

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 910907	UNISOL 410 Indikatorlösung, pH 4-10, 1 l	Page: 1/7
Printing Date: 01.10.2019	Date of Issue: 14.09.2018	

Section 1: Identification

1.1 Product Identifier / Product Name

REF	910907
Product Name	UNISOL 410 Indikatorlösung, pH 4-10, 1 l
-	1 x 1 L UNISOL pH 4-10

1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

Relevant identified uses
Product for Analytical Use.
The Exposure scenario is integrated into sections 1-16.

Uses advised against
not described

1.3 Details of the Supplier and 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

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night (CCN685047)
Within USA and Canada: **1-800-424-9300**
Outside USA and Canada: **+1 703-527-3887** (collect calls accepted)

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

Section 2: Hazard(s) Identification

2.1 Classification of the Substance(s) or Mixture(s)

1 L UNISOL pH 4-10



GHS02

Signal Word DANGER

Hazard Identification	Hazard Classes/Categories
H225	Flam. Liq. 2

2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012).

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) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A.

1 L UNISOL pH 4-10



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Signal Word: DANGER

H225

Highly flammable liquid and vapor.

P210, P233

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed.

2.3 Other Hazards

Possible Hazards from physicochemical Properties

Flammable properties. Vapor forms explosive mixtures with air. ---

Information pertaining to particular Risks to Human and possible Symptoms

-

Information pertaining to particular Risks to the Environment

PBT: not applicable

vPvB: not applicable

Other Hazards

Section 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

1 L UNISOL pH 4-10

Chemical:	<i>ethanol</i>	CAS No.:	64-17-5
	(denatured with 1%IPA/1%MEK, acc.2016/1867/EU)		
Classification:	H225, Flam. Liq. 2		
Chemical Formula:	C ₂ H ₆ O; C ₂ H ₅ OH		
Synonyms:	ethyl alcohol, methylated spirit		
TSCA Inventory:	listed		
RTECS:	KQ6300000	MFCD:	00003568
EC No.:	200-578-6	Indice No.:	603-002-00-5
Weight Percent:	90 - <98 %		
acc. GHS:	H225, Flam. Liq. 2		

Chemical:	<i>phenolphthalein (pH indicator)</i>	CAS No.:	77-09-8
Classification:	H341, Muta. 2, H350, Carc. 1A, H361f, Repr. 2		
Chemical Formula:	C ₂₀ H ₁₄ O ₄		
Synonyms:	3,3-bis(4-hydroxyphenyl)-1(3H)-isobenzofuranone		
TSCA Inventory:	listed		
RTECS:	SM8380000	MFCD:	00005913
EC No.:	201-004-7	Indice No.:	604-076-00-1
Weight Percent:	0,01 - <0,1 %		
acc. GHS:	The criteria for classification are not fulfilled.		

Chemical:	<i>indicator dye(s)</i>	CAS No.:	-
Classification:	No criteria for classification or naming of chemical is not required.		
TSCA Inventory:	all listed, <1%		
Weight Percent:	0,01 - <0,1 %		
acc. GHS:	The criteria for classification are not fulfilled.		

3.3 Remarks

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

List of Hazard and Precaution 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.

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 Vapors

After inhalation of foam or vapor 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

4.3 Indication of any immediate Medical Attention and Special Treatment needed

After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. ---

Section 5: Fire-Fighting Measures

5.1 Extinguishable 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 WATER FOG, WATER SPRAY, alcohol-resistant FOAM, DRY CHEMICAL, CARBON DIOXIDE can be used.

5.2 Special Hazards arising from the Substance or Mixture

DANGER: Highly flammable. Forms explosive vapor-air mixtures. Formation of hazardous and caustic vapor-air mixtures possible. ---

5.3 Advice for Firefighters

No, for listed product. The substance/mixture is highly flammable. Product package burns like paper or plastic. Cool any undamaged containers in water, and remove from the danger zone if possible. Heating will lead to an increase in pressure, and a danger of bursting.

5.4 Additional Information

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Do not breathe vapors. Wear suitable protective gloves (see 8.2.2). Wear eye protection. Keep product away from sources of ignition - No smoking. Regular staff training is necessary.

6.2 Environmental Precautions

not necessary

6.3 Methods and Material for Containment and Cleaning up

Bind any escaping liquid with inert absorbent.
Collect small amounts of leaked liquid and flush with water into sewer.

6.4 Reference to other Sections

Section 7: Handling and Storage

7.1 Precautions for Safe Handling

Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.

7.2 Conditions for Safe Storage, including any Incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage. Classification into storage class A (Flammable).

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Storage class (VCI): 3
 Water hazard class (DE): 1

7.2.1 Conditions for Safe Storage, including any Incompatibilities
 Keep original product packages tightly closed during handling and storage, and store in a well-ventilated place at max. 77°F (25 °C), away or preferably separate from substances with which a hazardous reaction could take place. 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

1 L UNISOL pH 4-10

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 Effect Concentration

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

Chemical: *phenolphthalein (pH indicator)* CAS No.: 77-09-8

NIOSH: not listed, NTP Report on Carcinogens (RoC) List Yes (Reasonably anticipated to be a human carcinogen)

[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

Chemical: *indicator dye(s)* CAS No.: -

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 (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.

8.2.3 Eye/Face Protection
 Yes, Splash Goggles.

8.2.4 Skin Protection
 Recommended.

8.2.5 Hygiene Measures
 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

1 L UNISOL pH 4-10

- | | | |
|--|-------------------------|--------------------|
| a) Appearance: liquid | Color: green | b) Odor: alcoholic |
| c) Odor Threshold: | 19-93 mg/m ³ | |
| d) pH: | 7 | |
| e) Melting Point: | -114 °C | |
| f) Boiling Point: | 78 °C | |
| g) Flash Point: | 12 °C | |
| h) Evaporation Rate _(ether=1) : | data not available | |
| i) Flammability (solid, gas): | data not available | |
| j) Explosive Limits: | 3.2-15 Vol% | |
| k) Vapor Pressure (68°F): | 59 hPa | |

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l)	Vapor Density _(air=1) :	1,59
m)	Specific Gravity:	0,79-0,86 g/cm ³
n)	Soluble in Water:	0-100 %
o)	Partition Coefficient (o-w):	data not available
p)	Autoignition Temperature:	425 °C
q)	Decomposition temperature:	data not available
r)	Viscosity:	data not available
s)	Explosive properties:	data not available
t)	Oxidizing properties:	---

9.2 Other Information

Data for the other parameters of the mixtures are not available.

Relevant Properties of Substance Group

Substances are very volatile and form flammable vapor-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

But avoid reactions with oxidizing agents. No further data available.

10.4 Conditions to avoid

Not necessary. But can form explosive gases/vapour with air. Use only in a well-ventilated working areas. ---

10.5 Incompatible Materials

Avoid storage with oxidizing substances. ---

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

1 L UNISOL pH 4-10

Chemical:	<i>ethanol</i>	CAS No.:	64-17-5
TSCA Inventory:	listed	California Prop. 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		
Canada CEPA 1999:	DSL yes		
LD50 _{orl rat} :	6200 mg/kg		
LC ₅₀ _{ihl gpg} :	21.9 g/m ³		
LC ₅₀ _{orl hmn} :	1400 mg/kg		
LC50 _{ihl mouse} :	[4h] 39 g/m ³		
LC50 _{ihl rat} :	[10h] 20 g/m ³		
LD50 _{drm rbt} :	20 000 mg/kg		
LD50 _{oral mouse} :	3450 mg/kg		

Chemical:	<i>phenolphthalein (pH indicator)</i>	CAS No.:	77-09-8
TSCA Inventory:	listed	California Prop. 65 List:	listed, cancer
Canada CEPA 1999:	DSL yes		
LD50 _{orl rat} :	>1000 mg/kg		

EU carcinogen: Carcinogenicity cat. 2, Germ Cell Mutagenicity cat. 3, >5% Reproductive Toxicity cat. 3

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Chemical: *indicator dye(s)* CAS No.: -
 TSCA Inventory: all listed, <1%

Section 12: Ecological Information

12.1 Toxicity

Following information is valid for pure chemicals.

1 L UNISOL pH 4-10

Chemical:	<i>ethanol</i>	CAS No.:	64-17-5
PNEC _(fresh water) :	0.96 mg/L		
PNEC = Predicted No Effect 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		
Partition Coefficient (o-w):	-0.31		

Chemical:	<i>phenolphthalein (pH indicator)</i>	CAS No.:	77-09-8
Partition Coefficient (o-w):	0.9		

Chemical:	<i>indicator dye(s)</i>	CAS No.:	-
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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 (RCRA Code D002/D003, EU waste code number 16 05 06).

13.1 Waste Treatment Methods

Normally it is possible to empty small amounts (diluted!) into drains.

Section 14: Transport Information

14.1. UN/NA: 1993 14.2. Proper Shipping Name: Flammable liquid, n.o.s. (ethanol mixture)

14.3. Hazard Class: 3 14.4. Packing Group: II

Transportation by Road

Classification code:	F1	Tunnel restriction code:	E
Limited Quantity:	1 L	Special instructions:	640C
Excepted Quantity:	E 2		

Air Transportation

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

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none, contains only small quantities of hazardous 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

U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

<https://www.osha.gov/dsg/hazcom/ghs.html>

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety & Health Topics

TSCA Inventory

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

MN Leaflet/User manual, also see www.mn-net.com

15.2 Chemical Safety Assessment

not necessary for these small amounts ---

Section 16: Other Information

16.1 List of Hazard and Precaution Phrases

16.1.1 List of relevant H Phrases

H225 Highly flammable liquid and vapor.

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.

16.2 Training Advice

Multiple safety training of staffs about danger and protection by using hazards in working area.

16.3 Recommended Restriction on Use

Only for Professional User.

An individual package of this product or test kit has a moderate hazardous potential.

16.4 Further Information

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.

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16.5 Sources of Key Data

GHS: EU Regulation 1272/2008/EC on Classification, Labelling and Packaging of Substances and Mixtures, amending and repealing EU Directives 67/548/EEC and 1999/45/EC, and amending EU Regulation 1907/2006/EC

SDS: EU Regulation 453/2010/EU REACH - Requirements for the Compilation of Safety Data Sheets

EU-Directive 1999/92/EC Minimum Requirements for Improving the Safety and Health Protection of Workers at Risk from potentially Explosive Atmospheres

KÜHN, BIRETT (German), Data Sheets of Hazardous Substances

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of European Regulation 1221/2015/EU

You find our current Versions of SDS in Internet:

<http://www.mn-net.com/SDS> [U.S. English]