless Appearance: liquid

8 mL Test dye/mixture 1

Color: red Odor: organic Appearance: liquid

8 mL Test dye/mixture 2

Color: red Odor: like chloroform Appearance: liquid

8 mL Test dye/mixture 3

Color: - Odor: - Appearance: -

100 mL Toluene/Cyclohexane (2:1)

Color: colourless Odor: aromatic Appearance: liquid

100 mL Toluene

Color: colourless Odor: aromatic Appearance: liquid

9.2 Important Health, Safety and Environmental Information

9.2.1 Safety relevant Basis Data

100 mL Ammonia 25%/2-propanol (5:3)

pH: 10-11
 specific gravity: no data available

100 mL Chloroform/Acetone (1:1)

specific gravity: no data available

100 mL Sodium citrate solution

specific gravity: no data available

8 mL Test dye/mixture 1

specific gravity: 0,87 g/cm³
 flash point: 6 °C
 explosion limits: 1.2-7.8 Vol%
 solubility in water: < 0,1 %
 melting point: -95 °C
 boiling point: 111 °C
 vapour pressure (20°C): 29 hPa
 flashing temperature: 535 °C
 odor limit: >0.6-153 mg/m³
 rel. vapour density (air=1): 3,2

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volatiles by volume: 110 g/m³

8 mL Test dye/mixture 2

specific gravity: 1,48 g/cm³
 solubility in water: < 1 %
 melting point: -63.5 °C
 boiling point: 61.7 °C
 vapour pressure (20°C): 211 hPa
 flashing temperature: 982 °C
 odor limit: 50-200 mg/m³
 rel. vapour density (air=1): 4,12
 volatiles by volume: 1035 g/m³

8 mL Test dye/mixture 3

specific gravity: no data available

100 mL Toluene/Cyclohexane (2:1)

specific gravity: no data available
 flash point: < 6 °C

100 mL Toluene

specific gravity: 0,87 g/cm³
 flash point: 6 °C
 explosion limits: 1.2-7.8 Vol%
 solubility in water: < 0,1 %
 melting point: -95 °C
 boiling point: 111 °C
 vapour pressure (20°C): 29 hPa
 flashing temperature: 535 °C
 odor limit: >0.6-153 mg/m³
 rel. vapour density (air=1): 3,2
 volatiles by volume: 110 g/m³

9.2.2 Relevant Properties of Substance Group

9.3 Additional Information

10 Stability and Reactivity

10.1 Conditions to avoid

If on label. When indicated in packing insert.

10.2 Materials to avoid

Avoid contact with strong acids or alkalines.

10.3 Hazardous Decomposition Products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

11 Toxicological Information

Following information is valid for pure chemicals. Quantitative data on the toxicity of this product are not available.

100 mL Ammonia 25%/2-propanol (5:3)

Chemical: *ammonia solution*
 LD50_{orl rat}: 350 mg/kg
 LC_{Lowihl hmn}: 5000 mg/m³
 LC50_{ihl rat}: 2000_{4h} ppm
 LD50_{drm rbt}: 5000 ppm/5min

CAS No.: 1336-21-6

Chemical: *2-propanol*
 LD50_{orl rat}: 5045 mg/kg
 LC_{Loworl hmn}: 3570 mg/kg
 LC50_{ihl rat}: 16 g/m³/4h
 LD50_{drm rbt}: 12.8 g/kg

CAS No.: 67-63-0

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100 mL Chloroform/Acetone (1:1)

Chemical:	<i>acetone</i>	CAS No.: 67-64-1
LD50 _{orl rat} :	5800 mg/kg	
LC _{LoWihl mus} :	110 th mg/m ³	
LC50 _{ihl rat} :	50.1 _{8h} g/m ³	
LD50 _{drm rbt} :	20 g/kg	

Chemical:	<i>chloroform</i>	CAS No.: 67-66-3
LD50 _{orl rat} :	908 mg/kg	
LC _{LoWihl hmn} :	25000 mg/m ³	
LC _{LoWorl hum/rbt} :	140/500 mg/m ³	
LC50 _{ihl rat} :	47.7 _{4h} g/m ³	
LD50 _{drm rbt} :	> 20 g/kg	

100 mL Sodium citrate solution

Chemical:	<i>tri-sodium citrate</i>	CAS No.: 6132-04-3
LD50 _{orl rat} :	>2000 mg/kg	

8 mL Test dye/mixture 1

Chemical:	<i>toluene</i>	CAS No.: 108-88-3
LD50 _{orl rat} :	636 mg/kg	
LC _{LoWihl hmn} :	50 mg/m ³	
LC50 _{ihl rat} :	28.1 (49 _{4h}) mg/L	
LD50 _{drm rbt} :	12124 mg/kg	

Chemical:	<i>dye(s) for testing</i>	CAS No.: -
LD50 _{orl rat} :	no data available	

8 mL Test dye/mixture 2

Chemical:	<i>chloroform</i>	CAS No.: 67-66-3
LD50 _{orl rat} :	908 mg/kg	
LC _{LoWihl hmn} :	25000 mg/m ³	
LC _{LoWorl hum/rbt} :	140/500 mg/m ³	
LC50 _{ihl rat} :	47.7 _{4h} g/m ³	
LD50 _{drm rbt} :	> 20 g/kg	

Chemical:	<i>dye(s) for testing</i>	CAS No.: -
LD50 _{orl rat} :	no data available	

8 mL Test dye/mixture 3

Chemical:	<i>water</i>	CAS No.: 7732-18-5
LD50 _{orl rat} :	no data available	

Chemical:	<i>dye(s) for testing</i>	CAS No.: -
LD50 _{orl rat} :	no data available	

100 mL Toluene/Cyclohexane (2:1)

Chemical:	<i>toluene</i>	CAS No.: 108-88-3
LD50 _{orl rat} :	636 mg/kg	
LC _{LoWihl hmn} :	50 mg/m ³	
LC50 _{ihl rat} :	28.1 (49 _{4h}) mg/L	
LD50 _{drm rbt} :	12124 mg/kg	

Chemical:	<i>cyclohexane</i>	CAS No.: 110-82-7
LD50 _{orl rat} :	12.7 g/kg	
LC50 _{ihl rat} :	14 _{4h} mg/L	
LD50 _{drm rbt} :	>2000 mg/kg	

100 mL Toluene

Chemical:	<i>toluene</i>	CAS No.: 108-88-3
LD50 _{orl rat} :	636 mg/kg	
LC _{LoWihl hmn} :	50 mg/m ³	
LC50 _{ihl rat} :	28.1 (49 _{4h}) mg/L	
LD50 _{drm rbt} :	12124 mg/kg	

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12 Ecological Information

12.1 Ecotoxicity

Following information is valid for pure chemicals.

100 mL Ammonia 25%/2-propanol (5:3)

Chemical:	<i>ammonia solution</i>	CAS No.:	1336-21-6
Bio Toxicity:	3/5.8/5.3		
WGK (DE):	2	WGK No.:	0211
storage class (VCI):	8 B		

Chemical:	<i>2-propanol</i>	CAS No.:	67-63-0
WGK (DE):	1	WGK No.:	0135
storage class (VCI):	3 A		

100 mL Chloroform/Acetone (1:1)

Chemical:	<i>acetone</i>	CAS No.:	67-64-1
WGK (DE):	1	WGK No.:	0006
storage class (VCI):	3 A		

Chemical:	<i>chloroform</i>	CAS No.:	67-66-3
WGK (DE):	3	WGK No.:	0054
storage class (VCI):	12		

100 mL Sodium citrate solution

Chemical:	<i>tri-sodium citrate</i>	CAS No.:	6132-04-3
WGK (DE):	1		
storage class (VCI):	12-13		

8 mL Test dye/mixture 1

Chemical:	<i>toluene</i>	CAS No.:	108-88-3
WGK (DE):	2	WGK No.:	0194
storage class (VCI):	3 A		

Chemical:	<i>dye(s) for testing</i>	CAS No.:	-
storage class (VCI):	12		

8 mL Test dye/mixture 2

Chemical:	<i>chloroform</i>	CAS No.:	67-66-3
WGK (DE):	3	WGK No.:	0054
storage class (VCI):	12		

Chemical:	<i>dye(s) for testing</i>	CAS No.:	-
storage class (VCI):	12		

8 mL Test dye/mixture 3

Chemical:	<i>water</i>	CAS No.:	7732-18-5
WGK (DE):	-		
storage class (VCI):	-		

Chemical:	<i>dye(s) for testing</i>	CAS No.:	-
storage class (VCI):	12		

100 mL Toluene/Cyclohexane (2:1)

Chemical:	<i>toluene</i>	CAS No.:	108-88-3
WGK (DE):	2	WGK No.:	0194
storage class (VCI):	3 A		

Chemical:	<i>cyclohexane</i>	CAS No.:	110-82-7
WGK (DE):	2	WGK No.:	0063
storage class (VCI):	3 A		

100 mL Toluene

Chemical:	<i>toluene</i>	CAS No.:	108-88-3
WGK (DE):	2	WGK No.:	0194
storage class (VCI):	3 A		

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13 Disposal Considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).
 Normally it is possible to empty small amounts (diluted!) into drains.
 Dispose of contents/container to regulated waste treatment.

14 Transport Information

Proper shipping name: Chemical Kit

UN No.: **3316** Packing group: **II**
 Class: **9**

Road transport

Classification code: M11 Tunnel restriction code: E
 Limited Quantity: LQ 0 (acc. ADR 3.3.1/251: as LQ until max. 10 kg, see LQ in alternative transport name)

Air transport

PAX: 960 max. weight PAX: 10 KG
 CAO: 960 max. weight CAO: 10 KG

Maritime transport

EmS: F-A, S-P Storage category: A

Alternative Transport Labelling follows:

Proper shipping name: **Flammable liquid, n.o.s. (toluene, acetone, 2-propanol solution)**

UN No.: **1993** Packing group: **II**
 Class: **3**

Road transport

Classification code: F1 Tunnel restriction code: E
 Limited Quantity: LQ 4
 Excepted Quantity: E 2 Special instructions: 640C

Air transport

PAX: 353 max. weight PAX: 5 L
 CAO: 364 max. weight CAO: 60 L

Maritime transport

EmS: F-E, S-E Storage category: B

15 Regulatory Information

15.1 International Regulations

According 1999/45/EC small amounts of harmful and highly flammable preparations/mixtures have partly/completely exemption from labelling (no symbols F, O, Xn, Xi, N and no R and S phrases are necessary) until **25-125 mL/g**.

According **GHS** inner packages must be only labelled with symbol(s) and product identifier.

Harmful chemicals/mixtures with signalword: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases until **125 mL** or **125 g**.

100 mL Ammonia 25%/2-propanol (5:3)

Directive 1999/45/EC

Symbols:



C

R 34

Causes burns.

S 16-26-36/37/39-45

Keep away from sources of ignition — No smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

GHS Directive 1272/2008/EC

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GHS Symbols:



GHS02 GHS05 GHS07

Signalword: DANGER

H314

Causes severe skin burns and eye damage.

P260D, P280sh, P301+330+331, P303+361+353, P304+340, P305+351+338

Do not breathe vapours. Wear protective gloves/eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

100 mL Chloroform/Acetone (1:1)

Directive 1999/45/EC

Symbols:



F Xi

R 11-36-38-40-66-67-98

Highly flammable. Irritating to eyes. Irritating to skin. Limited evidence of a carcinogenic effect. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness. Only for professional user.

S 16-26-36/37-53-9

Keep away from sources of ignition — No smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves. Avoid exposure — obtain special instructions before use. Keep container in a well-ventilated place.

GHS Directive 1272/2008/EC

GHS Symbols:



GHS02 GHS07 GHS08

Signalword: DANGER

H351

Suspected of causing cancer.

P202, P308+313, P405

Do not handle until all safety precautions have been read and understood. IF exposed or concerned: Get medical advice/attention. Store locked up.

100 mL Sodium citrate solution

Directive 1999/45/EC

Symbols:

-

-

GHS Directive 1272/2008/EC

GHS Symbols:

do not need labelling as hazardous

Signalword: -

8 mL Test dye/mixture 1

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Directive 1999/45/EC

Symbols:

-

R 63

Possible risk of harm to the unborn child.

S 36/37-62

Wear suitable protective clothing and gloves. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

GHS Directive 1272/2008/EC

GHS Symbols:



GHS02



GHS07



GHS08

Signalword: DANGER

H304, H361d

May be fatal if swallowed and enters airways. Suspected of damaging the unborn child.

P202, P301+310, P308+313, P331, P405

Do not handle until all safety precautions have been read and understood. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention. Do NOT induce vomiting. Store locked up.

8 mL Test dye/mixture 2

Directive 1999/45/EC

Symbols:

-

R 40-98

Limited evidence of a carcinogenic effect. Only for professional user.

S 36/37-53

Wear suitable protective clothing and gloves. Avoid exposure — obtain special instructions before use.

GHS Directive 1272/2008/EC

GHS Symbols:



GHS07



GHS08

Signalword: WARNING

H351

Suspected of causing cancer.

P202, P308+313, P405

Do not handle until all safety precautions have been read and understood. IF exposed or concerned: Get medical advice/attention. Store locked up.

8 mL Test dye/mixture 3

Directive 1999/45/EC

Symbols:

-

-

GHS Directive 1272/2008/EC

GHS Symbols:

do not need labelling as hazardous

Signalword: -

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100 mL Toluene/Cyclohexane (2:1)

Directive 1999/45/EC

Symbols:



F Xi N

R 11-38-50/53-63-67

Highly flammable. Irritating to skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of harm to the unborn child. Vapours may cause drowsiness and dizziness.

S 16-25-36/37-51-60-61-62-9

Keep away from sources of ignition — No smoking. Avoid contact with eyes. Wear suitable protective clothing and gloves. Use only in well-ventilated areas. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety data sheets. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Keep container in a well-ventilated place.

GHS Directive 1272/2008/EC

GHS Symbols:



GHS02 GHS07 GHS08

Signalword: DANGER

H304, H361d

May be fatal if swallowed and enters airways. Suspected of damaging the unborn child.

P202, P301+310, P308+313, P331, P405

Do not handle until all safety precautions have been read and understood. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention. Do NOT induce vomiting. Store locked up.

100 mL Toluene

Directive 1999/45/EC

Symbols:



F Xi

R 11-38-63-67

Highly flammable. Irritating to skin. Possible risk of harm to the unborn child. Vapours may cause drowsiness and dizziness.

S 36/37-62

Wear suitable protective clothing and gloves. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

GHS Directive 1272/2008/EC

GHS Symbols:



GHS02 GHS07 GHS08

Signalword: DANGER

H304, H361d

May be fatal if swallowed and enters airways. Suspected of damaging the unborn child.

P202, P301+310, P308+313, P331, P405

Do not handle until all safety precautions have been read and understood. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention. Do NOT induce vomiting. Store locked up.

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15.2 National Regulations

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on May 2008
 German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC
 TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated December 2009
 Announcement BekGS 220 (DE), Safety Data Sheet, September 2007 updated May 2009

16 Other Information

16.1 List of R and H phrases

16.1.1 List of relevant R phrases

R10	Flammable.
R11	Highly flammable.
R22	Harmful if swallowed.
R34	Causes burns.
R36	Irritating to eyes.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/20/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.
R98	Only for professional user.

16.1.2 List of relevant H phrases

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

16.2 Training Advice

Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

16.3 Recommended Restriction on Use

Only for professional user.
 Look about employee restrictions for young people (f. ex. DE § 22 JArbSchG)!
 Look about employee restrictions for pregnant women and nursing women (f.ex. DE §§ 4 und 5 MuSchRiV)!
 An individual package of this product or test kit has a moderate hazardous potential.

16.4 Further Information

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16.5 Sources of Key Data

TRGS 900, German engineering rules governing limits in air at work, updated May 2010
 SUVA .CH, Limits in air at work 2009, revised on 01.2009
 Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
 TRGS 905, German engineering rules governing carcinogens and mutagens, updated May 2008
 KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

You find our current versions of MSDS in Internet:

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