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 90801
Product name Moisture indicator papers (pack 12)

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.

12 x 1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969

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
Valencienner Str. 11, 52355 Düren, 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

2.1 Classification of the substance or mixture

1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969



GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H317	Skin Sens. 1
H334	Resp. Sens. 1
H341	Muta. 2
H350i	Carc. 1A
H360F	Repr. 1B
H412	Aquatic Chronic 3

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** must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2). This labelling exemption is NOT valid for sensibilizing substances. The harzard rules for labelling pure cobalt dichloride have no practical relevance. **The following listed labelling would be creating an "OVERLABELLING" of cobalt dichloride.** This is not the intention of the chemical regulations.

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1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969



GHS07 GHS08

Signal word: DANGER

H317, H334, H341, H350i, H360F, H412
May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. May cause cancer if inhaled. May damage fertility. Harmful to aquatic life with long lasting effects.

P201, P261sh, P280sh, P342+311, P405
Obtain special instructions before use. Avoid breathing dust/vapours. Wear protective gloves/eye protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Store locked up.

2.3 Other hazards

Possible hazards from physicochemical properties
A single humidity indicator has considerably less hazardous potential. Repeated contact needs safety measures (see page down).---

Information pertaining to particular risks to human and possible symptoms
Cause after skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. May cause cancer. May cause cancer if inhaled. May damage fertility. -

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

Other hazards
Harmful if inhaled and/or by mutiple exposition. Inhaled dust may cause cancer, also in human.
The classification of the pure substance as cancer and as allergen is related to respirable form (dust, aerosol) respectively to professional skin contact. In the impregnated test paper $CoCl_2$ is only in an adsorbed, fixed form. By intended use an exposition is either excluded or for skin contact negligible.---

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969

Chemical: *cobalt(II) chloride* CAS No.: 7646-79-9
Classification: H302, Acute Tox. 4 oral, H317, Skin Sens. 1, H334, Resp. Sens. 1, H341, Muta. 2, H350i, Carc. 1A, H360F, Repr. 1B, H410, Aquatic Chronic 1
Formula: $CoCl_2$
TSCA Inventory: listed
REACH Reg. No.: 01-2119517584-37-xxxx
SVHC listed: **listed (28/10/2008)**
EC No.: 231-589-4 Indice No.: 027-004-00-5
RTECS: GF9800000
KE No.: KE-06095
Concentration: 2.2 - <5.5 % Correlation factor: x 0.454 (= %Co)
The classification refers to weight percent of the metal (according to CLP Regulation 2008/1272/EC Annex VI, 1.1.3.2 Note 1)
acc. CLP (GHS): H317, Skin Sens. 1, H334, Resp. Sens. 1, H341, Muta. 2, H350i, Carc. 1A, H360F, Repr. 1B, H412, Aquatic Chronic 3

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Chemical:	*filter paper (cellulose CAS 9004-34-6)*	CAS No.: -
Classification:	No criteria for classification or naming of chemical not required.	
Formula:	$(C_6 H_{10} O_5)_n$	
TSCA Inventory:	listed	
REACH Reg. No.:	exempt, Annex IV	
EC No.:	232-674-9	
RTECS:	FJ5691460	
KE No.:	KE-05339	
Concentration:	80 - <100 %	
acc. CLP (GHS):	The criteria for classification are not fulfilled.	

3.3 Remarks

List of H and P phrases: see section 16.1

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. Take to a doctor, in a raised position if there are breathing difficulties.

4.1.1 After SKIN Contact

Remove dust with wetted tissue. Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. Avoid neutralisation. Then apply a loose bandage.

4.1.2 After EYE Contact

Rub dust with teardrops from eyes or: After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of vapours

Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function. After inhalation of dust fresh air should be inhaled. ---

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

Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
CMR Effects: Suspected of causing genetic defects. May cause cancer. May cause cancer if inhaled. May damage fertility. ---

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. Inform patient respectively further measures and the possibility of long-term damages. ---

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

5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic.
For great amount - 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

Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances. ---

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective gloves (see 8.2.2). Wear eye 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

And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water.

6.4 Reference to other sections

see information in section 5.4 ---

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. Products containing also toxic substances should be kept locked up.

Storage class (VCI): 6.1B
Water hazard class (DE): 2

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage, so that they are not immediately accessible to outside parties.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969

Chemical: *cobalt(II) chloride* CAS No.: 7646-79-9
EU value: carc. 2, mut. 3, R_F 2
TRGS 900 (DE): 0,1 E g/m³
E/e respirable

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: [als Co] 0,05 e mg/m³
SUVA(CH) BAT value: Co U/b 60 µg/L
NIOSH: 0.05 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

Chemical: *filter paper (cellulose CAS 9004-34-6)* CAS No.: -
TRGS 900 (DE): 1.25 A / 4 E mg/m³
E/e respirable

SUVA(CH) MAK value: 3 a mg/m³
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

8.2 Exposure controls

The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory protection

Use for open access of these substances for example a protection filter, class A/AX. No additional recommendations.

8.2.2 Hand protection

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

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

8.2.4 **Skin protection**
Recommended 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969

Appearance: solid	Colour: blue	Odor: odorless
pH:	5-7	

9.2 Other information

Relevant Properties of Substance Group

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 concentrated acids and oxidizing agents. 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.

1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969

Chemical: *cobalt(II) chloride* CAS No.: 7646-79-9
TSCA Inventory: listed
ACGIH: $0.05_{dust,\ fume}$ mg/m³
Japan CSCL/PRTR: PRTR: ≥1,0% Co class I, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%,
Korea Exist.Chem.Inventory: KE-06095
$LD50_{orl\ rat}$: 80 mg/kg
$LD50_{drm\ rat}$: 2 g/kg
Exposure Risk Relationship (ERR) for respirable dust :
Tolerance concentration: [Co] 0,005 mg/m³
Acceptance concentration: [Co] 0,00005 mg/m³
Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities.
Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carcinogenic Effects: Suspected of causing genetic defects. May cause cancer. May cause cancer if inhaled. May damage fertility.
EU carcinogen: carc. 2, repr. 2
TRGS 905 (DE): K2, M3A
TRGS 907 (DE): Sah

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Chemical: *filter paper (cellulose CAS 9004-34-6)* CAS No.: -
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-05339
$LD50_{orl\ rat}$: >5000 mg/kg
$LC50_{ihl\ rat}$: $>5800_{4h}$ mg/m³
$LD50_{drm\ rbt}$: >2000 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

1 pc Moisture indicator (completely impregnated) TL6685-12-194-4969

Chemical: *cobalt(II) chloride* CAS No.: 7646-79-9
Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
Water hazard class (DE): 2 WGK No.: 0493
Storage class (VCI): 6.1 B

Chemical: *filter paper (cellulose CAS 9004-34-6)* CAS No.: -
Water hazard class (DE): nwg
Storage class (VCI): 11

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). Close container tightly.

13.1 Waste treatment methods

SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations

14.5 Environmental hazards

none, 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

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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

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350i	May cause cancer if inhaled.
H360F	May damage fertility.
H412	Harmful to aquatic life with long lasting effects.

16.1.2 List of relevant P phrases

P201	Obtain special instructions before use.
P261sh	Avoid breathing dust/vapours.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+313	IF exposed or concerned: Get medical advice/attention.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P405	Store locked up.

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

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

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
Regulation 849/2021/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
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 03/18
TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

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

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