

# Safety Data Sheet pursuant to Directive (EC) No. 1907/2006

Prepared on: 2021-04-06

Revised on: 2021-04-07

Valid from: 01/21

Version: 1.1

Replaces version: -

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## **Section 1: Designation of the substance or the mixture, and of the company**

### **1.1 Product identifier**

Name of substance / trade name: Test inks 105mN/m

Product number:

Ink 105: 100022147

#### **Other designations:**

Test inks

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

#### **Relevant identified uses:**

Measuring the surface energy of components.

Materials such as: plastic, metal, glass, ceramics

#### **Uses advised against:**

Use on hot surfaces.

### **1.3 Information on the supplier who provides the Safety Data Sheet**

**Manufacturer / Supplier** Diener electronic GmbH & Co. KG

**Address** Nagolder Str. 61

**Country ID/PO code/town** 72224 Ebhausen

#### **Contact person for technical information**

Mr Christof Diener

#### **Phone / email:**

+49 74 58 – 999 31 - 0 / info@plasma.com

### **1.4 Emergency phone**

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## **Section 2: Potential hazards**

### **2.1 Classification of the substance or mixture**

Classification pursuant to Directive (EC) No. 1272/2008

Skin Corr. 1A, H314

Eye Dam. 1, H318

STOT SE 3, H335

For the full text of the hazard statements quoted in this section, please refer to Section 16.

### **2.2 Identifying elements**

**Identifying elements pursuant to Directive (EC) No. 1272/2008**

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### Pictogram:



Signal word: **Danger**

### Hazard-determining components for labelling

#### contains:

#### Hazard statements:

H314 Causes severe skin burns and severe eye damage.  
H318 Causes severe eye damage.  
H335 May cause respiratory tract irritations.

#### Safety statements:

P264 Thoroughly wash your hands after use.  
P280 Wear safety gloves and eye protection.  
P303 + P361 + P353 IN CASE OF CONTACT WITH SKIN: Immediately take off all contaminated clothing. Wash your skin with water.  
P305 + P351 + P338 IN CASE OF CONTACT WITH EYES: Gently rinse with water for several minutes. If contact lenses are worn, remove them if possible. Continue rinsing.

#### Other identifying elements

None

### 2.3 Other hazards

This substance/this mixture does not contain any components in concentrations of 0.1% or higher which are classified as either Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bioaccumulative (vPvB).

## Section 3: Composition/information on components

### 3.2 Mixtures

<b>Name of substance:</b>	<b>Potassium carbonate</b>
EC No.:	209-529-3
CAS No.:	584-08-7
REACH registration no.:	01-2119532646-36-XXXX

Ratio: ~50%

Classification pursuant to Directive (EC) No. 1272/2008:

Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
STOT SE 3, H335

(For the wording of the mentioned hazard statements, refer to Section 16)

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**Name of substance:** deionized water

EC No.: 231-791-2

CAS No.: 7732-18-5

REACH registration no.: There is no registration number for this substance since the substance and its use are exempt from registration, no registration of the annual tonnage is required, or registration is planned for a later point in time.

Ratio: ~ 50%

Classification pursuant to Directive (EC) No. 1272/2008:

Not a hazardous substance or hazardous mixture pursuant to Directive (EC) No. 1272/2008.

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### **Section 4: First-aid measures**

#### **4.1 Description of the first-aid measures**

Show this Safety Data Sheet to the attending physician.

##### **In case of aspiration**

In case of aspiration, provide fresh air to the affected person. In case of respiratory arrest, give artificial respiration. Consult a physician.

##### **In case of skin contact**

Wash skin with plenty of water and soap. Remove contaminated clothing and shoes. Consult a physician if the irritation persists.

##### **In case of eye contact**

Thoroughly rinse in plenty of water for at least 15 minutes, consult a physician.

##### **In case of ingestion**

Never attempt to give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### **4.2 Main acute and delayed symptoms and effects**

Irritation.

#### **4.3 Information on immediate medical help or special treatments**

No data available.

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### **Section 5: Firefighting measures**

#### **5.1 Extinguishing agents**

Suitable: Water spray jet, alcohol-resistant foam, carbon dioxide, solid extinguishing agent

Unsuitable: depending on environment

#### **5.2 Special hazards posed by the substance or mixture**

Carbon oxides, potassium oxides

#### **5.3 Notes for firefighting**

In case of a fire, wear self-contained breathing apparatus if necessary.

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### **Section 6: Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Do not breath in vapours/mists/gas. Ensure sufficient ventilation.

Take persons to safe areas.

For personal protective equipment, refer to Section 8

#### **6.2 Environmental precautions**

If possible without any hazard to persons, prevent further leaking or spilling.

Do not release substance to sewers. Avoid emission into the environment.

#### **6.3 Methods and materials for containment and cleaning up**

Collect with inert absorbent and dispose of as waste requiring special supervision. Place in suitable and sealed containers for disposal.

#### **6.4 Reference to other Section**

Disposal: see section 13

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### **Section 7: Handling and storage**

#### **7.1 Precautions for safe handling**

Do not leave bottles open. Avoid skin contact.

General hygiene:

- Do not eat, drink or smoke in areas where work is done.
- Wash your hands after using the substance.
- Remove contaminated clothing and protective equipment before entering areas where food is consumed.

For information on protective measures, refer to Section 2.2.

#### **7.2 Conditions for safe storage, including any incompatibilities**

##### **Information on storage conditions**

Preferably, substances of the same storage class should be stored together.

Storage of the substance or mixture together or jointly with the following substances is prohibited:

- pharmaceuticals, food or forage, including their additives;
- infectious, radioactive and explosive substances;
- heavily oxidising substances of storage class 5.1A;
- organic peroxides and self-reactive substances.

Storing of the substance or mixture together or jointly with the following substances is permitted under certain conditions only (for details, refer to TRGS 510):

- other explosive substances of storage class 4.1A;
- pyrophoric substances;
- substances which release flammable gases when in contact with water;
- ammonium nitrate and preparations containing ammonium nitrate.

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The substance should not be stored together or jointly with substances with which hazardous chemical reactions are possible.

Storing together or jointly with test inks of storage class 10 is harmless.

### Requirements in storage rooms and containers

Keep the containers tightly closed in a dry, well-ventilated room. Carefully close opened containers and store in an upright position to prevent any leakage.

Store in a cool place.

Storage class (TRGS 510): 8B: Non-combustible corrosive hazardous substances

**Storage class: 8B**

### 7.3 Specific end uses

#### Industry- and sector-specific guidelines

Please refer to our Technical Data Sheet for additional information.

## **Section 8: Limiting and monitoring exposure / personal protective equipment**

### 8.1 Parameters to be monitored

#### Limit values for exposure at the workplace and/or biological limit values

#### Workplace limit values (Arbeitsplatzgrenzwerte, AGW) applicable in Germany

The product does not contain substances with workplace limit values.

#### Relevant DNEL/DMEL/PNEC and other threshold values

- values relevant for human health

#### Potassium carbonate, CAS No. 584-08-7

End point	Threshold value	Protection objective, exposure path	Use in	Duration of exposure
DNEL	10mg/m <sup>3</sup>	Human, via inhalation	Employee	chronic – local effects
DNEL	16mg/ cm <sup>2</sup>	Human, via the skin	Employee	chronic – local effects

### 8.2 Limiting and monitoring exposure

#### Suitable technical control equipment

When handling chemical agents, the usual precautions must be applied. Wash your hands before breaks and at the end of work.

#### Individual protective measures – personal protective equipment

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### Eye / face protection

Safety eyewear with frame and side protection pursuant to EN 166. Use only eyewear tested and approved according to official standards such as NIOSH (US) or EN 166 (EU).

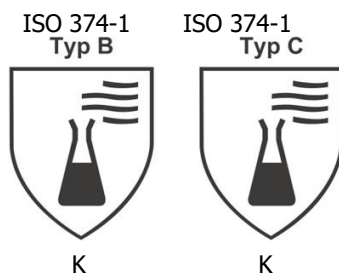
This recommendation is considered an advice and must be evaluated by a safety expert who is familiar with the specific situation of the intended use.

### Skin protection

Wear gloves for work. Check the gloves for intactness before putting them on. Remove them without touching the outside surface of the gloves to avoid skin contact with this product. Dispose of contaminated gloves after use in compliance with the statutory regulations and good laboratory practice. Wash and dry your hands.

The selected protective gloves must meet the specifications of the EC Directive 2016/425 and the derived standard EN 374.

### Gloves



EN 16523-1:2015 Permeation level: 6

In case of full contact:

Glove material: nitrile rubber  
Coat thickness (mm): 0.35  
Permeation time (min.): 480

In case of contact with spray:

Glove material: nitrile rubber  
Coat thickness (mm): 0.35  
Permeation time (min.): 480

This recommendation is considered an advice and must be evaluated by a safety expert who is familiar with the specific situation of the intended use.

### Breathing protection

With use as intended, no breathing protection apparatus is required.

This recommendation is considered an advice and must be evaluated by a safety expert who is familiar with the specific situation of the intended use.

### Limiting and monitoring environmental exposure

Do not release substance to sewers.

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### **Section 9: Physical and chemical properties**

#### **9.1 Information on basic physical and chemical properties**

Optical appearance	
- Aggregate state:	liquid
- Colour:	transparent
Odour:	non-odorous
Odour threshold:	None
pH value:	13 - 14
Melting point / freezing point:	-12 °C
Initial boiling point and boiling range:	112 °C
Flash point:	Not flammable
Evaporation rate:	Not determined
Flammability (solid, gaseous):	Not applicable
Upper/lower flammability or explosion limits:	Not determined
Vapour pressure:	Slightly lower than pure water
Vapour density:	Not determined
Relative density:	1.496g/ cm <sup>3</sup>
Solubility:	Fully soluble in water
Distribution coefficient:	Not determined
n-Octanol/water:	
Spontaneous ignition temperature:	Not applicable
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Not applicable
Oxidising properties:	Not determined

#### **9.2 Other data**

The surface energy is 105mN/m. Corrosion to metals has not been tested.

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### **Section 10: Stability and reactivity**

#### **10.1 Reactivity**

Reacts with acids, generating intense heat.

#### **10.2 Chemical stability**

Under regular ambient conditions (room temperature, 1013hPa), the test ink is chemically stable.

#### **10.3 Risk of hazardous reactions**

When used as intended, no hazardous reactions are to be expected.

#### **10.4 Conditions to be avoided**

High temperatures

#### **10.5 Incompatible materials**

Strong acids, strong oxidizing agents, alkali metals

#### **10.6 Hazardous decomposition products**

Carbon dioxide is released upon reaction with acids. See chapter 5 for information on case of fire

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### **Section 11: Toxicology**

#### **11.1 Information on toxicological effects**

##### **Acute toxicity**

##### **Potassium carbonate, CAS No. 584-08-7**

LD<sub>50</sub> (oral, rat): 2,000 mg/kg (published value, ECHA)

ATE<sub>mix</sub> (oral, rat): 3,788 mg/kg

##### **Potassium carbonate, CAS No. 584-08-7**

LC<sub>50</sub> (by inhalation, 4.5 h, rat): 4.96 mg/L / (published value, ECHA)

LD<sub>50</sub> (by skin, rabbit): 2,000 mg/kg (published value, ECHA)

##### **Burning/irritating effect on the skin**

Test ink causes severe skin burns and severe eye damage. Classification is based on the measured pH value of > 11.5

##### **Severe eye damage/irritation**

Test ink causes severe eye damage. Classification is based on the measured pH value of > 11.5

##### **Sensitising of the respiratory tract/skin**

The mixture has not been classified. The mixture does not contain any substances classified as sensitising.

##### **Germ cell mutagenicity**

The mixture has not been classified. The mixture does not contain any substances classified as mutagenic.

##### **Carcinogenicity**

The mixture has not been classified. The mixture does not contain any substances classified as carcinogenic.

##### **Toxicity to reproduction**

The mixture has not been classified. The mixture does not contain any substances classified as toxic to reproduction.

##### **Specific target organ systemic toxicity with single exposure**

May cause respiratory tract irritations. – respiratory tract.

The mixture contains >20% of substances classified as specifically target organ systemic toxic with single exposure, category 3.

##### **Specific target organ systemic toxicity with multiple exposure**

The mixture has not been classified. The mixture contains no substances classified as specifically target organ systemic toxic with multiple exposure.

##### **Aspiration hazard**

The mixture has not been classified.

### **Section 12: Ecological information**

#### **12.1 Toxicity**

##### **Potassium carbonate, CAS No. 584-08-7**

Toxicity to fish (LC50, 96h) 68 mg/L

(NOEC, 96h) 33 mg/L

Toxicity to daphnia (EC50, 48 h) 200 mg/L

(NOEC, 48 h) 120 mg/L

#### **12.2 Persistence and degradability**

The methods for determination of bio-degradability cannot be applied to inorganic substances.

#### **12.3 Bioaccumulative potential**

No data available



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### 12.4 Mobility in the soil

No data available

### 12.5 Results of PBT and vPvB assessment

In accordance with the available data, the criteria for classification as PBT or vPvB are not met.

### 12.6 Other adverse effects

May increase the pH value of water bodies and adversely effect the water life.

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## **Section 13: Disposal considerations**

### 13.1 Waste treatment methods

Test ink may be carefully neutralised with diluted acid. Adjust to a pH value of 6-8.

#### **Treatment of contaminated packages**

Rinse glass bottle and dispose of with waste glass. Dispose of the rinse fluid in the same way as of the mixture. Recommended cleaning agent: water

#### **Waste code according to List of Wastes Regulation (LoW)**

06 02 05 other alkalines

Discuss the exact waste code with the waste disposal contractor.

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## **Section 14: Transport information**

**14.1 UN number** UN 1719

### 14.2 UN proper shipping name

#### **ADR/RID**

CAUSTIC ALKALI, LIQUID, N.O.S  
(potassium carbonate liquid)

#### **IMDG Code / ICAO-TI / IATA-DGR**

CAUSTIC ALKALI LIQUID, N.O.S  
(Potassium Carbonate Liquid)

### 14.3 Transport hazard classes

ADR/RID/ADN	8
IMDG code	8
ICAO-TI	8

### 14.4 Packing group

ADR/RID/ADN	II
IMDG Code	II
ICAO-TI	II

### 14.5 Environmental hazards

#### **Identification of environmentally hazardous substances**

ADR/RID / IMDG code / ICAO-TI / IATA-DGR:  yes /  no

Marine Pollutant:  yes /  no

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### 14.6 Special precautions for user

The regulations for transport of hazardous goods (ADR) must also be complied with on the factory premises.  
See sections 6 - 8

### 14.7 Maritime transport in bulk according to IMO instruments

The freight is not conveyed in bulk.

#### Information according to the individual UN Model Regulations

Road, rail, or inland waterways transport of hazardous goods (ARD/RID/ADN)

- Additional information

Classification code	C5
Hazard label	8



Exempted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (BK)	2
Tunnel restriction code (TBC)	(E)
Special regulations	274
Number for hazard identification	80
Packing instructions	P001 IBC02

## Section 15: Regulatory information

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

The Safety Data Sheet meets the requirements of Directive (EC) No. 1907/2006.

#### National laws

##### Water hazard class

WGK: 1, Slightly hazardous to water pursuant to AwSV Annex 1 No. 5

##### Solvents Regulation (31. BImSchV)

VOC ratio: 0%

#### Other relevant regulations

Protection measures pursuant to TRGS 500 have been complied with.

Storage class pursuant to TRGS 510: 8B (non-flammable corrosive substances)

### 15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this product.

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## **Section 16: Other data**

### **Revisions compared to last version**

No revisions made

### **Literature references and sources for data**

#### **Regulations**

REACH Directive (EC) No. 1907/2006, last modified by Regulation (EU) 2017/1000

CLP Directive (EC) No. 1272/2008, last modified by Regulation (EU) 2017/776

#### **Internet**

[Carbonic acid, potassium salt \(1:2\) - Brief Profile - ECHA \(europa.eu\)](https://echa.europa.eu/de/substance-information/-/substanceinfo/100.028.902)

<https://echa.europa.eu/de/substance-information/-/substanceinfo/100.028.902>

[GESTIS-Stoffdatenbank \(dguv.de\)](https://www.gestis-stoffdatenbank.de)

[www.baua.de](https://www.baua.de)

[www.gischem.de](https://www.gischem.de)

[www.echa.europa.eu/en/candidate-list-table](https://www.echa.europa.eu/en/candidate-list-table)

### **Methods pursuant to Article 9 of Regulation (EC) No. 1272/2008 for evaluation of the information used for classification purposes**

Physical hazards: Evaluation of test data (flash point, boiling point, pH value)

Health and environmental hazards: Calculation procedure, classification based on pH value

### **Wording of the hazard statements and/or safety statements referred to in Sections 2 to 15**

H314 Causes severe skin burns and severe eye damage.

H315 Causes skin irritations

H318 Causes severe eye damage

H319 Causes severe eye irritation

H335 May cause respiratory tract irritations.

P264 Thoroughly wash your hands after use.

P280 Wear safety gloves/protective clothing/eye protection/face shield.

P303 + P361 + P353 IN CASE OF CONTACT WITH SKIN: Immediately take off all contaminated clothing. Wash your skin with water.

P353

P305 + P351 + P338 IN CASE OF CONTACT WITH EYES: Gently rinse with water for several minutes. If contact

lenses are worn,

remove them if possible. Continue rinsing.

Skin. Corr. 1A Corrosive action on skin / skin irritation Category 1A

Skin. Irrit. 2 Corrosive action on skin / skin irritation Category 2

Eye Dam. 1 Severe eye damage / eye irritation Category 1

Eye Irrit. 2 Severe eye irritation / eye irritation Category 2

STOT SE 3 Specific target organ systemic toxicity with single exposure Category 3

### **Information on training**

Working with this hazardous substance does not require any mandatory training.

Please contact Diener electronic for information on proper handling of these test inks.

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### Legend

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AwSV	German Ordinance on Installations for the Handling of Substances Hazardous to Water
BImSchV	German Air Pollution Control Act
CAS	<b>C</b> hemical <b>A</b> bstracts <b>S</b> ervice
DIN	Standard by <b>D</b> eutsches <b>I</b> nstitut für <b>N</b> ormung
EC	Effective Concentration
EC	<b>E</b> uropean <b>C</b> ommunity
EN	European Standard
IATA-DGR	<b>I</b> nternational <b>A</b> ir <b>T</b> ransport <b>A</b> ssociation- <b>D</b> angerous <b>G</b> oods <b>R</b> egulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	<b>I</b> nternational <b>C</b> ivil <b>A</b> viation <b>O</b> rganization- <b>T</b> echnical <b>I</b> nstructions
IMDG Code	International <b>M</b> aritime Code for <b>D</b> angerous <b>G</b> oods
ISO	Standard by <b>I</b> nternational <b>S</b> tandards <b>O</b> rganization
IUCLID	<b>I</b> nternational <b>U</b> niform <b>C</b> hemical <b>I</b> nformation <b>D</b> atabase
LC	Lethal Concentration
LD	<b>L</b> ethal <b>D</b> ose
log Kow	octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution from Ships
OECD	<b>O</b> rganisation for <b>E</b> conomic <b>C</b> o-operation and <b>D</b> evelopment
PBT	<b>P</b> ersistent, <b>b</b> ioaccumulative, <b>t</b> oxic
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TRGS	Technical Rules for Hazardous Substances
UN	<b>U</b> nited <b>N</b> ations
VOC	<b>V</b> olatile <b>O</b> rganic <b>C</b> ompounds
vPvB	very persistent and very bio-accumulative
VwVwS	German Administrative Regulation Regarding Water Pollutants
WGK	Water Hazard Class

### Additional information

#### Disclaimer

To our best knowledge, the specifications in this Safety Data Sheet correspond to the state of know-how at the time of printing. The information is intended to provide guidance on the safe handling of the product specified in this Safety Data Sheet during storage, processing, transport and disposal. The information cannot be applied to other products. Insofar as the product is mixed, blended or processed with other materials or subjected to treatment, the information in this Safety Data Sheet cannot be transferred to the new material thus produced, unless expressly stated otherwise herein.