

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **Test ink blue**

Creation date: **10.1.2018** · Revision: **24.1.2018** · Version: **1**

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name

Test ink blue

Product code



chemius.net/RIid9

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

Use

Test ink

Uses advised against

No information

1.3. Details of the supplier of the safety data sheet

Supplier

Fischer Test Tinten

Address: Rheinstraße 25 A, D-76479 Steinmauern, Germany

Tel.: +(49) 7222 - 901844

Fax: +(49) 7222 - 901845

1.4. Emergency telephone number

Emergency

112

Supplier

+(49) 7222 - 901844

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Reg. 1272/2008

Flam. Liq. 3; H226 Flammable liquid and vapour.

Acute Tox. 4; H302 Harmful if swallowed.

Acute Tox. 3; H331 Toxic if inhaled.

Carc. 2; H351 Suspected of causing cancer.

Repr. 1B; H360FD May damage fertility. May damage the unborn child.

STOT RE 2; H373 May cause damage to organs (blood, cardiovascular system) through prolonged or repeated exposure.

2.2 Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]



Signal word: **Danger**

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H331 Toxic if inhaled.

H351 Suspected of causing cancer.

H360FD May damage fertility. May damage the unborn child.

H373 May cause damage to organs (blood, cardiovascular system) through prolonged or repeated exposure.

P102 Keep out of reach of children.

P201 Obtain special instructions before use.

P260 Do not breathe mist/vapours/spray.

P270 Do not eat, drink or smoke when using this product.

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

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local regulation.

2.2.2. Contains:

2-Ethoxyethanol (CAS: 110-80-5, EC: 203-804-1, Index: 603-012-00-X)

formamide (CAS: 75-12-7, EC: 200-842-0, Index: 616-052-00-8)

2.2.3. Special provisions

Restricted to professional users.

2.3. Other hazards

No information

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

3.2. Mixtures

Chemical name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 [CLP]	REACH reg. number
2-Ethoxyethanol <i>[SVHC]</i>	110-80-5 203-804-1 603-012-00-X	0 - 100	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 3; H331 Repr. 1B; H360FD	01-2119560582-38
formamide <i>[SVHC]</i>	75-12-7 200-842-0 616-052-00-8	0 - 100	Carc. 2; H351 Repr. 1B; H360FD STOT RE 2; H373	01-2119496064-35

Notes for substances:

SVHC Substance of very high concern.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General measures

When in doubt or if symptoms do not disappear seek medical help. Never give anything by mouth to an unconscious person.

Place patient stably in side position for transportation. Person giving first aid should properly protect himself.

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. When suspected that in the air is still present harmful vapor / fumes use respiratory protection (mask; insulating breathing apparatus).

Inhalation

Remove patient to fresh air-move out of dangerous area. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Seek medical help immediately.

Skin contact

Take off all contaminated clothing. Areas of the body that have come into contact with the product must be rinsed with water. If feeling unwell seek medical help.

Eye contact

Immediately flush eyes with running water, keeping eyelids open. If irritation does not stop, seek professional medical treatment!

Ingestion

Do not induce vomiting. Drink plenty of water. Rinse mouth with water. Immediately consult a doctor. Show the physician the Safety Data Sheet or label.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation

Excessive exposure to spray mist, fog, or vapour may cause respiratory irritation.
Signs and symptoms: headache, drowsiness, dizziness, agitation, nausea, vomiting, shortness of breath

Skin contact

Slightly irritating.
Itching, redness, pain.

Eye contact

Causes slight eye irritation.
Redness, tearing, pain.

Ingestion

Harmful to health when ingested.
May cause abdominal discomfort.
May cause nausea/vomiting and diarrhea.
May cause lethargy, ataxia, convulsions.
Impaired locomotor coordination.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatic.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Carbon dioxide. Dry chemical powder. Water spray. Alcohol resistant foam.

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Flammable. In case of heating harmful vapours/gases can be generated. In event of fire carbon oxides (COx) are generated.
Nitrogen oxides (NOx).
Hydrogen cyanide (HCN).

5.3. Advice for firefighters

Protective actions

Attention: Danger of explosion! Extinguish from a safe distance! Prolonged heating can cause explosion. Vapours are heavier than air and spread along floor. Vapours may form explosive mixtures with the air. In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray jet. If possible remove containers from endangered area. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective clothing for fire-fighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137) .

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Emergency procedures

Ensure adequate ventilation. Keep away from sources of ignition; No smoking! Evacuate the danger zone. Prevent access to unprotected personnel. Do not breathe vapour or mist. Avoid contact with skin, eyes and clothing. No action shall be taken involving any personal risk or without suitable training.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental entry into water or ground occurs, inform responsible authorities.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Stem the spill if this does not pose risks.

6.3.2. For cleaning up

Prevent release into the sewer, water, basements or confined areas. Absorb product (with inert material), collect it in special container and dispose it according to valid regulations on handling with waste. Wear appropriate personal protective equipment. Ventilate the premises. Dispose in accordance with applicable regulations (see section 13).

6.3.3. Other information

See Section 5 for firefighting measures. See Section 10: stability and reactivity.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

Ensure adequate ventilation. Keep away from sources of ignition - No smoking. Vapours are heavier than air and spread along floor. Vapours form explosive mixtures with air. Keep the containers earthed while decanting-possible danger of accumulation of electrostatic charges.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Do not discharge into drains, surface water and soil. After use immediately close container tightly.

7.1.2. Advice on general occupational hygiene

Use good personal hygiene practices-wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Do not breathe vapours/mist. Avoid contact with skin, eyes and clothes. Remove contaminated clothes and wash before re-use. Avoid exposure - obtain special instructions before using. Wear suitable protective equipment; see chapter 8. Refer to instructions on label and regulations for safety and health at work.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Store in accordance with local regulations. Keep in a cool, dry and well ventilated place. Keep in tightly closed container. Keep in locked place. Store between +15°C to 25°C.

7.2.2. Packaging materials

Store in original container.

7.2.3. Requirements for storage rooms and vessels

Close open containers after use. Put the container upright to prevent from leaking.

7.2.4. Storage class

-

7.2.5. Further information on storage conditions

-

7.3. Specific end use(s)

Recommendations

-

Industrial sector specific solutions

-

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational Exposure limit values

Chemical name (CAS)	Limit values		Short-term exposure limit		Remarks	Biological Tolerance Values
	ml/m ³ (ppm)	mg/m ³	ml/m ³ (ppm)	mg/m ³		
2-Ethoxyethanol (110-80-5)	2	8	-	-	Sk	
Formamide (75-12-7)	20	37	30	56		

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

8.1.3. DNEL values

For components

Chemical name	Type	exp. route	exp. frequency	value	Remark
2-Ethoxyethanol (110-80-5)	Worker	inhalation	long term (systemic effects)	83 µg/m ³	
2-Ethoxyethanol (110-80-5)	Worker	dermal	long term (systemic effects)	0,3 mg/kg bw/day	
formamide (75-12-7)	Worker	inhalation	long term ()	6,6 mg/m ³	systemic
formamide (75-12-7)	Worker	dermal	long term (systemic effects)	0,952 mg/kg bw/day	

8.1.4. PNEC values

For components

Chemical name	exp. route	value	Remark
2-Ethoxyethanol (110-80-5)	fresh water	1 mg/L	
2-Ethoxyethanol (110-80-5)	water, intermittent release	10 mg/L	fresh water
2-Ethoxyethanol (110-80-5)	marine water	0,1 mg/L	
2-Ethoxyethanol (110-80-5)	water treatment plant	1000 mg/L	
formamide (75-12-7)	fresh water	0,5 mg/L	
formamide (75-12-7)	water, intermittent release	5 mg/L	fresh water
formamide (75-12-7)	marine water	0,5 mg/L	
formamide (75-12-7)	water treatment plant	100 mg/L	
formamide (75-12-7)	fresh water sediment	1,26 mg/kg	dry weight
formamide (75-12-7)	soil	0,151 mg/kg	dry weight

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices-wash hands at breaks and when done working with material. Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapours/aerosols. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in the area with increased concentration.

8.2.2. Personal protective equipment

Eye and face protection

Safety glasses with side protection (EN 166).

Hand protection

Protective gloves (EN 374). The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. Follow the manufacturer's instructions for use, storage, maintenance and glove changing. In case of damage or at the first signs of wear and tear, change the gloves immediately.

Skin protection

Cotton protective clothing (EN ISO 13688) and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory protection. Always follow respirator manufacturer's instructions regarding wearing and maintenance. Use the mask with filter A (color: brown) for organic fumes and vapors (boiling point > 65 °C) according to EN 14387 standard. If the substance threshold is higher than the relative exposure limit or the concentration of oxygen in the workplace is less than 17% volume wear self-contained air breathing apparatus (EN 137, EN 138).

Thermal hazards

-

8.2.3. Environmental exposure controls

-

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

-	Physical state:	liquid
-	Colour:	colourless to light yellow
-	Odour:	ether like, like ammonia

Important health, safety and environmental information

-	pH	7 – 10 at 20 °C, conc. 200 g/l
-	Melting point/Freezing point	-100 – 2,6 °C
-	Initial boiling point/boiling range	135 – 218,3 °C at 1013 hPa
-	Flashpoint	40 – 152 °C
-	Evaporation rate	No information
-	Ignition temperature	No information
-	Explosion limits (vol%)	1,8 – 19 vol %
-	Vapour pressure	0,081 – 5,3 hPa
-	Vapour density	1,56 – 3,1 (air=1)
-	Density	Density: 0,93 – 1,13 g/cm ³ at 20 °C
-	Solubility	Water: miscible
-	Partition coefficient	No information
-	Auto-ignition temperature	> 235 °C
-	Decomposition temperature	> 140 °C
-	Viscosity	dynamic: 2,1 mPas at 20 °C (2-Ethoxyethanol) 3,75 mPas at 20 °C (Formamide)
-	Explosive properties	No information
-	Oxidising properties	No information

9.2. Other information

-	Weight organic solvents	100 %
-	Remarks:	

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

When heated can give off ignitable vapours. Vapours may form explosive mixture with air. Peroxides can be produced.

10.2. Chemical stability

Product is stable under normal conditions according to handling and storage. Unstable on exposure to air.

10.3. Possibility of hazardous reactions

Exothermic reaction with alkalis and oxidizing agents.

10.4. Conditions to avoid

Protect from heat, direct sunlight, open fire, free sparks. Autodecomposition (> 140°C) if strongly heated.

10.5. Incompatible materials

Aluminium.
Copper.
Light metals

10.6. Hazardous decomposition products

Under normal use conditions no hazardous decomposition products expected. In case of fire/explosion vapours dangerous for health are spread. See subsection 5.2.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

11.1.1. Acute toxicity

For components

Chemical name	exp. route	Type	species	Time	value	Method	Remark
2-Ethoxyethanol (110-80-5)	oral	LD ₅₀	rat		2125 mg/kg		Toxnet
2-Ethoxyethanol (110-80-5)	dermal	LD ₅₀	rabbit		3900 mg/kg		Toxnet
formamide (75-12-7)	oral	LD ₅₀	rat		5325 mg/kg		ECHA
formamide (75-12-7)	dermal	LD ₅₀	rat		> 3000 mg/kg		ECHA
formamide (75-12-7)	inhalation	LC ₅₀	rat	4 h	> 21 mg/l		vapour

Additional information

Toxic by inhalation. May be fatal if swallowed.

11.1.2. Skin corrosion/irritation, serious eye damage/irritation

Additional information

The product is not classified as irritating to skin and eyes.

11.1.3. Respiratory or skin sensitisation

Additional information

Not classified as sensitizing.

11.1.4. Carcinogenicity, Mutagenicity, Reproductive toxicity

Carcinogenicity

- For components

Chemical name	exp. route	Type	species	Time	value	result	Method	Remark
formamide (75-12-7)						Can cause cancer.		

(Germ cell) mutagenicity

No information

Reproductive toxicity

- For components

Chemical name	Reproductive toxicity type	Type	species	Time	value	result	Method	Remark
formamide (75-12-7)	Reproductive toxicity	-				Suspected of damaging fertility.		
formamide (75-12-7)						Suspected of damaging the unborn child.		

Summary of evaluation of the CMR properties

May impair fertility. May cause harm to the unborn child. Suspected of causing cancer.

11.1.5. STOT - single and repeated exposure

For components

Chemical name	exp. route	Type	species	Time	organ	value	result	Method	Exposure	Remark
formamide (75-12-7)	-	-					May cause damage to organs (blood, cardiovascular system) through prolonged or repeated exposure.		Repeated exposure	

Additional information

STOT SE (single exposure): not classified. May cause damage to organs through prolonged or repeated exposure.

11.1.6. Aspiration hazard

No information

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
2-Ethoxyethanol (110-80-5)	EC ₅₀	7670 mg/L	48 h		<i>Daphnia magna</i>		
	EC ₅₀	> 1000 mg/L	72 h	algae	green algae		
	LC ₅₀	> 10000 mg/L	96 h	fish	<i>Lepomis macrochirus</i>		
formamide (75-12-7)	LC ₅₀	6569 mg/L	96 h	fish			ECHA
	EC ₅₀	> 500 mg/L	48 h	aquatic invertebrates			ECHA
	EC ₅₀	> 1000 mg/L	30 min	Microorganisms			ECHA
	NOEC	1000 mg/L	30 min	microorganisms			ECHA

12.1.2. Chronic (long-term) toxicity

No information

12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

For components

Substance (CAS Nr.)	Environment	Type / Method	Half Time	Evaluation	Method	Remark
2-Ethoxyethanol (110-80-5)	Air		14 days	100 %		biotic/abiotic
formamide (75-12-7)	Air		28 days	90 - 100 %		biotic/abiotic

12.2.2. Biodegradation

For components

Substance (CAS Nr.)	Organism	Rate	Time	Evaluation	Method	Remark
2-Ethoxyethanol (110-80-5)	-			rapidly biodegradable		
2-Ethoxyethanol (110-80-5)	ThOD	1950 mg/g				
2-Ethoxyethanol (110-80-5)	ThCO ₂	1,953 mg/mg				
2-Ethoxyethanol (110-80-5)	BOD	1,1 mg/g	5 h			
formamide (75-12-7)	-			readily biodegradable		
formamide (75-12-7)	ThOD	1,777 mg/mg				nitrification
formamide (75-12-7)	ThOD	0,3554 mg/mg				
formamide (75-12-7)	ThCO ₂	0,9775 mg/mg				

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

For components

Substance (CAS Nr.)	Media	value	Temperature	pH	Concentration	Method
2-Ethoxyethanol (110-80-5)	Octanol-water (log K _{ow})	0,32				
formamide (75-12-7)	Octanol-water (log K _{ow})	-0,82	25 °C			

12.3.2. Bioconcentration factor (BCF)

No information

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information

12.4.2. Surface tension

No information

12.4.3. Adsorption/Desorption

For components

Substance (CAS Nr.)	Organism	Criterion	value	Evaluation	Method	Remark
2-Ethoxyethanol (110-80-5)	Soil	Henry constant (H)	0 Pa.m ³ / mol			
formamide (75-12-7)	Soil		0,177	Adsorption coefficient		Organic Carbon

12.5. Results of PBT and vPvB assessment

No evaluation.

12.6. Other adverse effects

No information

12.7. Additional information

For product

Do not allow to enter ground water, water course or sewage system.

For components

Substance: 2-Ethoxyethanol

Water hazard class 1 (Self-assessment): slightly hazardous for water

Substance: formamide

Water hazard class 1 (Self-assessment): slightly hazardous for water

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Waste is classified as hazardous waste. Do not allow to enter sewers. Do not dispose together with household garbage. Disposal must be made according to official regulations: to leave it to authorized collector/remover/transformer of hazardous waste.

Packaging

Unclean containers are classified as hazardous waste - should be handled the same as waste disposal. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Completely emptied containers leave to approved waste disposal authorities in charge.

13.1.2. Waste treatment-relevant information

Disposal in accordance with the Rules on the management of waste.

13.1.3. Sewage disposal-relevant information

-

13.1.4. Other disposal recommendations

-

SECTION 14. TRANSPORT INFORMATION

14.1. UN number

UN 1210

14.2. UN proper shipping name

PRINTING INK

14.3. Transport hazard class(es)

3

14.4. Packing group

III

14.5. Environmental hazards

NO

14.6. Special precautions for user

Limited quantities

5 L

Tunnel restriction code

(D/E)

IMDG flashpoint

40 °C, c.c.

IMDG EmS

F-E, S-D



14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Goods may not be carried in bulk in bulk containers, containers or vehicles

SECTION 15. REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

not applicable

15.1.2. Special instructions

Regulation (EC) No. 1907/2006 (REACH) Annex XVII - Terms of restriction: 3, 40, 30.
Seveso: H2 acute toxicity (2-Ethoxyethanol).

Technical instructions air: class: I; content: 100%; mass flow: 0,1 kg/h; mass concentration: 20 mg/m³.

The employment limitations under the regulations to the protection from hazardous materials of pregnant women and young mothers guideline and the protection of young persons act are to be observed.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

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Key literature references and sources for data

-

List of relevant H phrases

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H331 Toxic if inhaled.

H351 Suspected of causing cancer.

H360FD May damage fertility. May damage the unborn child.

H373 May cause damage to organs (blood, cardiovascular system) through prolonged or repeated exposure.



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- Provided correct labelling of the product
- Compliance with the local legislation
- Provided correct classification of the product
- Provided adequate transport data

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.