

## 1. Identification

GHS Product identifier  
Mixture identification:  
Trade name: INK CARTRIDGE,BK 410  
Trade code: T3371  
Recommended use of the chemical and restrictions on use  
Recommended use: Ink for inkjet printing  
Supplier's details  
Supplier in Australia:  
EPSON Australia Pty Limited  
Level1, 3 Talavera Road Macquarie Park NSW 2113, Australia  
(02) 8899 3666 www.epson.com.au  
Supplier in New Zealand:  
EPSON New Zealand Pty Limited  
7-9 Fanshawe Street, Auckland 1010, New Zealand  
(09) 366 6855 www.epson.co.nz  
Date: 15/12/2022  
Revision: 5.0  
Emergency phone number  
Australia (02) 8899 3666 (Mon-Fri, 9AM-5PM, AEST)  
New Zealand (09) 366 6855 (Mon-Fri, 9AM-5PM, NZST)

## 2. Hazard identification

Classification of the Hazardous chemical  
The product is not classified as dangerous according to GHS - Seventh revised edition.  
GHS label elements, including precautionary statements  
The product is not classified as dangerous according to GHS - Seventh revised edition.  
Hazard pictograms:  
None  
Hazard statements:  
None  
Precautionary statements:  
None  
Special Provisions:  
None  
Other hazards which do not result in a classification  
No other hazards

## 3. Composition/information on ingredients

Substances

No

Mixtures

Hazardous components within the meaning of GHS and related classification:

| Qty       | Name         | Ident. Number                   | Classification                                                                         |
|-----------|--------------|---------------------------------|----------------------------------------------------------------------------------------|
| 65% ~ 80% | Water        | CAS: 7732-18-5<br>EC: 231-791-2 | The product is not classified as dangerous according to GHS - Seventh revised edition. |
| 5% ~ 7%   | Carbon black | CAS: 1333-86-4<br>EC: 215-609-9 | The product is not classified as dangerous according to GHS - Seventh revised edition. |
| 5% ~ 7%   | Glycerol     | CAS: 56-81-5<br>EC: 200-289-5   | The product is not classified as dangerous according to GHS - Seventh revised edition. |

## Safety Data Sheet

|              |                                                                                   |                                                                                              |                                                                                                                                                                                                                                                               |
|--------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3% ~ 5%      | 2-[2-(2-butoxyethoxy)ethoxy]ethanol;<br>TEGBE; triethylene glycol monobutyl ether | Index number: 603-183-00-0<br>CAS: 143-22-6<br>EC: 205-592-6<br>REACH No.: 01-21194751 07-38 |  3.3/1 Eye Dam. 1 H318<br>Specific Concentration Limits:<br>C >= 30%: Eye Dam. 1 H318<br>20% <= C < 30%: Eye Irrit. 2A H319                                                |
| 0.5% ~ 1%    | Triethanolamine                                                                   | CAS: 102-71-6<br>EC: 203-049-8<br>REACH No.: 01-21194864 82-31                               | The product is not classified as dangerous according to GHS - Seventh revised edition.                                                                                                                                                                        |
| 0.25% ~ 0.5% | 2,4,7,9-tetramethyldec-5-yne-4,7-diol                                             | CAS: 126-86-3<br>EC: 204-809-1<br>REACH No.: 01-21199543 90-39                               |  3.3/1 Eye Dam. 1 H318<br> 3.4.2/1B Skin Sens. 1B H317<br>4.1/C3 Aquatic Chronic 3 H412 |

### 4. First-aid measures

Description of necessary first-aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Symptoms caused by exposure

None

Medical attention and special treatment

Treatment:

None

### 5. Fire-fighting measures

Suitable extinguishing media

Water.

Carbon dioxide (CO<sub>2</sub>).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products:

None

Explosive properties: No data available

Oxidizing properties: No data available

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

### 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

Methods and material for containment and cleaning up

Wash with plenty of water.

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**7. Handling and storage**

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Do not eat or drink while working.

Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

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**8. Exposure controls/personal protection**

Control parameters – exposure standards, biological monitoring

Carbon black - CAS: 1333-86-4

- OEL Type: ACGIH - TWA(8h): 3 mg/m<sup>3</sup>

- OEL Type: OSHA - TWA: 3.5 mg/m<sup>3</sup>

- OEL Type: JSOH - TWA: 1 mg/m<sup>3</sup> - Notes: as Class 2 Dusts (Respirable dust)

- OEL Type: JSOH - TWA: 4 mg/m<sup>3</sup> - Notes: as Class 2 Dusts (Total dust)

- Notes: as total dust

Glycerol - CAS: 56-81-5

- OEL Type: OSHA - TWA: 5 mg/m<sup>3</sup> - Notes: Respirable dust

- OEL Type: OSHA - TWA: 15 mg/m<sup>3</sup> - Notes: Total dust

Triethanolamine - CAS: 102-71-6

- OEL Type: ACGIH - TWA(8h): 5 mg/m<sup>3</sup>

DNEL Exposure Limit Values

Triethanolamine - CAS: 102-71-6

Worker Industry: 6.3 mg/kg/day - Consumer: 3.1 mg/kg/day - Exposure: Human Dermal

- Frequency: Long Term, systemic effects

Worker Industry: 5 mg/m<sup>3</sup> - Consumer: 1.25 mg/m<sup>3</sup> - Exposure: Human Inhalation -

Frequency: Long Term, systemic effects

Consumer: 13 mg/kg/day - Exposure: Human Oral - Frequency: Short Term, systemic effects

PNEC Exposure Limit Values

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether - CAS: 143-22-6

Target: Fresh Water - Value: 1.5 mg/l

Target: Freshwater sediments - Value: 5.77 mg/kg

Target: Marine water - Value: 0.15 mg/l

Target: Marine water sediments - Value: 0.13 mg/kg

Target: Microorganisms in sewage treatments - Value: 200 mg/l

Triethanolamine - CAS: 102-71-6

Target: Fresh Water - Value: 0.32 mg/l

Target: Marine water - Value: 0.032 mg/l

Target: Freshwater sediments - Value: 1.7 mg/kg

Target: Marine water sediments - Value: 0.17 mg/kg

Target: Soil (agricultural) - Value: 0.151 mg/kg

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2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

Target: Fresh Water - Value: 0.04 mg/l

Target: Marine water - Value: 0.004 mg/l

Target: Freshwater sediments - Value: 0.32 mg/kg

Target: Marine water sediments - Value: 0.032 mg/kg

Appropriate engineering controls

None

Individual protection measures, such as personal protective equipment (PPE)

Eye protection:

Use personal protective equipment as required.

Protection for skin:

Use personal protective equipment as required.

Protection for hands:

Use personal protective equipment as required.

Respiratory protection:

Use personal protective equipment as required.

Thermal Hazards:

None

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### 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state: Liquid

Colour: Black

Odour: Slightly

Melting point / freezing point: -13.3 °C

Boiling point or initial boiling point and boiling range:

No data available

Flammability: Non-flammable

Lower and upper explosion limit: No data available

Flash point: Does not flash until 100 °C / 212 ° F  
(closed cup method, ASTM D 3278)

Auto-ignition temperature: No data available

Decomposition temperature: No data available

pH: 8.4 ~ 9.4 at 20 °C

Kinematic viscosity: No data available

Solubility in water: Complete

Vapour pressure: No data available

Relative vapour density: No data available

Particle characteristics: Not Relevant

Other information

Viscosity: < 5 mPa·s

Viscosity: < 5 mPa·s at 20 °C

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### 10. Stability and reactivity

Reactivity

Stable under normal conditions

Chemical stability

Stable under normal conditions

Possibility of hazardous reactions

None

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

## 11. Toxicological information

Toxicological information of the product:

e) germ cell mutagenicity:

Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli Negative

f) carcinogenicity:

Components do not come under carcinogens (Ref. 1), except for Carbon black

g) reproductive toxicity:

Does not contain reproductive toxicity and developmental toxic substances (Ref. 2)

Toxicological information of the main substances found in the product:

Carbon black - CAS: 1333-86-4

a) acute toxicity:

Test: LD50 - Route: Dermal - Species: Rabbit > 3 g/kg - Source: Acute Toxicity Data. Journal of the American College of Toxicology, Part B. Vol. 15

Test: LD50 - Route: Oral - Species: Rat > 15400 mg/kg - Source: Acute Toxicity Data. Journal of the American College of Toxicology, Part B. Vol. 15

Glycerol - CAS: 56-81-5

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Guinea pig = 7750 mg/kg - Source: Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941

Test: LDLo - Route: Oral - Species: Human = 1428 mg/kg - Source: "Toxicology of Drugs and Chemicals," Deichmann, W.B., New York, Academic Press, Inc., 1969 Vol. -, Pg. 288, 1969.

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether - CAS: 143-22-6

a) acute toxicity:

Test: LD50 - Route: Dermal - Species: Rabbit = 3.54 ml/kg - Source: American Industrial Hygiene Association Journal. Vol. 23, Pg. 95, 1962.

Test: LD50 - Route: Oral - Species: Rat = 5300 mg/kg - Source: Office of Toxic Substances Report. Vol. OTS,

Triethanolamine - CAS: 102-71-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Guinea pig = 2200 mg/kg - Source: "Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure," Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 Vol. -, Pg. 114, 1982.

Test: LD50 - Route: Oral - Species: Mouse = 5846 mg/kg - Source: Science Reports of the Research Institutes, Tohoku University, Series C: Medicine. Vol. 36(1-4), Pg. 10, 1989.

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

a) acute toxicity:

Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg

b) skin corrosion/irritation:

Test: Skin Irritant - Species: Rabbit Mild irritant

c) serious eye damage/irritation:

Test: Eye Irritant - Species: Rabbit Highly irritating

d) respiratory or skin sensitisation:

Test: Skin Sensitisation - Route: LLNA - Species: Mouse Sensitiser

e) germ cell mutagenicity:

Test: Mutagenesis - Species: Salmonella Typhimurium Negative

Carbon black - CAS: 1333-86-4

With excessive exposure, carbon black has been listed as a possible human carcinogen. However, as engineered within this ink cartridge, emissions to air of carbon black during normal printing use have not been found. IARC, the International Agency for Research on Cancer, has found printing inks to be not classifiable as human carcinogens.

If not differently specified, the information listed below must be considered as N.A.::

a) acute toxicity;

- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

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## 12. Ecological information

### Ecotoxicity

Adopt good working practices, so that the product is not released into the environment.

Toxicological information of the product:

No data available

Toxicological information of the main substances found in the product:

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 36 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 88 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae = 15 mg/l - Duration h: 72

c) Bacteria toxicity:

Endpoint: EC50 - Species: activated sludge = 630 mg/l - Duration h: 0.5

### Persistence and degradability

No data available

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Other adverse effects

None

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## 13. Disposal considerations

### Disposal methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

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## 14. Transport information

### UN number

Not classified as dangerous in the meaning of transport regulations.

### UN proper shipping name

No data available

### Transport hazard class(es)

No data available

### Packing group, if applicable

No data available

### Environmental hazards

No data available

### Special precautions for user

No data available

### Additional Information

No data available

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## 15. Regulatory information

Safety, health and environmental regulations specific for the product in question

## Safety Data Sheet

This Safety Data Sheet has been prepared according to the Australian Work Health and Safety (WHS) act and the Code of Practice on preparation of safety data sheets for Hazardous Chemicals

Australia Information:

Statement of Hazardous Nature:

the Industrial Chemicals (Notification and Assessment) Act 1989 (Cwlth), including listing on the Australian Inventory of Chemical Substances (AICS), any condition of use associated with the listing on the AICS and/or whether any chemical or a chemical in the product is being introduced under a permit.

New Zealand Information:

Hazardous Substances and New Organisms Act 2020:  
Not regulated

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### 16. Other information

Full text of phrases referred to in Section 3:

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Safety Data Sheet dated December 15, 2022, Revision: 5.0

Paragraphs modified from the previous revision:

1. Identification
2. Hazard identification
3. Composition/information on ingredients
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
11. Toxicological information
12. Ecological information
14. Transport information
15. Regulatory information
16. Other information

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

- Ref. 1 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC: International Agency for Research on Cancer)  
·Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))  
·TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)  
·IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)  
·National Toxicology Program (NTP) Report on Carcinogens (USA)  
·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006  
·MAK und BAT Werte Liste (DFG: German Research Foundation)  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)
- Ref. 2 ·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and



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packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This Safety Data Sheet cancels and replaces any preceding release.

|             |                                                                                      |
|-------------|--------------------------------------------------------------------------------------|
| ADR:        | European Agreement concerning the International Carriage of Dangerous Goods by Road. |
| ATE:        | Acute Toxicity Estimate                                                              |
| ATEmix:     | Acute toxicity Estimate (Mixtures)                                                   |
| CAS:        | Chemical Abstracts Service (division of the American Chemical Society).              |
| CLP:        | Classification, Labeling, Packaging.                                                 |
| DNEL:       | Derived No Effect Level.                                                             |
| EINECS:     | European Inventory of Existing Commercial Chemical Substances.                       |
| GefStoffVO: | Ordinance on Hazardous Substances, Germany.                                          |
| GHS:        | Globally Harmonized System of Classification and Labeling of Chemicals.              |
| IATA:       | International Air Transport Association.                                             |
| IATA-DGR:   | Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  |
| ICAO:       | International Civil Aviation Organization.                                           |
| ICAO-TI:    | Technical Instructions by the "International Civil Aviation Organization" (ICAO).    |
| IMDG:       | International Maritime Code for Dangerous Goods.                                     |
| INCI:       | International Nomenclature of Cosmetic Ingredients.                                  |
| KSt:        | Explosion coefficient.                                                               |
| LC50:       | Lethal concentration, for 50 percent of test population.                             |
| LD50:       | Lethal dose, for 50 percent of test population.                                      |
| PNEC:       | Predicted No Effect Concentration.                                                   |
| RID:        | Regulation Concerning the International Transport of Dangerous Goods by Rail.        |
| STEL:       | Short Term Exposure limit.                                                           |
| STOT:       | Specific Target Organ Toxicity.                                                      |
| TLV:        | Threshold Limiting Value.                                                            |
| TWA:        | Time-weighted average                                                                |
| WGK:        | German Water Hazard Class.                                                           |
| SUSMP:      | SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons                  |