

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

Prepared on: 2021-05-28

Revised on: 2021-07-01

Valid from: 03/2021

Version: 1

Replaces version: -

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

1.1 Product identifier

Name of substance / trade name: Test inks 48 – 56mN/m

Product number:

Ink 48: 100022143

Ink 50: 100034745

Ink 52: 100034746

Ink 54: 100034747

Ink 56: 100022144

Other designations:

Test inks

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

Relevant identified uses:

Testing of surface energy on components.

Uses advised against:

Application to 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

Acute Tox. 4	H332	Hazardous to health if inhaled
Repr. 1B	H360FD	May impair fertility. May cause harm to the unborn child.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.
Carc. 2	H351	Suspected of causing cancer

2.2 Identifying elements

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

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The substance is classified and labelled pursuant to the CLP Directive.

Hazard pictograms



GHS08

GHS07

Signal word: Danger

Hazard statements

H332 Hazardous to health if inhaled.
H360FD May impair fertility. May cause harm to the unborn child.
H351 Suspected of causing cancer
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P271 Use only outdoors or in a well-ventilated area.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P403+ P233 Store in a well-ventilated place. Keep container tightly closed.

Additional information:

For commercial users only.

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

Name of substance:	2-Ethoxy-ethanol
EC No.:	203-804-1
CAS No.:	110-80-5
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 scheduled for a later point in time.

Ratio of ink 48:	13%
Ratio of ink 50:	9%
Ratio of ink 52:	6%
Ratio of ink 54:	3%
Ratio of ink 56:	1%

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

Signal word Hazard

Pictograms



H226 Flammable liquid and vapour.
H302 Hazardous to health if ingested.
H331 Toxic if inhaled.
H360FD May impair fertility. May cause harm to the unborn child

Name of substance: Formamide

EC No.: 200-842-0

CAS No.: 75-12-7

REACH registration no.: 01-2119496064-35-xxxx

Ratio of ink 48: 87%

Ratio of ink 50: 91%

Ratio of ink 52: 94%

Ratio of ink 54: 97%

Ratio of ink 56: 99%

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

Signal word Hazard

Pictograms



H351 Suspected of causing cancer.
H360FD May impair fertility. May cause harm to the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Substances of very high concern (SVHC)

Substance name	CAS no.	Wght-%	Listed in	Notes
Formamide	75-12-7	0-50	Candidate list	Repr. A57c
2-Ethoxy-ethanol	110-80-5	50-100		

Legend

Candidate list Substances meeting the criteria of Article 57 and eligible for inclusion in Annex XIV
Repr. A57c Teratogenic (Article 57c)

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

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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. If symptoms occur, seek medical advice.

In case of ingestion

Have person rinse their mouth and drink a glass of water. Do not induce vomiting. Seek medical advice immediately and show this container or label.

4.2 Main acute and delayed symptoms and effects

Respiratory distress

Dizziness

Vertigo

Nausea

Vomiting

Headache

4.3 Information on immediate medical help or special treatments

No data available.

Section 5: Firefighting measures

5.1 Extinguishing agents

Suitable: Adapt fire extinguishing measures to the surroundings.

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol-resistant foam

Unsuitable: depending on environment

5.2 Special hazards posed by the substance or mixture

May form explosive mixtures with air when heated.

In case of fire, formation of dangerous fire gases and vapours possible.

May be released in case of fire:

Carbon monoxide and carbon dioxide

5.3 Notes for firefighting

If possible, remove the container from the hazard zone.

Other information Vapours heavier than air. Pay attention to backfire

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 breath in vapour/aerosol.

6.2 Environmental precautions

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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

For information on safe handling, see section 7.

For information on safe personal protective equipment, see section 8.

For information on disposal, see section 13

Section 7: Handling and storage

7.1 Precautions for safe handling

Handling according to the Laboratories Directives (TRGS 526)

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.

Fire and explosion protection measures

Keep away from sources of ignition – do not smoke.

Take measures to protect from electrostatic charge.

Have breathing apparatus equipment available on site.

7.2 Conditions for safe storage, including any incompatibilities

Information on storage conditions

Do not refill inks. Keep in original container only.

Keep containers tightly closed.

Store at room temperature.

Keep in a dry place.

Protect from overheating/warming.

Store separate from food.

Requirements in storage rooms and containers

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Storage class 6.1C (flammable, acutely toxic cat. 3 / hazardous substances with toxic or chronic effects)

Only 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;
- gases;
- other explosive substances of storage class 4.1A;
- heavily oxidising substances of storage class 5.1A;
- ammonium nitrate and preparations containing ammonium nitrate;
- 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):

- pyrophoric substances;
- substances which release flammable gases when in contact with water;
- oxidising substances of storage class 5.1B.

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

Storage together with the test inks 30–38mN/m and 46-105 mN/m is possible without any restrictions.

Storage class: 6.1C

Classification according to the German Health and Safety at Work Regulations (BetrSichV)
Combustible

7.3 Specific end uses

Industry- and sector-specific guidelines

Please refer to our Technical Data Sheet for additional information.

Replacement product with smaller health hazards: Diener non-toxic / coloured test inks

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

Name of substance: 2-Ethoxy-ethanol; CAS: 110-80-5

Basis : TRGS 900 -

Workplace limit values

Value : 7.6mg/m³, 2ml/m³ (ppm)

Peak limit: Excess factor 8 (II)

Duration 15min, average; 4 x per shift, intervals of 1h

Category II – Substances with a resorptive effect

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Biological limits (biologische Grenzwerte, BGW) Germany

Name of substance: 2-

Ethoxy-ethanol; CAS: Ethoxy acetic acid
110-80-5 50 mg/l

Parameters: Urine

Limit: With long-term exposure: at the end of a shift after several previous shifts

Material:

Sampling: Group B
Even with compliance with the AGW and BGW, a teratogenic hazard cannot be excluded.

Teratogenic:

Hazard of resorption by skin

Relevant DNEL/DMEL/PNEC and other threshold values relevant for human health

Formamide; CAS: 75-112-7

DNEL (oral, chronic): Not determined

DNEL (by skin, chronic) 952 µg/kg

DNEL (by inhalation, chronic) 6.6 mg/m³

2-Ethoxy-ethanol; CAS: 110-80-5

DNEL (oral, chronic): Not determined

DNEL (by skin, chronic) 300 µg/kg

DNEL (by inhalation, chronic) 83 µg/m³

Values relevant for the environment: (PNEC)

2-Ethoxy-ethanol; CAS: 110-80-5

End point	Threshold value	Environmental compartment	Duration of exposure
PNEC	1 mg/l	Sweet water	Short-term (single exposure)
PNEC	100 µg/l	Sea water	Short-term (single exposure)
PNEC	1 g/l	Sewage plant	Short-term (single exposure)

Formamide; CAS: 75-12-7

End point	Threshold value	Environmental compartment	Duration of exposure
PNEC	0.5 mg/l	Sweet water	Short-term (single exposure)
PNEC	0.5 mg/l	Sea water	Short-term (single exposure)
PNEC	100 mg/l	Sewage plant	Short-term (single exposure)

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PNEC	1.26 mg/kg	Sweet water sediment	Short-term (single exposure)
PNEC	151 µg/kg	Ground	Short-term (single exposure)
PNEC	5 mg/l	Water	Continuously

8.2 Limiting and monitoring exposure

Suitable technical control equipment

The usual precautions when handling chemical agents must be applied. Wash your hands before breaks and at the end of work. Do not eat, drink or smoke at the workplace.

Pregnant women should absolutely avoid any inhalation and skin contact.

Keep away from food, drink and forage.

Immediately take off all contaminated, soaked clothing.

Store the protective clothing separately.

Avoid contact with eyes and skin

Individual protective measures – personal protective equipment

The design of personal protective equipment must be selected depending on the concentration and quantity of hazardous substances specific to the respective workplace. The chemical resistance of the protective equipment should be clarified with the suppliers.

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.

Gloves

Glove material

Butyl rubber, strength: 0.7 mm

The selection of a suitable glove not only depends on the material but also on additional quality features which are different for each manufacturer.

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

Breathing protection

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Breathing protection is required in case of: formation of aerosol or mist. Type: A (against organic gases and vapours with boiling point > 65 °C, code colour: brown).

The wearing time limits according to GefStoffV in connection with the Regulations for the Use of Respiratory Protective Equipment (BGR 190) must be observed.

Limiting and monitoring environmental exposure

Prevent release into the sewers or to the surface and ground water.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Optical appearance

- Aggregate state: Liquid
- Colour: transparent

Odour : Like ether - ammonia

Odour threshold: Not determined

pH value :

Ink 48 7.0
Ink 50 7.5
Ink 52 8
Ink 54 8
Ink 56 8

Melting point / freezing point: Not determined

Initial boiling point and boiling range:

>190 °C
Ink 48 >190 °C
Ink 50 >190 °C
Ink 52 209.0 °C
Ink 54 215.4 °C
Ink 56

Flash point:

Ink 48 - 56 >60 °C

Evaporation rate: Not determined

Flammability (solid, gaseous): Not applicable

Upper/lower flammability or explosion limits:

Not determined

Vapour pressure:

Not determined

Vapour density:

Not determined

Relative density:

Ink 48 1.116
Ink 50 1.12
Ink 52 1.123
Ink 54 1.132

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Ink 56	1.136
Solubility:	Soluble in water
Distribution coefficient: n-Octanol/water :	
CAS: 110-80-5	-0.32 log POW
CAS: 75-12-7	-0.82 (25 °C) log KOW (ECHA)
Spontaneous ignition temperature:	Not applicable
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Not determined
Oxidising properties:	Not determined

9.2 Other data

Surface tension 48 - 56 mN/m at 20 °C

Section 10: Stability and reactivity

10.1 Reactivity

Vapours may form an explosive mixture with air

Chemical stability

10.2 Under normal environmental conditions and the temperature and pressure conditions to be expected during storage and handling, the material is stable.

10.3 Risk of hazardous reactions

Exothermic reaction with: alkalis, oxidation agents
Risk of explosion: phosphoroxide, hydrogen peroxide

10.4 Conditions to be avoided

Heat, flames, sparks and hot surfaces. Temperatures above 140 °C

10.5 Incompatible materials

Strong oxidizing agents, strong acids, aluminium, light metals and copper

10.6 Hazardous decomposition products

Hazardous combustion products: see sections 5.

Section 11: Toxicology

11.1 Information on toxicological effects

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Acute toxicity

2-Ethoxy-ethanol; CAS: 110-80-5

LD50 (oral, rats): 500mg/kg (conversion value)

Formamide; CAS: 75-112-7

LD50 (oral, rat): 5,325 mg/kg (published value ECHA source 1)

ATE_{mix} LD50 oral

Ink 48	2,362mg/kg
Ink 50	2,806mg/kg
Ink 52	3,312mg/kg
Ink 54	3,981mg/kg
Ink 56	4,856mg/kg

2-Ethoxy-ethanol; CAS: 110-80-5

LD50 (by skin, rabbit): 3,300 mg/kg (published value, source 3)

Formamide; CAS: 75-112-7

LD50 (by skin, rabbit): 17,000 mg/kg (published value, source 3)

ATE_{mix} LD50 by skin

Ink 48	11,041mg/kg
Ink 50	12,265mg/kg
Ink 52	13,476mg/kg
Ink 54	14,843mg/kg
Ink 56	16,322mg/kg

2-Ethoxy-ethanol; CAS: 110-80-5

LC50 (by inhalation, vapour, rat, 4h): 3mg/l (conversion value)

Formamide; CAS: 75-112-7

LC50 (by inhalation, vapour, rat, 4h): 21 mg/kg /l (published value ECHA source 1)

ATE_{mix} LC50 by inhalation, vapours

Ink 48	12 mg/l
Ink 50	13 mg/l
Ink 52	15 mg/l
Ink 54	17 mg/l
Ink 56	20 mg/l

Burning/irritating effect on the skin

The mixture has not been classified. Minor irritation is possible.
Hazard of resorption by skin

Severe eye damage/irritation

The mixture has not been classified. Minor irritation is possible.

Sensitising of the respiratory tract/skin

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

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Germ cell mutagenicity

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

Carcinogenicity

Suspected of causing cancer. The inks 48 – 56 contain a component classified as category 2 (suspected of causing cancer), which is present in a concentration of more than 1%.

Toxicity to reproduction

May impair fertility.

May cause harm to the unborn child.

Specific target organ systemic toxicity with single exposure

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

Specific target organ systemic toxicity with multiple exposure

May cause damage to organs through prolonged or repeated exposure.

The inks 48 – 56 contain a component classified as category 2, which is present in a concentration of more than 10%.

Aspiration hazard

The mixture has not been classified. The mixture does not contain any substances classified as hazardous on aspiration.

Symptoms and effects (delayed and chronic) with information about type of exposure

After inhalation of large amounts

Vertigo

Headache

Unconsciousness

After swallowing of large amounts

Nausea

Vomiting

After resorption of large amounts

Loss of consciousness

Liver and kidney damage Loss of postural reflexes and ataxia (lack of voluntary coordination of muscle movements).

Section 12: Ecological information

12.1 Toxicity

2-Ethoxy-ethanol; CAS: 110-80-5 (published value ECHA source 2)

Toxicity to fish (LC50, 96h): 10 g/l

Toxicity to daphnia (EC50, 24h): 10 g/l

Toxicity to algae (NOEC, 72h): 1 g/l

Toxicity to micro-organisms (EC0, 24h): 10 g/l

Formamide; CAS: 75- 12- 7 (published value ECHA source 1)

Toxicity to fish (LC50, 96h): 6,569 g/l

Toxicity to daphnia (EC50, 48h): 500 mg/l

Toxicity to algae (NOEC, 72h): 125 mg/l

Toxicity to micro-organisms (EC50, 30min): 1 g/l

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12.2 Persistence and degradability

Biological degradability: 90-100 % / 28d (OECD 301E)

Readily biodegradable

12.3 Bioaccumulative potential

Due to the n-Octanol/water partition coefficient, accumulation in organisms is not to be expected.

12.4 Mobility in the soil

Formamide; CAS: 75-12-7

The adsorption coefficient standardised for organic carbon 0.177

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable

12.6 Other adverse effects

No other relevant information available.

Section 13: Disposal considerations

13.1 Waste treatment methods

Treatment of contaminated packages

Have residual volumes and non-reusable solutions disposed of by a recognized disposal company. Dispose of the content/container in keeping with the local/regional/national/international waste disposal regulations.

Waste code according to List of Wastes Regulation (LoW)

070104* (other organic solvents, washing liquids & mother liquors)

Non-cleaned packaging

Non-dried out packaging containing residues must be disposed of as containers containing hazardous residues. 150110 (Packages contaminated with hazardous substances or containing residues thereof)

Cleaned packaging

Non-contaminated, clean packaging can be recycled. Glass waste. Recommended cleaning agent: water

Special precautions

The product and its container must be disposed of as hazardous waste.

Appropriate EU or other regulations

The allocation of a waste code number in accordance with the European Waste Catalogue (AVV) is to be carried out in consultation with the regional waste disposal company.

Section 14: Transport information (source 4)

14.1 UN number

UN 2810

14.2 UN proper shipping name

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ADR/RID

TOXIC ORGANIC LIQUID, N.O.S (ETHYLENE GLYCOLMONOETHYLEETHER UN1171, FORMAMIDE, UN-)

IMDG Code / ICAO-TI / IATA-DGR

TOXIC LIQUID, ORGANIC, N.O.S.

14.3 Transport hazard classes

6.1 (Tox organic liquid)

14.4 Packing group

III

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

See sections 6-8

14.7 Transport in bulk according to Appendix II of the MARPOL Convention and the IBC Code

Contamination category (X, Y or Z): Not specified

Vessel type (1, 2 or 3): Not specified

Section 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 (Substances that deplete the ozone layer):

Not listed.

Regulation (EC) No. 850/2004 (Persistent hazardous substances, organic):

Not listed.

Regulation (EC) No. 689/2008 (Import and export of hazardous chemicals):

Not listed.

Regulation (EC) No. 648/2004 (Regulation of detergents):

Not listed.

Restrictions according to Title VIII of Regulation (EC) No. 1907/2006:

Not applicable.

National laws (Germany)

Water hazard class

WGK 2 (self-assessed): hazardous to water.

2-Ethoxy-ethanol; CAS: 110-80-5: WGK 2

ID number 5058 Classification acc. to AwSV, Enclosure 1 (4)

Formamide; CAS: 75-12-7: WGK 1

ID number 1509 Classification acc. to AwSV, Enclosure 1 (4)

Solvents Regulation (31. BImSchV)

VOC ratio: 100% (formamide; CAS: 75-12-7)

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Hazardous Incident Ordinance (12. BImSchV)

Enclosure I, no. 6

Storage class pursuant to TRGS 510:

3 Flammability liquids

TA Luft (Technical Instructions on Air Quality Control)

Class: NK

Ratio: 100% (2-Ethoxy-ethanol; CAS: 110-80-5)

Other relevant regulations

Substances of very high concern (SVHC)

Substance name	CAS no.	Wght-%	Listed in	Notes
Formamide	75-12-7	0-50	Candidate list	Repr. A57c
2-Ethoxy-ethanol	110-80-5	50-100		

Legend

Candidate list Substances meeting the criteria of Article 57 and eligible for inclusion in Annex XIV

Repr. A57c Teratogenic (Article 57c)

15.2 Chemical safety assessment

No chemical safety assessment was carried out on the mixture.

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

Source 1 <https://echa.europa.eu/de/brief-profile/-/briefprofile/100.000.766>

Source 2 <https://echa.europa.eu/de/brief-profile/-/briefprofile/100.003.459>

Source 3 Toxicological Data, compiled by the National Institute of Health (NIH), USA, selected and distributed by Technical Database Services (TDS), New York, 2009

Source 4 <https://adrdangerousgoods.com/ger/substances/0002020/un2810-giftiger-organischer-flussiger-stoff-n-a-g/>

Internet

GESTIS-Stoffdatenbank (dguv.de)

www.baua.de

www.gischem.de

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: Mathematical method

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

H302	Hazardous to health if ingested
H332	Hazardous to health if inhaled
H360FD	May impair fertility. May cause harm to the unborn child
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P271	Use only outdoors or in a well-ventilated area.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P403+ P233	Store in a well-ventilated place. Keep container tightly closed.
Repr. 1B	Toxicity to reproduction, category 1B
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ systemic toxicity (repeated exposure), category 2
Carc. 2	Carcinogenicity, category 2

Training for employees

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	Chemical Abstracts Service
DIN	Standard of the 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 of the 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, bio-accumulative, toxic
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TRGS	Technical Regulations 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	German 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