Safety Data Sheet

according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

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

1.1 Product identifier

REF 814300
Product name TLC Micro Set F 2

REACH Registration number(s): see SECTION 3.1/3.2 or
A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

2 x 50 mL Acetone
1 x 25 mL Butan-2-on
1 x 8 mL Cholesterol reference solution
1 x 100 mL Cyclohexane
1 x 100 mL Molydatophosphoric acid spray reagent

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

Relevant identified uses
Product for analytical use.
Exposure Scenario Classification according REACh, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0
The exposure scenario is integrated into sections 1-16.
Uses advised against
not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:
MACHEREY-NAGEL GmbH & Co. KG
Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY
Tel.: +49 2421 969 0 E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency telephone number

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

You find our current versions of SDS (22 languages) in Internet: **http://www.mn-net.com/SDS**

SECTION 2: Hazard identification

2.0 Classification of the complete product

GHS02 GHS05 GHS07 GHS08 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H304	Asp. Tox. 1
H315, EUH066	Skin Irrit. 2
H318	Eye Dam. 1
H319	Eye Irrit. 2
H336	STOT SE 3
H410	Aquatic Chronic 1

2.1 Classification of the substance or mixture

50 mL Acetone

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GHS02 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH066	Skin Irrit. 2
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H336	STOT SE 3

25 mL Butan-2-on

GHS02 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH066	Skin Irrit. 2
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H336	not defined

8 mL Cholesterol reference solution

GHS02 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH066	Skin Irrit. 2
H225	Flam. Liq. 2
H319	Eye Irrit. 2
H336	STOT SE 3

100 mL Cyclohexane

GHS02 GHS07 GHS08 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H304	Asp. Tox. 1
H315	Skin Irrit. 2
H336	not defined
H410	Aquatic Chronic 1

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US: Tel.: +1 484 821 0984 Fax: +1 484 821 1272 E-mail: sales-us@mn-net.com

100 mL Molydatophosphoric acid spray reagent

GHS02 GHS05 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H315, EUH066	Skin Irrit. 2
H318	Eye Dam. 1

2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identificator(s) (EU 1272/2008 Annex I - 1.5.1.2).

Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2).

50 mL Acetone

GHS02 GHS07

Signal word: DANGER

25 mL Butan-2-on

GHS02 GHS07

Signal word: DANGER

8 mL Cholesterol reference solution

GHS02 GHS07

Signal word: DANGER

100 mL Cyclohexane

GHS02 GHS07 GHS08 GHS09

Signal word: DANGER

H304, H410
May be fatal if swallowed and enters airways. Very toxic to aquatic life with long lasting effects.

P301+310, P331, P391

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IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Do NOT induce vomiting. Collect spillage.

100 mL Molydatophosphoric acid spray reagent

GHS02 GHS05 GHS07

Signal word: DANGER

H318
Causes serious eye damage.

P280sh, P305+351+338, P310
Wear protective gloves/eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

2.3 Other hazards

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. Flammable properties. ---

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.
May be fatal if swallowed and enters airways. -

Information pertaining to particular risks to the environment
Very toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
PBT: not applicable
vPvB: not applicable

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

50 mL Acetone

Chemical:	*acetone*		CAS No.: 67-64-1
Classification:	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3, EUH066, Skin Irrit. 2		
Formula:	C_3H_6O; $(CH_3)_2$-CO		
Pseudonym:	2-propanone		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119471330-49-xxxx		
EC No.:	200-662-2	Indice No.:	606-001-00-8
RTECS:	AL3150000	MFCD:	00008765
KE No.:	KE-29367		
Concentration:	80 - <100 %		
acc. CLP (GHS):	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3, EUH066, Skin Irrit. 2		

25 mL Butan-2-on

Chemical:	*ethyl methyl ketone*		CAS No.: 78-93-3
Classification:	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3, EUH066, Skin Irrit. 2		
Formula:	C_4H_8O		
Pseudonym:	MEK, 2-butanone, methyl acetone		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457290-43-xxxx		
EC No.:	201-159-0	Indice No.:	606-002-00-3
RTECS:	EL6475000	MFCD:	00011648
KE No.:	KE-24094, Toxic 97-1-81		
Concentration:	80 - <100 %		
acc. CLP (GHS):	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3, EUH066, Skin Irrit. 2		

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8 mL Cholesterol reference solution

Chemical:	*acetone*		CAS No.: 67-64-1
Classification:	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3, EUH066, Skin Irrit. 2		
Formula:	$C_3 H_6 O$; $(CH_3)_2$-CO		
Pseudonym:	2-propanone		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119471330-49-xxxx		
EC No.:	200-662-2	Indice No.:	606-001-00-8
RTECS:	AL3150000	MFCD:	00008765
KE No.:	KE-29367		
Concentration:	80 - <100 %		
acc. CLP (GHS):	H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3, EUH066, Skin Irrit. 2		

Chemical:	*test chemical(s) (ppm)*	CAS No.: -
Classification:	No criteria for classification or naming of chemical not required.	
TSCA Inventory:	all <0.1%	
Concentration:	0.1 - <1 %	
acc. CLP (GHS):	The criteria for classification are not fulfilled.	

100 mL Cyclohexane

Chemical:	*cyclohexane*		CAS No.: 110-82-7
Classification:	H225, Flam. Liq. 2, H304, Asp. Tox. 1, H315, Skin Irrit. 2, H336, STOT SE 3, H410, Aquatic Chronic 1		
Formula:	$C_6 H_{12}$		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119463273-41-xxxx		
EC No.:	203-806-2	Indice No.:	601-017-00-1
RTECS:	GU6300000	MFCD:	00003814
KE No.:	KE-18562		
Concentration:	90 - <100 %		
acc. CLP (GHS):	H225, Flam. Liq. 2, H304, Asp. Tox. 1, H315, Skin Irrit. 2, H336, STOT SE 3, H410, Aquatic Chronic 1		

100 mL Molydatophosphoric acid spray reagent

Chemical:	*molybdatophosphoric acid*		CAS No.: 51429-74-4
Classification:	H272, Ox. Liq. 2, H314, Skin Corr. 1B		
Formula:	$H_3 [P(Mo_3 O_{10})_4] \cdot x H_2 O$		
Pseudonym:	Phosphomolybdic acid		
TSCA Inventory:	listed (CAS 11104-88-4)		
EC No.:	234-713-5	MFCD:	00149913
KE No.:	not listed		
Concentration:	3 - <5 %		
acc. CLP (GHS):	H315, Skin Irrit. 2, H318, Eye Dam. 1		

Chemical:	*ethanol* (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)		CAS No.: 64-17-5
Classification:	H225, Flam. Liq. 2		
Formula:	$C_2 H_6 O$; $C_2 H_5 OH$		
Pseudonym:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119457610-43-xxxx		
EC No.:	200-578-6	Indice No.:	603-002-00-5
RTECS:	KQ6300000	MFCD:	00003568
KE No.:	KE-13217		
Concentration:	90 - <98 %		
acc. CLP (GHS):	H225, Flam. Liq. 2		

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.1

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SECTION 4: First aid measures

4.1 Description of first aid measures

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. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

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. ---

4.1.4 After ORAL Intake
After oral intake lots of water should be drunk after it has been ingested. ---

4.2 Most important symptoms and effects, both acute and delayed

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4.3 Indication of any immediate medical attention and special treatment needed

After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must to be carried out by an eye specialist. ---

SECTION 5: Firefighting measures

5.1 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 Special hazards arising from the substance or mixture

DANGER: Highly flammable (GHS regulation). Forms explosive vapour-air mixtures. Formation of hazardous and caustic vapour-air mixtures possible. ---

5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic.

5.4 Additional information

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. 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 Environmental precautions

not necessary, contains only small amounts of these substances

6.3 Methods and material for containment and cleaning up

Bind any escaping liquid with inert absorbent. 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.

6.4 Reference to other sections

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for safe storage, including any incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage.
Storage class (VCI): 3
Water hazard class (DE): 2

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.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

50 mL Acetone
Chemical: *acetone* CAS No.: 67-64-1
DNEL: [inh] (1210) mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 10.6 mg/L
PNEC = Predicted No Effected Concentration
EU value: 500 ppm / 1200 mg/m³
TRGS 900 (DE): 500 mL/m³ / 1200 mg/m³
A/a aveoles passing, E/e respirable, G total
Short-term exposure factor: 2 (I), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
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
B blood, U urine, a no limitation, b end of exposition or shift
NIOSH: [TWA] 250 ppm / [STEL] 590 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: [TWA] 1000 ppm / [STEL] 2400 mg/m³

25 mL Butan-2-on
Chemical: *ethyl methyl ketone* CAS No.: 78-93-3
DNEL: 600_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 55.8 mg/L
PNEC = Predicted No Effected Concentration
EU value: 200 ppm / 600 mg/m³
TRGS 900 (DE): 200 mL/m³ / 600 mg/m³
A/a aveoles passing, E/e respirable, G total
Short-term exposure factor: 1 (I), H, Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
TRGS 903 (DE): U/b 2 mg/L
B blood, U urine, a no limitation, b end of exposition or shift
NIOSH: TWA 200 ppm / 590 mg/m³ ; ST 300 ppm (885 mg/m³
NIOSH STEL: 300 ppm / 885 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: TWA 200 ppm / 590 mg/m³

8 mL Cholesterol reference solution
Chemical: *acetone* CAS No.: 67-64-1
DNEL: [inh] (1210) mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 10.6 mg/L
PNEC = Predicted No Effected Concentration
EU value: 500 ppm / 1200 mg/m³
TRGS 900 (DE): 500 mL/m³ / 1200 mg/m³
A/a aveoles passing, E/e respirable, G total
Short-term exposure factor: 2 (I), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 500 ppm/ 1200 mg/m³

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SUVA(CH) BAT value: [U/b] 80 mg/L
TRGS 903 (DE): [U/b] 80 mg/L
B blood, U urine, a no limitation, b end of exposition or shift
NIOSH: [TWA] 250 ppm / [STEL] 590 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: [TWA] 1000 ppm / [STEL] 2400 mg/m³

Chemical: *test chemical(s) (ppm)* CAS No.: -

100 mL Cyclohexane
Chemical: *cyclohexane* CAS No.: 110-82-7
DNEL: 700_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 0.207 mg/L
PNEC = Predicted No Effected Concentration
EU value: 200 ppm / 700 mg/m³
TRGS 900 (DE): 200 ppm / 700 mg/m³
A/a aveoles passing, E/e respirable, G total
Short-term exposure factor: 4 (II)
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
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,U/c $150_{Kreatinin}$ mg/g
B blood, U urine, a no limitation, b end of exposition or shift
NIOSH: not listed
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: not listed

100 mL Molydatophosphoric acid spray reagent
Chemical: *molybdatophosphoric acid* CAS No.: 51429-74-4
TRGS 900 (DE): [Mo] 5 E mg/m³
A/a aveoles passing, E/e respirable, G total
Short-term exposure factor: 4
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: [Mo] 5 e mg/m³

Chemical: *ethanol* CAS No.: 64-17-5
DNEL: [derm] 343 mg/kg; [inh] 950 mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 0.96 mg/L
PNEC = Predicted No Effected Concentration
TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
A/a aveoles passing, E/e respirable, G total
Short-term exposure factor: 4 (II), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 500 ppm / 960 mg/m³
NIOSH: [TWA] 1000 ppm / 1900 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period
OSHA: [TWA] 1000 ppm / 1900 mg/m³

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
No additional recommendations.

8.2.2 Hand protection
Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC (f.ex. from Ansell or KCL). Use for short times chemical resistant latex or nitril gloves with code EN 374-3 level 1.

8.2.3 Eye protection
Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection or face protection.

8.2.4 Skin protection
Recommended to avoid contamination with these hazards.

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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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

50 mL Acetone

Appearance: liquid	Colour: colourless	Odor: like acetone
Odor limit:	1-1600 mg/m³	
pH:	5-6	
Melting point:	-95 °C	
Boiling point:	56 °C	
Flash point:	-20 °C	
Evaporation rate$_{(ether=1)}$:	2,1	
Explosion limits:	2.5-13 Vol%	
Vapour pressure (20°C):	233 hPa	
Vapour density$_{(air=1)}$:	2,01	
Specific gravity:	0,79 g/cm³	
Solubility in water:	0-100 %	
Flashing temperature:	540 °C	
Volatiles by volume:	555 g/m³	

25 mL Butan-2-on

Appearance: liquid	Colour: colourless	Odor: organic
pH:	6-8	
Melting point:	-86 °C	
Boiling point:	80 °C	
Flash point:	-10 °C	
Explosion limits:	1.5... 12.6 Vol%	
Vapour pressure (20°C):	105 hPa	
Vapour density$_{(air=1)}$:	2,48	
Specific gravity:	0,805 g/cm³	
Solubility in water:	0-30 %	
Flashing temperature:	475 °C	
Volatiles by volume:	310 g/m³	

8 mL Cholesterol reference solution

Appearance: liquid	Colour: colourless	Odor: like acetone
Odor limit:	1-1600 mg/m³	
pH:	5-6	
Melting point:	-95 °C	
Boiling point:	56 °C	
Flash point:	-20 °C	
Evaporation rate$_{(ether=1)}$:	2,1	
Explosion limits:	2.5-13 Vol%	
Vapour pressure (20°C):	233 hPa	
Vapour density$_{(air=1)}$:	2,01	
Specific gravity:	0,79 g/cm³	
Solubility in water:	0-100 %	
Flashing temperature:	540 °C	
Volatiles by volume:	555 g/m³	

100 mL Cyclohexane

Appearance: liquid	Colour: colourless	Odor: organic
Odor limit:	1.4-1000 mg/m³	
Melting point:	6.5 °C	
Boiling point:	81 °C	
Flash point:	(-26) -18 °C	
Evaporation rate$_{(ether=1)}$:	3.5	
Explosion limits:	1-9.3 Vol%	
Vapour pressure (20°C):	104 hPa	
Vapour density$_{(air=1)}$:	2.91	
Specific gravity:	0,78 g/cm³	
Solubility in water:	0 %	
Flashing temperature:	260 °C	

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Volatiles by volume: 359 g/m³

100 mL Molydatophosphoric acid spray reagent

Appearance: liquid	Colour: colourless	Odor: alcoholic
Odor limit:	19-93 mg/m³	
pH:	7	
Melting point:	-114 °C	
Boiling point:	78 °C	
Flash point:	12 °C	
Explosion limits:	3.2-15 Vol%	
Vapour pressure (20°C):	59 hPa	
Vapour density$_{(air=1)}$:	1,59	
Specific gravity:	0,79-0,86 g/cm³	
Solubility in water:	0-100 %	
Flashing temperature:	425 °C	
Volatiles by volume:	112 g/m³	

9.2 Other information

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.
Relevant Properties of Substance Group
Substances are very volantile and form flammable vapour-air mixtures. ---

SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

No known instability.

10.3 Possibility of hazardous reactions

No further data available.

10.4 Conditions to avoid

Not necessary. ---

10.5 Incompatible materials

Avoid contact with strong acids or alkalines.

10.6 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.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

50 mL Acetone

Chemical:	*acetone*	CAS No.: 67-64-1
TSCA Inventory:	listed	California Proposition 65 List: not listed
ACGIH:	750 ppm	
Exposure Routes:	inhalation, ingestion, skin and/or eye contact	
Target Organs:	Eyes, skin, respiratory system, central nervous system	
Symptoms:	irritation eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis	
Australia NICNAS:	not listed	Canada CEPA 1999: DSL yes
Japan CSCL/PRTR:	[PAC] Yes, Japan PDSCL: not listed	
Japan ISHL:	listed ≥1,0%/≥0,1%, Article 57-1+2 (Labelling&SDS required)	
South Korea TCCA:	not listed	
Korea Exist.Chem.Inventory:	KE-29367	
LD50$_{orl\ rat}$:	5800 mg/kg	
LC50$_{ihl\ rat}$:	[8h] 50.1 g/m³	
LD50$_{drm\ rbt}$:	7.426-15.8 g/kg	

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25 mL Butan-2-on

Chemical: *ethyl methyl ketone* CAS No.: 78-93-3
TSCA Inventory: listed
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system
Symptoms: irritation eyes, skin, nose; headache; dizziness; vomiting; dermatitis
Japan ISHL: listed ≥1,0%/≥1,0%,
Korea Exist.Chem.Inventory: KE-24094, Toxic 97-1-81
$LD50_{orl\ rat}$: >2193 mg/kg
$LD50_{drm\ rbt}$: >5000 mg/kg

8 mL Cholesterol reference solution

Chemical: *acetone* CAS No.: 67-64-1
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 750 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system
Symptoms: irritation eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: [PAC] Yes, Japan PDSCL: not listed
Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-1+2 (Labelling&SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-29367
$LD50_{orl\ rat}$: 5800 mg/kg
$LC50_{ihl\ rat}$: [8h] 50.1 g/m³
$LD50_{drm\ rbt}$: 7.426-15.8 g/kg

Chemical: *test chemical(s) (ppm)* CAS No.: -
TSCA Inventory: all <0.1%

100 mL Cyclohexane

Chemical: *cyclohexane* CAS No.: 110-82-7
TSCA Inventory: listed California Proposition 65 List: not listed
Symptoms: skin irritation; mild eye irritation
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: PAC Yes, Japan PDSCL: not listed
Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-18562
$LD50_{orl\ rat}$: 12.7 g/kg
$LC50_{ihl\ rat}$: 14_{4h} mg/L
$LD50_{drm\ rbt}$: >2000 mg/kg

100 mL Molydatophosphoric acid spray reagent

Chemical: *molybdatophosphoric acid* CAS No.: 51429-74-4
TSCA Inventory: listed (CAS 11104-88-4)
Target Organs: affect the eye or visual capacity
Symptoms: conjunctivitis; corneal damage
Japan ISHL: listed ≥1,0%/≥0,1%,
Korea Exist.Chem.Inventory: not listed

Chemical: *ethanol* CAS No.: 64-17-5
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed

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Korea Exist.Chem.Inventory: KE-13217
$LD50_{orl\ rat}$: 6200 mg/kg
$LC\_Low_{ihl\ gpg}$: 21.9 g/m³
$LC\_Low_{orl\ hmn}$: 1400 mg/kg
$LC50_{ihl\ mouse}$: [4h] 39 g/m³
$LC50_{ihl\ rat}$: [10h] 20 g/m³
$LD50_{drm\ rbt}$: 20 000 mg/kg
$LD50_{oral\ mouse}$: 3450 mg/kg

TRGS 905 (DE): K5, M5, R_F C

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

50 mL Acetone

Chemical: *acetone* CAS No.: 67-64-1
$PNEC_{(fresh\ water)}$: 10.6 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$: [48h] 8.8 g/L
$LC50_{fish/96h}$: [4d] 5540 mg/L
$EC50_{daphnia/48h}$: 2212 mg/L
$IC50_{scenedesmus\ quadricauda/72h}$: IC5: 7500 mg/L
$EC10_{pseudomonas\ putita/16h}$: [30 min] 61,15 g/L
Water hazard class (DE): 1 WGK No.: 0006
$Dispersion\ coefficient_{(octanol-water)}$: -0.24
Storage class (VCI): 3

25 mL Butan-2-on

Chemical: *ethyl methyl ketone* CAS No.: 78-93-3
$PNEC_{(fresh\ water)}$: 55.8 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{pimephales\ promelas/96h}$: 2993 mg/L
$EC50_{daphnia/48h}$: 308 mg/L
$EC50_{pseudokirchneriella\ subcapitata/72h}$: EC50/96h: 2029 mg/L
Water hazard class (DE): 1
Storage class (VCI): 3

8 mL Cholesterol reference solution

Chemical: *acetone* CAS No.: 67-64-1
$PNEC_{(fresh\ water)}$: 10.6 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$: [48h] 8.8 g/L
$LC50_{fish/96h}$: [4d] 5540 mg/L
$EC50_{daphnia/48h}$: 2212 mg/L
$IC50_{scenedesmus\ quadricauda/72h}$: IC5: 7500 mg/L
$EC10_{pseudomonas\ putita/16h}$: [30 min] 61,15 g/L
Water hazard class (DE): 1 WGK No.: 0006
$Dispersion\ coefficient_{(octanol-water)}$: -0.24
Storage class (VCI): 3

Chemical: *test chemical(s) (ppm)* CAS No.: -
Storage class (VCI): 12

100 mL Cyclohexane

Chemical: *cyclohexane* CAS No.: 110-82-7
Very toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
$PNEC_{(fresh\ water)}$: 0.207 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: 34 mg/L
$EC50_{daphnia/48h}$: 3.8 mg/L
Water hazard class (DE): 2 WGK No.: 0063
Storage class (VCI): 3

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100 mL Molydatophosphoric acid spray reagent

Chemical: *molybdatophosphoric acid* CAS No.: 51429-74-4
Water hazard class (DE): 2
Storage class (VCI): 8 B

Chemical: *ethanol* CAS No.: 64-17-5
$PNEC_{(fresh\ water)}$: 0.96 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{daphnia\ magna/48h}$: >100 mg/L
$LC50_{pimephales\ promelas/96h}$: 13400 - 15100 mg/L
$LC50_{leuciscus\ idus/96h}$: [48h] 8140 mg/L
$LC50_{fish/96h}$: 13 g/L
$EC50_{daphnia/48h}$: 9.3-14.2 g/L
$IC50_{scenedesmus\ quadricauda/72h}$: [7d] 5000 mg/L
$EC10_{pseudomonas\ putita/16h}$: [EC5] 6500 mg/L
Water hazard class (DE): 1 WGK No.: 0096
Dispersion $coefficient_{(octanol-water)}$: -0.31
Storage class (VCI): 3

12.2 Persistence and degradability
not necessary

12.3 Bioaccumulative potential
not necessary

12.4 Mobility in soil
not necessary

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no additional data available

SECTION 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).

13.1 Waste treatment methods
Normally it is possible to empty small amounts (diluted!) into drains. Empty containers of corrosive reagents prior to disposal, rinse with water.

SECTION 14: Transport information

14.1. UN number: 3316 14.2. UN proper shipping name: Chemical Kit
14.3. Class: 9 14.4. Packing group: II
Road transport
Classification code: M11 Tunnel restriction code: E
Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation
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

Or use **Alternative declaration for transportation:**

14.1 UN number: 1993 14.2 UN proper shipping name: Flammable liquid, n.o.s. (ethanol, acetone mixture)
14.3 Class: 3 14.4 Packing group: II
Road transport
Classification code: F1
Limited Quantity: 1 L Tunnel restriction code: E
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

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14.5 Environmental hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these substances

14.6 Special precautions for user

not necessary

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

not applicable

SECTION 15: Regulatory information

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

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013
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 October 2011
MN Leaflet/User manual, also see www.mn-net.com
Look for your country-specific regulations.

15.2 Chemical safety assessment

not necessary for these small amounts ---

SECTION 16: Other information

16.1 List of H and P phrases

16.1.1 List of relevant H phrases

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

16.1.2 List of relevant P phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P260D	Do not breathe vapours.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P331	Do NOT induce vomiting.
P391	Collect spillage.

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. 94/33/EC or DE § 22 JArbSchG)!
Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!
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

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS
Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress
Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated 03/2019
SUVA .CH, Limits in air at work 2009, revised on 01.2009
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU
2017-08 Adaption of new ethanol denaturation 2016/1867/EU

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