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

1.1 Product identifier
Name of substance / trade name: Fluorescent Test inks 44 – 64 mN/m
Product number:
Ink 44: 100044525
Ink 48: 100044526
Ink 56: 100044527
Ink 64: 100044528

Other designations:
Fluoreszierende Test Tinten

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 - 542 / info@plasma.com

1.4 Emergency phone

Section 2: Potential hazards

2.1 Classification of the substance or mixture
Classification pursuant to Directive (EC) No. 1272/2008

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

2.2 Identifying elements

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

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

3.1 Substance

<table>
<thead>
<tr>
<th>Name of substance:</th>
<th>Deionized water</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No.:</td>
<td>231-791-2</td>
</tr>
<tr>
<td>CAS No.:</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>REACH registration no.:</td>
<td>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.</td>
</tr>
<tr>
<td>Ratio in the inks:</td>
<td>18 – 73 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of substance:</th>
<th>Dimethyl sulfoxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No.:</td>
<td>200-664-3</td>
</tr>
<tr>
<td>CAS No.:</td>
<td>67-68-5</td>
</tr>
<tr>
<td>REACH registration no.:</td>
<td>01-2119431362-50-xxxx</td>
</tr>
<tr>
<td>Ratio in the inks:</td>
<td>27 – 81 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of substance:</th>
<th>Ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No.:</td>
<td>200-578-6</td>
</tr>
<tr>
<td>CAS No.:</td>
<td>64-17-5</td>
</tr>
<tr>
<td>REACH registration no.:</td>
<td>01-2119457610-43-xxxx</td>
</tr>
<tr>
<td>Ratio in the inks:</td>
<td>0 – 8 %</td>
</tr>
</tbody>
</table>

| Name of substance: | Fluorescent indicator under 0.1% |

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

Section 4: First aid measures

4.1 Description of the first aid measures

In case of aspiration
Provide fresh air. If symptoms occur or in case of doubt, seek medical advice.

In case of skin contact
Skin contact is considered the most frequent type of exposition to test inks at the workplace. Immediately wash skin with plenty of water and soap. If necessary, seek medical advice.

In case of eye contact
As a precaution, rinse eyes with water, holding the eyelids apart. Remove contact lenses, if present and easy to do. If symptoms occur, seek medical advice.

In case of ingestion
Rinse mouth with water and drink afterwards plenty of water. Do not induce vomiting. Search medical attention if symptoms occur and show this container or label.
4.2 Main acute and delayed symptoms and effects
No data available.

4.3 Information on immediate medical help or special treatments
No data available.

Section 5: Firefighting measures

5.1 Extinguishing agents
Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

5.2 Special hazards posed by the substance or mixture
Thermal decomposition can lead to release of irritating gases and vapours.

5.3 Notes for firefighting
The products do not ignite under 61°C temperature.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use the specified personal protective equipment. See sections 8. Avoid contact with eyes and skin. Do not breathe in vapour/aerosol.

Environmental precautions
6.2 Dilute with plenty of water. Absorb spilled liquids with universal binder (e.g. diatomaceous earth, vermiculite, sand) and dispose of according to regulations. Clean soiled items and floors. Prevent release into the sewers or to the surface and ground water.

6.3 Methods and materials for containment and cleaning up Absorb spilled liquids with absorptive agents, such as sand, vermiculite or powdered limestone. Place in suitable, sealed containers for disposal and dispose of according to regulations. Ensure sufficient ventilation.

6.4 Reference to other Section
Disposal: see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling
Do not leave bottles open. General hygiene: - Do not eat, drink or smoke in areas where work is done. - Wash your hands thoroughly after using the substance. - Ensure good ventilation/extraction at the workplace.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed.

Information on storage conditions
Recommended storage temperature: 17 – 25°C
Storing together or jointly with test inks of storage class 8B is harmless.
7.3 Specifi c 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
Data are not available.

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

Eye / face protection
Wear protective glasses. To protect your eyes, use only eyewear tested and approved according to official standards, such as NIOSH (US) or EN 166 (EU).

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. Obey the manufacturer’s recommendations. Permeation time of the glove material: permeation value: Level ≥ 6 (>480min). The exact penetration time must be obtained from the protective glove manufacturer and must be observed. Other skin protection: Impermeable protective clothing. The type of protective equipment must be selected in keeping with the concentration and quantity of the hazardous substance at safe level.

Breathing protection
Avoid aspiration of vapours and aerosols.

Limiting and monitoring environmental exposure
No specific environmental protection measures required.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Optical appearance
- Aggregate state: Liquid
- Colour: Transparent under normal light, bluish-white fluorescence under UV
Safety Data Sheet pursuant to Directive (EC) No. 1907/2006

Prepared on: 2023-02-09
Revised on: 
Valid from: 02/2023
Version: 1
Replaces version: -

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour</td>
<td>DMSO-like</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH value</td>
<td>6.5-7.5</td>
</tr>
<tr>
<td>Freezing point / melting point:</td>
<td>The inks with high DMSO content freeze around 11°C. After melting around 15°C and mixing, they are usable again. Recommended storage temperature: 17 – 25°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>Over 100 °C (at 1013 hPa)</td>
</tr>
<tr>
<td>Flash point:</td>
<td>Does not burn under 61°C</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gaseous):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosion limits:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Relative density:</td>
<td>1.03 – 1.09 g/cm³</td>
</tr>
<tr>
<td>Solubility in water:</td>
<td>Miscible in any proportion</td>
</tr>
<tr>
<td>Distribution coefficient:</td>
<td>Not relevant (inorganic)</td>
</tr>
<tr>
<td>n-Octanol/water</td>
<td>Not determined</td>
</tr>
<tr>
<td>Spontaneous ignition temperature:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

9.2 Other data
Surface tension correspondingly 44, 48, 56 and 64 mN/m at 20 °C

Section 10: Stability and reactivity

10.1 Reactivity
Violent reaction are possible with: Alkali metals, Carbide, Strong oxidisers, Halogenating agents, Strong acids

10.2 Chemical stability
Under regular ambient conditions (room temperature, 1013 hPa), the test inks are chemically stable.

10.3 Risk of hazardous reactions
When used as intended, no hazardous reactions are to be expected (refer to 10.1).
10.4 Conditions to be avoided
Hot surfaces

10.5 Incompatible materials
Refer to 10.1

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5

Section 11: Toxicology

11.1 Information on toxicological effects

Acute toxicity
Shall not be classified as acutely toxic.

Burning/irritating effect on the skin
The substance has not been classified.

Severe eye damage/irritation
The substance has not been classified.

Sensitising of the respiratory tract/skin
The substance has not been classified.

Germ cell mutagenicity
The substance has not been classified.

Carcinogenicity
The substance has not been classified.

Toxicity to reproduction
The substance has not been classified.

Specific target organ systemic toxicity with single exposure
The substance has not been classified.

Specific target organ systemic toxicity with multiple exposure
The substance has not been classified.

Aspiration hazard
The substance has not been classified.

Section 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability
Biological degradability: 90-100 % / 28d (OECD 301E). Readily biodegradable
12.3 Bioaccumulative potential
Does not significantly accumulate in organisms.

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
No information available.

Section 13: Disposal considerations

13.1 Waste treatment methods
Have residual volumes and non-reusable solutions disposed of by a recognized disposal company.

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)
Discuss the exact waste code with the waste disposal contractor.

Section 14: Transport information

14.1 UN number
-

14.2 UN proper shipping name
ADR/RID

IMDG Code / ICAO-TI / IATA-DGR
-

14.3 Transport hazard classes
-

14.4 Packing group
-

14.5 Environmental hazards
Identification of environmentally hazardous substances
ADR/RID / IMDG code / ICAO-TI / IATA-DGR: yes / no
Marine Pollutant: yes / no

14.6 Special precautions for user
-

14.7 Transport in bulk according to Appendix II of the MARPOL Convention and the IBC Code
Contamination category (X, Y or Z): -
Vessel type (1, 2 or 3): -
Safety Data Sheet pursuant to Directive (EC) No. 1907/2006

Section 15: Regulatory information

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

National laws

Water hazard class
Not listed.

Solvents Regulation (31. BImSchV)
VOC ratio: Ink 44 – 57%; Ink 48 – 81%; Ink 56 – 58%; Ink 64 – 27%

Other relevant regulations
Protection measures pursuant to TRGS 500 have been complied with.
Storage class pursuant to TRGS 510: 10-13 (Other combustible and non-combustible substances)

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

Section 16: Other data

Revisions compared to last version
No revisions made

Literature references and sources for data

Regulations

Internet
GESTIS-Stoffdatenbank (dquv.de)
www.baua.de
www.qischem.de

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

Information on training
Working with this substance does not require any mandatory training.
Please contact Diener electronic for information on proper handling of these test inks.
Safety Data Sheet pursuant to Directive (EC) No. 1907/2006

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
BLmSchV German Air Pollution Control Act
CAS Chemical Abstracts Service
DIN Standard by Deutsches Institut für Normung
EC Effective Concentration
EC European Community
EN European Standard
IATA-DGR International Air Transport Association-Dangerous Goods Regulations
IBC Code International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI International Civil Aviation Organization-Technical Instructions
IMDG Code International Maritime Code for Dangerous Goods
ISO Standard by International Standards Organization
IUCLID International Uniform Chemical Information Database
LC Lethal Concentration
LD Lethal Dose
log Kow octanol-water partition coefficient
MARPOL International Convention for the Prevention of Pollution from Ships
OECD Organisation for Economic Co-operation and Development
PBT Persistent, bioaccumulative, toxic
RID Regulations concerning the International Carriage of Dangerous Goods by Rail
TRGS Technical Rules for Hazardous Substances
UN United Nations
VOC Volatile Organic Compounds
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.