

# Safety Data Sheet

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

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

### 1.1 Product identifier

REF 931015  
 Product name VISOCOLOR ECO Chlorine 2, free and total

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.

1 x 30 mL Cl<sub>2</sub>-3  
 1 x 25 mL Cl<sub>2</sub>-2  
 1 x 18 mL Cl<sub>2</sub>-1

### 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



GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2

### 2.1 Classification of the substance or mixture

30 mL Cl<sub>2</sub>-3

Signal word Do not need labelling as hazardous  
 -

No hazard class

25 mL Cl<sub>2</sub>-2

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GHS07

Signal word

WARNING

**Hazard identification**

**Hazard classes/categories**

H315

Skin Irrit. 2

H319

Eye Irrit. 2

**18 mL Cl<sub>2</sub> -1**

Signal word

Do not need labelling as hazardous

-

No hazard class

## 2.2 Label elements

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

**30 mL Cl<sub>2</sub> -3**

Do not need labelling as hazardous

Signal word: -

**25 mL Cl<sub>2</sub> -2**



GHS07

Signal word: WARNING

**18 mL Cl<sub>2</sub> -1**

Do not need labelling as hazardous

Signal word: -

## 2.3 Other hazards

**Possible hazards from physicochemical properties**

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**

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**Information pertaining to particular risks to the environment**

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**Other hazards**

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances or 3.2 Mixtures

**30 mL Cl<sub>2</sub> -3**



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- 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 with eye washing bottle, eye douche or running water (protect intact eye).
- 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**  
No additionally recommendations. ---

## 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**  
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**  
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## SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Do not breathe vapours. 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 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): 8B  
Water hazard class (DE): 3
- 7.2.1 Requirements for stock rooms and containers**  
Keep original product packages tightly closed during handling and storage.
- 7.3 Specific end use(s)**  
Product for analytical use.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### 30 mL Cl<sub>2</sub> -3

Chemical: *potassium iodide*

CAS No.: 7681-11-0

Chemical: *water*

CAS No.: 7732-18-5

#### 25 mL Cl<sub>2</sub> -2

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate*

CAS No.: 6283-63-2

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

Chemical: *sulfuric acid*

CAS No.: 7664-93-9

DNEL: [inh] 50 µg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 2.5 µg/L  
PNEC = Predicted No Effect Concentration

EU value: 0.1 e mg/m<sup>3</sup>

TRGS 900 (DE): 0.1 E mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 1 (I), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 0,1 e mg/m<sup>3</sup>

NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); [TWA] 1 mg/m<sup>3</sup>  
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 1 mg/m<sup>3</sup>

#### 18 mL Cl<sub>2</sub> -1

Chemical: *phosphate buffer solution*

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 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.

#### 8.2.3 Eye protection

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

#### 8.2.4 Skin protection

Not necessary.

#### 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

#### 30 mL Cl<sub>2</sub> -3

Appearance: liquid

Colour: colourless

Odor: odorless

Flash point:

N/A

Specific gravity:

1.0 g/cm<sup>3</sup>

#### 25 mL Cl<sub>2</sub> -2

Appearance: liquid

Colour: rose

Odor: odorless

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pH:	0-1		
Specific gravity:	1,1 g/cm <sup>3</sup>		
<b>18 mL Cl<sub>2</sub> -1</b>			
Appearance: liquid	Colour: colourless	Odor: odorless	
pH:	9		
Specific gravity:	1,2 g/cm <sup>3</sup>		
Solubility in water:	0-100 %		

## 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

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## 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

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### 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.

#### 30 mL Cl<sub>2</sub> -3

Chemical:	<i>potassium iodide</i>	CAS No.: 7681-11-0
TSCA Inventory:	listed	
Korea Exist.Chem.Inventory:	not listed	
LD50 <sub>orl rat</sub> :	2779 mg/kg	

Chemical:	<i>water</i>	CAS No.: 7732-18-5
TSCA Inventory:	listed	
Korea Exist.Chem.Inventory:	KE-35400	

#### 25 mL Cl<sub>2</sub> -2

Chemical:	<i>N,N-Diethyl-1,4-phenylene diammonium sulfate</i>	CAS No.: 6283-63-2
TSCA Inventory:	listed (CAS 6065-27-6)	California Proposition 65 List: not listed
Australia NICNAS:	not listed	Canada CEPA 1999: not listed
Japan CSCL/PRTR:	not listed, Japan PDSCL: not listed	
Japan ISHL:	not listed	
South Korea TCCA:	not listed	
LD50 <sub>orl rat</sub> :	497 mg/kg	

Chemical:	<i>sulfuric acid</i>	CAS No.: 7664-93-9
TSCA Inventory:	listed	California Proposition 65 List: not listed
ACGIH:	1 ppm	
Exposure Routes:	inhalation, ingestion, skin and/or eye contact	

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Target Organs: Eyes, skin, respiratory system, teeth  
 Symptoms: irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis;  
 dental erosion; eye, skin burns; dermatitis  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance  
 Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)  
 South Korea TCCA: Accident Precaution Chemical Yes  
 Korea Exist.Chem.Inventory: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 LD50<sub>orl rat</sub>: 2140 mg/kg  
 LC50<sub>ihl rat</sub>: [8h] 600/ [4h] 850 mg/m<sup>3</sup>  
 TRGS 905 (DE): Kat 4

## 18 mL Cl<sub>2</sub> -1

Chemical: *phosphate buffer solution* CAS No.: -  
 TSCA Inventory: all listed  
 Korea Exist.Chem.Inventory: listed

## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 30 mL Cl<sub>2</sub> -3

Chemical: *potassium iodide* CAS No.: 7681-11-0  
 LC50<sub>fish/96h</sub>: 2190 mg/L  
 Water hazard class (DE): 1  
 Dispersion coefficient<sub>(octanol-water)</sub>: 0.04  
 Storage class (VCI): 12-13

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

#### 25 mL Cl<sub>2</sub> -2

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate* CAS No.: 6283-63-2  
 Water hazard class (DE): 3  
 Storage class (VCI): 12-13

Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 PNEC<sub>(fresh water)</sub>: 2.5 µg/L  
 PNEC = Predicted No Effect Concentration  
 LC50<sub>fish/96h</sub>: [NOEC, 65d] 25 µg/L  
 EC50<sub>daphnia/48h</sub>: 100 mg/L  
 EC10<sub>pseudomonas putida/16h</sub>: [72h] 100 mg/L  
 Water hazard class (DE): 1 WGK No.: 0182  
 Storage class (VCI): 8 B

#### 18 mL Cl<sub>2</sub> -1

Chemical: *phosphate buffer solution* CAS No.: -  
 Water hazard class (DE): 1  
 Storage class (VCI): 12

### 12.2 Persistence and degradability

not necessary

### 12.3 Bioaccumulative potential

not necessary

### 12.4 Mobility in soil

not necessary



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## 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.

## SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations

### 14.5 Environmental hazards

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

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](http://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

H315 Causes skin irritation.  
 H319 Causes serious eye irritation.

#### 16.1.2 List of relevant P phrases

P280sh Wear protective gloves/eye protection.

### 16.2 Training advice

Regular safety training.

### 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

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## 16.5 Sources of key data

Regulation 790/2009/EU adaptation of CLP regulation 1272/2008/EU to technical and scientific progress  
Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS  
Regulation 487/2013/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
Regulation 669/2018/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
TRGS 900, German engineering rules governing limits in air at work, updated 03/2018  
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