

**1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- **Product details**
- **Trade name:** CF 5800 yellow / gelb
- **Manufacturer/Supplier:**
DOKUMENTAL GmbH & Co KG Schreibfarben
Woellnerstraße 26
D-67065 Ludwigshafen
Phone + 49 (0) 621 / 5402321
Fax + 49 (0) 621 / 5402391
www.dokumental.de
- **Information department:**
Technical Service, Dr. B. Polzin
Tel: +49-621-5402322
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E-Mail: bernd.polzin@dokumental.de
- **Emergency information:**
EMERGENCY Tel. No. for US and Canada:
+1 800 535 5053 (INFOTRAC)
All other countries
001-352-323-3500 (INFOTRAC)

2 COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical characterization**
Mixture of the following substances, containing non-hazardous substances and colouring agents.
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:**
584-08-7 potassium carbonate 2.5-10%
- **Additional information:**
All ingredients of this ink have been pre-registered according to 1907/2006/EC (REACH).
For the wording of the listed risk phrases refer to section 16.

3 HAZARDS IDENTIFICATION

- **Hazard description:** Not applicable.
- **Information pertaining to particular dangers for man and environment:**
- The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
- The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

NFPA ratings (scale 0 - 4)



Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	0
FIRE	0
REACTIVITY	0

Health = 0
Fire = 0
Reactivity = 0

4 FIRST AID MEASURES

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

5 FIRE FIGHTING MEASURES

- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

6 ACCIDENTAL RELEASE MEASURES

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous substances are released.

7 HANDLING AND STORAGE

- **Handling:**
- **Information for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**



- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

- **Additional information about design of technical systems:**
No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:**
The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- **Material of gloves**
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. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

9 PHYSICAL AND CHEMICAL PROPERTIES

- **General Information**

Form:	Fluid
Color:	According to product specification
Odor:	Characteristic
- **Important information on protection of health and environment, and on safety.**
Not applicable
- **Change in condition**
- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 100°C (212°F)
- **Flash point:** Not applicable.



- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Vapor pressure at 20°C (68°F):** 23 hPa (17 mm Hg)
- **Density at 20°C (68°F):** 1.05 g/cm³
- **Solubility in / Miscibility with Water:** Fully miscible.
- **pH-value at 20°C (68°F):** 10.5
- **Viscosity:**
- **Dynamic at 20°C (68°F):** 5 mPas
- **Solvent content:**
- **Organic solvents:** 0.1 %
- **Water:** 57.9 %
- **Solids content:** 5.8 %

10 STABILITY AND REACTIVITY

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Dangerous reactions:** No dangerous reactions known.
- **Dangerous products of decomposition:** No dangerous decomposition products known.

11 TOXICOLOGICAL INFORMATION

- **Acute toxicity:**
- **Primary irritant effect:**
- **On the skin:** No irritant effect.
- **On the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 ECOLOGICAL INFORMATION

- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 DISPOSAL CONSIDERATIONS

- **Product:**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 TRANSPORT INFORMATION**

- DOT regulations:
- Hazard class: -
- Land transport ADR/RID (cross-border):
- ADR/RID class: -
- Maritime transport IMDG:
- IMDG Class: -
- Marine pollutant: No
- Air transport ICAO-TI and IATA-DGR:
- ICAO/IATA Class: -
- Packaging group: Not applicable

15 REGULATIONS

- **Sara**
- **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.
- **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.
- **TSCA (Toxic Substances Control Act):**
All ingredients are listed.
- **Proposition 65**
- **Chemicals known to cause cancer:**
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.
- **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)**
None of the ingredients is listed.
- **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.
- **NTP (National Toxicology Program)**
None of the ingredients is listed.
- **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.
- **MAK (German Maximum Workplace Concentration)**
149-30-4 benzothiazole-2-thiol 3B
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.
- **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.



- **Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

- **National regulations:**

- **Water hazard class:**

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

16 OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- **Product details**
- **Trade name:** CF 5812 yellow-green / gelbgrün
- **Application of the substance / the preparation** Highlighter Ink
- **Manufacturer/Supplier:**
DOKUMENTAL GmbH & Co KG Schreibfarben
Woellnerstraße 26
D-67065 Ludwigshafen
Phone + 49 (0) 621 / 5402321
Fax + 49 (0) 621 / 5402391
www.dokumental.de
- **Information department:**
Technical Service, Dr. B. Polzin
Tel: +49-621-5402322
Mobile +49-1726204412
E-Mail: bernd.polzin @ dokumental.de
- **Emergency information:**
24-hour-Emergency- Telephone-Number (GBK Contract ID: 94050): (001) 352 323 3500.

2 COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical characterization**
Mixture of the following substances, containing non-hazardous substances and colouring agents.
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:**
584-08-7 potassium carbonate 2.5-10%
- **Additional information:**
For the wording of the listed risk phrases refer to section 16.

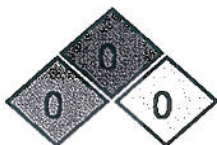
3 HAZARDS IDENTIFICATION

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information pertaining to particular dangers for man and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals.



The product is not subject to identification regulations according to directives on hazardous materials.

NFPA ratings (scale 0 - 4)



Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	0
FIRE	0
REACTIVITY	0

Health = 0
Fire = 0
Reactivity = 0

4 FIRST AID MEASURES

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

5 FIRE FIGHTING MEASURES

- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

6 ACCIDENTAL RELEASE MEASURES

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous substances are released.

7 HANDLING AND STORAGE

- **Handling:**
- **Information for safe handling:** No special measures required.



Ensure good ventilation/exhaustion at the workplace.

- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

- **Additional information about design of technical systems:**
No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
57-50-1 sucrose, pure (10-25%)
PEL 15* 5** mg/m³
*total dust **respirable fraction
REL 10* 5** mg/m³
*total dust **respirable fraction
TLV 10 mg/m³
- **Additional information:**
The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- **Material of gloves**
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. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

9 PHYSICAL AND CHEMICAL PROPERTIES

- **General Information**

Form:

Fluid



Color: According to product specification

Odor: Characteristic

- **Important information on protection of health and environment, and on safety.**

Not applicable

- **Change in condition**

▪ **Melting point/Melting range:** Undetermined.

▪ **Boiling point/Boiling range:** 100°C (212°F)

▪ **Flash point:** Not applicable.

▪ **Auto igniting:** Product is not selfigniting.

▪ **Danger of explosion:** Product does not present an explosion hazard.

▪ **Vapor pressure at 20°C (68°F):** 23 hPa (17 mm Hg)

▪ **Density at 20°C (68°F):** 1.15 g/cm³ (9.597 lbs/gal)

▪ **Solubility in / Miscibility with Water:** Fully miscible.

▪ **pH-value at 20°C (68°F):** 10.8

▪ **Viscosity:**

▪ **Dynamic at 20°C (68°F):** 4 mPas

▪ **Solvent content:**

▪ **Organic solvents:** 0.1 %

▪ **Water:** 53.5 %

▪ **Solids content:** 5.4 %

10 STABILITY AND REACTIVITY

- **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

- **Dangerous reactions:** No dangerous reactions known.

- **Dangerous products of decomposition:** No dangerous decomposition products known.

11 TOXICOLOGICAL INFORMATION

- **Acute toxicity:**

- **Primary irritant effect:**

- **On the skin:** No irritant effect.

- **On the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 ECOLOGICAL INFORMATION

- **General notes:**

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



Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 DISPOSAL CONSIDERATIONS

- **Product:**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 TRANSPORT INFORMATION

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -
- **Packaging group:** Not applicable

15 REGULATIONS

- **Sara**
- **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.
- **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.
- **TSCA (Toxic Substances Control Act):**
All ingredients are listed.
- **Proposition 65**
- **Chemicals known to cause cancer:**
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.
- **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.
- **Carcinogenity categories**
- **EPA (Environmental Protection Agency)**
None of the ingredients is listed.
- **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.
- **NTP (National Toxicology Program)**



None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.
- **MAK (German Maximum Workplace Concentration)**
149-30-4 benzothiazole-2-thiol 3B
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.
- **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.
- **Chemical safety assessment** A Chemical Safety Assessment has not been carried out.

- **Product related hazard informations:**
Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations according to directives on hazardous materials.
- **National regulations:**
- **Water hazard class:**
Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- **Product details**
- **Trade name:** CF 5850 blue - blau
- **Application of the substance / the preparation** Highlighter Ink
- **Manufacturer/Supplier:**
DOKUMENTAL GmbH & Co KG Schreibfarben
Woellnerstraße 26
D-67065 Ludwigshafen
Phone + 49 (0) 621 / 5402321
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E-Mail: bernd.polzin @ dokumental.de
- **Emergency information:**
GBK Gefahrgut Büro GmbH
++49 (0) 6132 / 84463
Ingelheim, Deutschland
24-hour-Emergency- Telephone-Number (GBK Contract ID: 94050): (001) 352 323 3500

2 COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical characterization**
Mixture of the following substances, containing non-hazardous substances and colouring agents.
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** Void
- **Additional information:**
For the wording of the listed risk phrases refer to section 16.

3 HAZARDS IDENTIFICATION

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information pertaining to particular dangers for man and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**



Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations according to directives on hazardous materials.

NFPA ratings (scale 0 - 4)

Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	0
FIRE	0
REACTIVITY	0

Health = 0
Fire = 0
Reactivity = 0

4 FIRST AID MEASURES

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

5 FIRE FIGHTING MEASURES

- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

6 ACCIDENTAL RELEASE MEASURES

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

**7 HANDLING AND STORAGE**

- **Handling:**
- **Information for safe handling:** No special measures required.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

- **Additional information about design of technical systems:**
No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:**
The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- **Material of gloves**
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. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

9 PHYSICAL AND CHEMICAL PROPERTIES

- **General Information**
Form: Fluid



Color:	According to product specification
Odor:	Product specific
Odour threshold:	Not determined.
▪ Important information on protection of health and environment, and on safety.	
Not applicable	
▪ Change in condition	
▪ Melting point/Melting range:	Undetermined.
▪ Boiling point/Boiling range:	100°C (212°F)
▪ Flash point:	Not applicable.
▪ Flammability (solid, gaseous):	Not applicable.
▪ Ignition temperature:	
▪ Decomposition temperature:	Not determined.
▪ Auto igniting:	Product is not selfigniting.
▪ Danger of explosion:	Product does not present an explosion hazard.
▪ Explosion limits:	
▪ Lower:	Not determined.
▪ Upper:	Not determined.
▪ Vapor pressure at 20°C (68°F):	23 hPa (17 mm Hg)
▪ Density at 20°C (68°F):	Not determined.
▪ Solubility in / Miscibility with Water:	Fully miscible.
▪ Segregation coefficient (n-octanol/water):	Not determined.
▪ Viscosity:	
▪ Dynamic at 20°C (68°F):	3 mPas
▪ Kinematic:	Not determined.
▪ Solvent content:	
▪ Organic solvents:	0.0 %
▪ Water:	74.4 %
▪ Solids content:	0.5 %
▪ Other information	No further relevant information available.

10 STABILITY AND REACTIVITY

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 TOXICOLOGICAL INFORMATION

- **Acute toxicity:**
- **Primary irritant effect:**
- **On the skin:** No irritant effect.
- **On the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**



The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 ECOLOGICAL INFORMATION

- **Acquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 DISPOSAL CONSIDERATIONS

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 TRANSPORT INFORMATION

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -
- **Packaging group:** Not applicable

15 REGULATORY INFORMATION

- **Sara**
- **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.
- **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.
- **TSCA (Toxic Substances Control Act):**
All ingredients are listed.
- **Proposition 65**
- **Chemicals known to cause cancer:**



None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **MAK (German Maximum Workplace Concentration)**

149-30-4 benzothiazole-2-thiol 3B

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

- **National regulations:**

- **Water hazard class:**

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

16 OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- **Product details**
- **Trade name:** PF 6120 orange / orange
- **Registration number**
The ingredients of this ink have been pre-registered according to 1907/2006/EC (REACH)
- **Application of the substance / the preparation** Highlighter Ink for textmarkers
- **Manufacturer/Supplier:**
DOKUMENTAL GmbH & Co KG Schreibfarben
Woellnerstraße 26
D-67065 Ludwigshafen
Phone + 49 (0) 621 / 5402321
Fax + 49 (0) 621 / 5402391
- www.dokumental.de
- **Further information obtainable from:**
- Technical Service, Dr. B. Polzin
Tel: +49-621-5402322
Mobile +49-1726204412
E-Mail: bernd.polzin@dokumental.de
- **Emergency information:**
GBK Gefahrgut Büro GmbH
++49 (0) 6132 / 84463
Ingelheim, Deutschland
24-hour-Emergency- Telephone-Number (GBK Contract ID: 94050): (001) 352 323 3500

2 HAZARDS IDENTIFICATION

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information pertaining to particular dangers for man and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations according to directives on hazardous materials (German GefStoffV).
- **Other hazards**
- **Results of PBT and vPvB assessment**



- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical characterization**

Mixture of the following substances, containing non-hazardous substances and colouring agents.

- **Description:** Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

CAS: 107-21-1 EINECS: 203-473-3	Ethanediol	10 – 25 %
	Xn R22 Acute Tox.. 4, H302	
CAS: 989-38-8 EINECS: 213-584-9	C. I. Basic Red 1	≤1,0%
	Xn R22, Xi R41; N R51/53	
	Acute Tox. 3, H301, Eye Dam.1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

- **Additional information:**

For the wording of the listed risk phrases refer to section 16.

4 FIRST AID MEASURES

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 FIRE FIGHTING MEASURES

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
- No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 ACCIDENTAL RELEASE MEASURES

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.



- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 HANDLING AND STORAGE

- **Handling:**
- **Information for safe handling:** No special measures required.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

- **Additional information about design of technical systems:**
No further data; see item 7.
- **Control parameters**

Ingredients with limit values that require monitoring at the workplace:	
107-21-1 ethanediol (10-25%)	
IOELV	Short-term value: 104 mg/m ³ , 40 ppm Long-term value: 52 mg/m ³ , 20 ppm Skin

- **Additional information:**
The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Respiratory protection:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.



Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

▪ **Material of gloves**

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. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

▪ **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

▪ **Eye protection:** Goggles recommended during refilling.

9 PHYSICAL AND CHEMICAL PROPERTIES

▪ **Information on basic physical and chemical properties**

▪ **General Information**

Form:	Fluid
Color:	According to product specification
Odor:	Product specific
Odour threshold:	Not determined.

▪ **Important information on protection of health and environment, and on safety.**

Not applicable

▪ **Change in condition**

▪ Melting point/Melting range:	Undetermined.
▪ Boiling point/Boiling range:	100°C (212°F)
▪ Flash point:	60°C
▪ Flammability (solid, gaseous):	410°C
▪ Ignition temperature:	
▪ Decomposition temperature:	Not determined.
▪ Auto igniting:	Product is not selfigniting.
▪ Danger of explosion:	Product does not present an explosion hazard.
▪ Explosion limits:	
▪ Lower:	3,2 Vol %.
▪ Upper:	53,0 Vol %
▪ Vapor pressure at 20°C (68°F):	23 hPa
▪ Density at 20°C (68°F):	1,05 g/cm³.
▪ Solubility in / Miscibility with Water:	Fully miscible.
▪ Segregation coefficient (n-octanol/water):	Not determined.
▪ Viscosity:	
▪ Dynamic:	Not determined.
▪ Kinematic at 20°C:	5 s (DIN 53211/4)
▪ Solvent content:	
▪ Organic solvents:	0.0 %
▪ Other information	No further relevant information available.

**10 STABILITY AND REACTIVITY**

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 TOXICOLOGICAL INFORMATION

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

989-38-8 C.I. Basic Red 1

Oral	LD50	250 mg / kg (rat)
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- **Primary irritant effect:**
- **On the skin:** No irritant effect.
- **On the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 ECOLOGICAL INFORMATION

- **Toxicity**

- **Acquatic toxicity:**

989-38-8 C.I. Basic Red 1

EC50 / 48h	0,1-0,5 mg/l (Daphnie)
LC50 / 96h	1-5 mg/l (fish)

- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Additional ecological information:**
- **General notes:**

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

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 DISPOSAL CONSIDERATIONS

- **Waste treatment methods**



- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 TRANSPORT INFORMATION

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **CAO/IATA Class:** -
- **Packaging group:** n.a.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.

15 REGULATORY INFORMATION

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
NK	10-25
- **Waterhazard class: Water hazard class 1 (Self-assessment):** slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H301 Toxic if swallowed.
 - H302 Harmful if swallowed.
 - H318 Causes serious eye damage.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
 - R22 Harmful if swallowed.
 - R41 Risk of serious damage to eyes.
 - R51/53 Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

**1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

- **Product details**
- **Trade name:** *PF 6140 pink / pink*
- **Registration number**
The ingredients of this ink have been pre-registered according to 1907/2006/EC (REACH)
- **Relevant identified uses of the substance or mixture and uses advised against**
Currently no such applications are identified
- **Application of the substance / the preparation** Highlighter Ink for textmarkers
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
DOKUMENTAL GmbH & Co KG Schreibfarben
Woellnerstraße 26
D-67065 Ludwigshafen
Phone + 49 (0) 621 / 5402321
Fax + 49 (0) 621 / 5402391
- www.dokumental.de
- **Further information obtainable from:**
- Technical Service, Dr. B. Polzin
Tel: +49-621-5402322
Mobile +49-1726204412
E-Mail: bernd.polzin@dokumental.de
- **Emergency information:**
GBK Gefahrgut Büro GmbH
++49 (0) 6132 / 84463
Ingelheim, Deutschland
24-hour-Emergency- Telephone-Number (GBK Contract ID: 94050): (001) 352 323 3500

2 HAZARDS IDENTIFICATION

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
R52/53: Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.
- **Information pertaining to particular dangers for man and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals.



The product is not subject to identification regulations according to directives on hazardous materials.

- **Risk phrases:**
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Safety phrases:**
60 This material and its container must be disposed of as hazardous waste. 61 Avoid release to the environment. Refer to special instructions/safety data sheets.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical characterization**
Mixture of the following substances, containing non-hazardous substances and coloring agents.
- **Description:** Mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 107-21-1 EINECS: 203-473-3	Ethanediol	10 – 25 %
	<input checked="" type="checkbox"/> Xn R22 ◇ Acute Tox.. 4, H302	
CAS: 989-38-8 EINECS: 213-584-9	C. I. Basic Red 1	≤1,0%
	<input checked="" type="checkbox"/> Xn R22, <input checked="" type="checkbox"/> Xi R41; <input checked="" type="checkbox"/> N R51/53	
	◇ Acute Tox. 3, ◇ H301, Eye Dam.1, H318; ◇ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

- **Additional information:**
For the wording of the listed risk phrases refer to section 16.

4 FIRST AID MEASURES

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 FIRE FIGHTING MEASURES

- **Extinguishing media**
- **Suitable extinguishing agents:**



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

- **Special hazards arising from the substance or mixture**
- No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 ACCIDENTAL RELEASE MEASURES

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 HANDLING AND STORAGE

- **Handling:**
- **Information for safe handling:** No special measures required.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

- **Additional information about design of technical systems:**
No further data; see item 7.
- **Control parameters**

Ingredients with limit values that require monitoring at the workplace:	
107-21-1 ethanediol (10-25%)	
IOELV	Short-term value: 104 mg/m ³ , 40 ppm Long-term value: 52 mg/m ³ , 20 ppm Skin

- **Additional information:**
The lists that were valid during the creation were used as basis.
- **Exposure controls**



- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Respiratory protection:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- **Material of gloves**
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. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

9 PHYSICAL AND CHEMICAL PROPERTIES

- **Information on basic physical and chemical properties**
- **General Information**

Form:	Fluid
Color:	According to product specification
Odor:	Product specific
Odour threshold:	Not determined.
- **Important information on protection of health and environment, and on safety.**
Not applicable
- **pH-value at 20°C:** > 5
- **Change in condition**
- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 100°C (212°F)
- **Flash point:** 60°C
- **Flammability (solid, gaseous):** 410°C
- **Ignition temperature:**
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
- **Lower:** 3,2 Vol %.
- **Upper:** 53,0 Vol %
- **Vapor pressure at 20°C (68°F):** 23 hPa



- **Density at 20°C (68°F):** 1,05 g/cm³.
- **Solubility in / Miscibility with Water:** Fully miscible.
- **Segregation coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
- **Dynamic:** Not determined.
- **Kinematic at 20°C:** 5 s (DIN 53211/4)
- **Solvent content:**
- **Organic solvents:** 0.0 %
- **Water:** 29,6%
- **Other information:** No further relevant information available.

10 STABILITY AND REACTIVITY

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 TOXICOLOGICAL INFORMATION

- **Information on toxicological effects**
- **Acute toxicity:**

▪ LD/LC50 values relevant for classification:		
989-38-8 C.I. Basic Red 1		
Oral	LD50	250 mg / kg (rat)
- **Primary irritant effect:**
- **On the skin:** No irritant effect.
- **On the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

12 ECOLOGICAL INFORMATION

- **Toxicity**

▪ Acquatic toxicity:	
989-38-8 C.I. Basic Red 1	
EC50 / 48h	0,1-0,5 mg/l (Daphnie)
LC50 / 96h	1-5 mg/l (fish)
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish



- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 DISPOSAL CONSIDERATIONS

- **Waste treatment methods**
- **Recommendation:** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 TRANSPORT INFORMATION

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **CAO/IATA Class:** -
- **Packaging group:** n.a.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.

15 REGULATORY INFORMATION

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
NK	10-25

- **Waterhazard class: Water hazard class 1 (Self-assessment):** slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 OTHER INFORMATION**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

R22 Harmful if swallowed.

R41 Risk of serious damage to eyes.

R51/53 Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.