

Safety Data Sheet in accordance with GHS(Rev.5)

Printing date 22. 02. 2021 Version: 1 Revision: 22. 02. 2021

1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: G123 INK-CY

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 SDS No.

1.4 Details of the supplier of the safety data sheet

Manufacturer/Supplier: DGI
Address: 52 CHEONGDAM-RO, YANGJU-SI,
GYEONGGI-DO, 11459, KOREA
Phone: +82-31-820-8900
e-mail: sales@dgi-net.com

2. Hazards identification

2.1 Classification of the mixture

Classification according to GHS
Acute Tox.4: H302 Harmful if swallowed.
Eye Irrit.1: H318 Causes serious eye irritation.
STOT SE 3: H336 May cause drowsiness or dizziness.

2.2 Label elements

Labeling according to GHS
[Hazard pictograms]



[Signal word]: Danger

[Hazard statements]

H302 Harmful if swallowed.
H318 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

[Precautionary statements]

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3. Composition/information on ingredients

Chemical characterization: Mixture
Ink Jet printing ink in organic solvents.

Ingredients	CAS-No.	EINECS	EU Pre-registration No.	Percent	ClassificationGHS (Rev.5)
Pigment Blue	147-14-8	205-685-1	Not available for the moment	1%-5%	-

Acrylate Resin	9010-88-2	-	Not available for the moment	5%–20%	-
Diethylene Glycol Ethyl Methyl Ether	1002-67-1	213-690-5	Not available for the moment	50%–80%	-
Gamma-Butyrolactone	96-48-0	202-509-5	Not available for the moment	20%–30%	Acute Tox. 4 H302 Eye Irrit. 1 H318 STOT.SE 3 H336

4. First aid measures

4.1 Description of first aid measures

- Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Skin contact:** Wash off with soap and plenty of water. Consult a physician.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

[Potential acute health effects]

- Eye contact:** No known significant effects or critical hazards.
- Inhalation:** No known significant effects or critical hazards.
- Skin contact:** No known significant effects or critical hazards.
- Ingestion:** No known significant effects or critical hazards.

[Over-exposure signs/symptoms]

- Eye contact:** No specific data.
- Inhalation:** No specific data.
- Skin contact:** No specific data.
- Ingestion:** No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.

5.4 Further information

Use water spray to cool unopened containers

5.5 NFPA Ratings:

Health: 2 Flammability: 2 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.

Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

no data available

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

[Eye/face protection]

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

[Skin protection]

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

[Body Protection]

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

[Respiratory protection]

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

1	Color	Cyan
2	Odor	Slight odor
3	Boiling point/boiling range of ink	170 °C
4	Melting Point/Melting Range	No data available
5	Flash point of ink	70 °C
6	Auto-Ignition Temperature	not below 210 °C
7	Flammability(solid, gas)	Not Applicable
8	Explosive Properties	Lower limits: 2.7 vol% Upper limits: 15.6 vol% (gamma-Butyrolactone)
9	Vapour Pressure	No data available
10	Specific Gravity	0.99 ± 0.02(25°C)
11	Solubility	No data available
12	Water solubility	Easily soluble (Diethylene glycol ethyl methyl ether)
13	Viscosity	4.0 ± 0.5 cps
14	pH	Not applicable
15	Oxidizing properties	No data available
16	Vapor Density	Not Applicable
17	VOCs	Not Applicable

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be

product specifications.

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid Heat,

flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

11.2 Health Hazards:

Acute Health Hazards: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

Chronic Health Hazards: No information available

Mutagenicity: No information available

Carcinogenicity: No information available

11.3 Toxicity:

Acute Toxicity Data:

[Diethylene Glycol Ethyl Methyl Ether]:

LD50 Oral, rat: >6,500mg/kg

LD50 Dermal, rabbit: >7,070mg/kg

[Gamma-Butyrolactone]:

LD50 Oral, rat: 1,540 mg/kg

LD50 Oral, mouse: 1,460 mg/kg

LD50 Dermal, guinea pig: >5,000 mg/kg

LC50 Inhalation, rat: >5,100 mg/m³/4H

Draize test, Skin rabbit: 500 µL Severe

Inhalation:

Not available

Irritating:

[Diethylene Glycol Ethyl Methyl Ether]:

Eye irritating: Moderate (Draize P.I.I=2.5)

[Gamma-Butyrolactone]:

Eye irritating: (Rabbit OECD 405)

Sensitization:

Not available

Reproductive toxicity:

Not available

12. Ecological information

12.1 Toxicity

Acquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

13. Disposal considerations

13.1 Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.

15. Regulatory information

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

EU Regulation (EC) No. 1272/2008 (CLP Regulations)

REACH Status: In compliance.

Pre-registration status: All components are listed or exempted.

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment

No data available

15.3 Other information

US Regulation:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 5 Significant New Use Rule Regulation proposed: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated.

TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY

TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated.

Clean Air Act Section 112, Hazardous Air Pollutants (HAPs): Not regulated.

California Proposition 65: Not regulated.

16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

Safety Data Sheet in accordance with GHS(Rev.5)

Printing date 22. 02. 2021 Version: 1 Revision: 22. 02. 2021

1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: G123 INK-MG

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 SDS No.

1.4 Details of the supplier of the safety data sheet

Manufacturer/Supplier: DGI
Address: 52 CHEONGDAM-RO, YANGJU-SI,
GYEONGGI-DO, 11459, KOREA
Phone: +82-31-820-8900
e-mail: sales@dgi-net.com

2. Hazards identification

2.1 Classification of the mixture

Classification according to GHS
Acute Tox.4: H302 Harmful if swallowed.
Eye Irrit. 1: H318 Causes serious eye irritation.
STOT SE 3: H336 May cause drowsiness or dizziness.

2.2 Label elements

Labeling according to GHS
[Hazard pictograms]



[Signal word]: Danger

[Hazard statements]

H302 Harmful if swallowed.
H318 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

[Precautionary statements]

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3. Composition/information on ingredients

Chemical characterization: Mixture
Ink Jet printing ink in organic solvents.

Ingredients	CAS-No.	EINECS	EU Pre-registration No.	Percent	ClassificationGHS (Rev.5)
Pigment Red	980-26-7	213-561-3	Not available for the moment	1%–5%	-

Acrylate Resin	9010-88-2	-	Not available for the moment	5%–20%	-
Diethylene Glycol Ethyl Methyl Ether	1002-67-1	213-690-5	Not available for the moment	50%–80%	-
Gamma-Butyrolactone	96-48-0	202-509-5	Not available for the moment	20%–30%	Acute Tox. 4 H302 Eye Irrit. 1 H318 STOT.SE 3 H336

4. First aid measures

4.1 Description of first aid measures

- Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin contact: Wash off with soap and plenty of water. Consult a physician.
Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

[Potential acute health effects]

- Eye contact:** No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

[Over-exposure signs/symptoms]

- Eye contact:** No specific data.
Inhalation: No specific data.
Skin contact: No specific data.
Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.

5.4 Further information

Use water spray to cool unopened containers

5.5 NFPA Ratings:

Health: 2 Flammability: 2 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.

Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

no data available

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

[Eye/face protection]

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

[Skin protection]

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

[Body Protection]

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

[Respiratory protection]

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

1	Color	Magenta
2	Odor	Slight odor
3	Boiling point/boiling range of ink	170 °C
4	Melting Point/Melting Range	No data available
5	Flash point of ink	70 °C
6	Auto-Ignition Temperature	not below 210 °C
7	Flammability(solid, gas)	Not Applicable
8	Explosive Properties	Lower limits: 2.7 vol% Upper limits: 15.6 vol% (gamma-Butyrolactone)
9	Vapour Pressure	No data available
10	Specific Gravity	0.99 ± 0.02(25°C)
11	Solubility	No data available
12	Water solubility	Easily soluble (Diethylene glycol ethyl methyl ether)
13	Viscosity	4.0 ± 0.5 cps
14	pH	Not applicable
15	Oxidizing properties	No data available
16	Vapor Density	Not Applicable
17	VOCs	Not Applicable

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be

product specifications.

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid Heat,

flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

11.2 Health Hazards:

Acute Health Hazards: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

Chronic Health Hazards: No information available

Mutagenicity: No information available

Carcinogenicity: No information available

11.3 Toxicity:

Acute Toxicity Data:

[Diethylene Glycol Ethyl Methyl Ether]:

LD50 Oral, rat: >6,500mg/kg

LD50 Dermal, rabbit: >7,070mg/kg

[Gamma-Butyrolactone]:

LD50 Oral, rat: 1,540 mg/kg

LD50 Oral, mouse: 1,460 mg/kg

LD50 Dermal, guinea pig: >5,000 mg/kg

LC50 Inhalation, rat: >5,100 mg/m³/4H

Draize test, Skin rabbit: 500 µL Severe

Inhalation:

Not available

Irritating:

[Diethylene Glycol Ethyl Methyl Ether]:

Eye irritating: Moderate (Draize P.I.I.=2.5)

[Gamma-Butyrolactone]:

Eye irritating: (Rabbit OECD 405)

Sensitization:

Not available

Reproductive toxicity:

Not available

12. Ecological information

12.1 Toxicity

Acquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

13. Disposal considerations

13.1 Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.

15. Regulatory information

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

EU Regulation (EC) No. 1272/2008 (CLP Regulations)

REACH Status: In compliance.

Pre-registration status: All components are listed or exempted.

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety

AssessmentNo data available

15.3 Other information

US

Regulation:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 5 Significant New Use Rule Regulation proposed: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated.

TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY

TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated.

Clean Air Act Section 112, Hazardous Air Pollutants (HAPs): Not regulated.

California Proposition 65: Not regulated.

16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

Safety Data Sheet in accordance with GHS(Rev.5)

Printing date 22. 02. 2021 Version: 1 Revision: 22. 02. 2021

1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: G123 INK-YE

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 SDS No.

1.4 Details of the supplier of the safety data sheet

Manufacturer/Supplier: DGI
Address: 52 CHEONGDAM-RO, YANGJU-SI,
GYEONGGI-DO, 11459, KOREA
Phone: +82-31-820-8900
e-mail: sales@dgi-net.com

2. Hazards identification

2.1 Classification of the mixture

Classification according to GHS
Acute Tox.4: H302 Harmful if swallowed.
Eye Irrit. 1: H318 Causes serious eye irritation.
STOT SE 3: H336 May cause drowsiness or dizziness.

2.2 Label elements

Labeling according to GHS

[Hazard pictograms]



[Signal word]: Danger

[Hazard statements]

H302 Harmful if swallowed.
H318 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

[Precautionary statements]

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3. Composition/information on ingredients

Chemical characterization: Mixture
Ink Jet printing ink in organic solvents.

Ingredients	CAS-No.	EINECS	EU Pre-registration No.	Percent	ClassificationGHS (Rev.5)
Pigment Yellow	68511-62-6	270-944-8	Not available for the moment	1%-5%	-

Acrylate Resin	9010-88-2	-	Not available for the moment	5%–20%	-
Diethylene Glycol Ethyl Methyl Ether	1002-67-1	213-690-5	Not available for the moment	50%–80%	-
Gamma-Butyrolactone	96-48-0	202-509-5	Not available for the moment	20%–30%	Acute Tox. 4 H302 Eye Irrit. 1 H318 STOT.SE 3 H336

4. First aid measures

4.1 Description of first aid measures

- Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Skin contact:** Wash off with soap and plenty of water. Consult a physician.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

[Potential acute health effects]

- Eye contact:** No known significant effects or critical hazards.
- Inhalation:** No known significant effects or critical hazards.
- Skin contact:** No known significant effects or critical hazards.
- Ingestion:** No known significant effects or critical hazards.

[Over-exposure signs/symptoms]

- Eye contact:** No specific data.
- Inhalation:** No specific data.
- Skin contact:** No specific data.
- Ingestion:** No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.

5.4 Further information

Use water spray to cool unopened containers

5.5 NFPA Ratings:

Health: 2 Flammability: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.

Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

no data available

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Components	ACGIH: TWA
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Ethylene Glycol Monobutyl Ether Acetate	20 ppm
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Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

[Eye/face protection]

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

[Skin protection]

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

[Body Protection]

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

[Respiratory protection]

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

1	Color	Yellow
2	Odor	Slight odor
3	Boiling point/boiling range of ink	170 °C
4	Melting Point/Melting Range	No data available
5	Flash point of ink	70 °C
6	Auto-Ignition Temperature	not below 210 °C
7	Flammability(solid, gas)	Not Applicable
8	Explosive Properties	Lower limits: 2.7 vol% Upper limits: 15.6 vol% (gamma-Butyrolactone)
9	Vapour Pressure	No data available
10	Specific Gravity	0.98 ± 0.02(25°C)
11	Solubility	No data available
12	Water solubility	Easily soluble (Diethylene glycol ethyl methyl ether)
13	Viscosity	4.0 ± 0.5 cps
14	pH	Not applicable
15	Oxidizing properties	No data available
16	Vapor Density	Not Applicable

17	VOCs	Not Applicable
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The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid Heat,

flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

11.2 Health Hazards:

Acute Health Hazards: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

Chronic Health Hazards: No information available

Mutagenicity: No information available

Carcinogenicity: Contains Nickel compounds

IARC: Group 1

NTP: Known to be human carcinogen

Proposition 65: Known to cause cancer

11.3 Toxicity:

Acute Toxicity Data:

[Diethylene Glycol Ethyl Methyl Ether]:

LD50 Oral, rat: >6,500mg/kg

LD50 Dermal, rabbit: >7,070mg/kg

[Gamma-Butyrolactone]:

LD50 Oral, rat: 1,540 mg/kg

LD50 Oral, mouse: 1,460 mg/kg

LD50 Dermal, guinea pig: >5,000 mg/kg

LC50 Inhalation, rat: >5,100 mg/m³/4H

Draize test, Skin rabbit: 500 µL Severe

Inhalation:

Not available

Irritating:

[Diethylene Glycol Ethyl Methyl Ether]:

Eye irritating: Moderate (Draize P.I.I=2.5)

[Gamma-Butyrolactone]:

Eye irritating: (Rabbit OECD 405)

Sensitization:

Not available

Reproductive toxicity:

Not available

12. Ecological information

12.1 Toxicity

Acquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

13. Disposal considerations

13.1 Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.

15. Regulatory information

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

EU Regulation (EC) No. 1272/2008 (CLP Regulations)

REACH Status: In compliance.

Pre-registration status: All components are listed or exempted.

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment

No data available

15.3 Other information

US Regulation:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 5 Significant New Use Rule Regulation proposed: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated.

TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY

TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated.

Clean Air Act Section 112, Hazardous Air Pollutants (HAPs): Not regulated.

California Proposition 65: Not regulated.

16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

Safety Data Sheet in accordance with GHS(Rev.5)

Printing date 22. 02. 2021 Version: 1 Revision: 22. 02. 2021

1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: G123 INK-BK

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 SDS No.

1.4 Details of the supplier of the safety data sheet

Manufacturer/Supplier: DGI
Address: 52 CHEONGDAM-RO, YANGJU-SI,
GYEONGGI-DO, 11459, KOREA
Phone: +82-31-820-8900
e-mail: sales@dgi-net.com

2. Hazards identification

2.1 Classification of the mixture

Classification according to GHS
Acute Tox.4: H302 Harmful if swallowed.
Eye Irrit. 1: H318 Causes serious eye irritation.
STOT SE 3: H336 May cause drowsiness or dizziness.

2.2 Label elements

Labeling according to GHS
[Hazard pictograms]



[Signal word]: Danger

[Hazard statements]

H302 Harmful if swallowed.
H318 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

[Precautionary statements]

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3. Composition/information on ingredients

Chemical characterization: Mixture
Ink Jet printing ink in organic solvents.

Ingredients	CAS-No.	EINECS	EU Pre-registration No.	Percent	Classification GHS (Rev.5)
Pigment Black	1333-86-4	215-609-9	Not available for the moment	1%-5%	-

Acrylate Resin	9010-88-2	-	Not available for the moment	5%–20%	-
Diethylene Glycol Ethyl Methyl Ether	1002-67-1	213-690-5	Not available for the moment	50%–80%	-
Gamma-Butyrolactone	96-48-0	202-509-5	Not available for the moment	20%–30%	Acute Tox. 4 H302 Eye Irrit. 1 H318 STOT.SE 3 H336

4. First aid measures

4.1 Description of first aid measures

- Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Skin contact:** Wash off with soap and plenty of water. Consult a physician.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

[Potential acute health effects]

- Eye contact:** No known significant effects or critical hazards.
- Inhalation:** No known significant effects or critical hazards.
- Skin contact:** No known significant effects or critical hazards.
- Ingestion:** No known significant effects or critical hazards.

[Over-exposure signs/symptoms]

- Eye contact:** No specific data.
- Inhalation:** No specific data.
- Skin contact:** No specific data.
- Ingestion:** No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.

5.4 Further information

Use water spray to cool unopened containers

5.5 NFPA Ratings:

Health: 2 Flammability: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.

Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

no data available

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

[Eye/face protection]

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

[Skin protection]

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

[Body Protection]

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

[Respiratory protection]

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

1	Color	Black
2	Odor	Slight odor
3	Boiling point/boiling range of ink	170 °C
4	Melting Point/Melting Range	No data available
5	Flash point of ink	70 °C
6	Auto-Ignition Temperature	not below 210 °C
7	Flammability(solid, gas)	Not Applicable
8	Explosive Properties	Lower limits: 2.7 vol% Upper limits: 15.6 vol% (gamma-Butyrolactone)
9	Vapour Pressure	No data available
10	Specific Gravity	0.99 ± 0.02(25°C)
11	Solubility	No data available
12	Water solubility	Easily soluble (Diethylene glycol ethyl methyl ether)
13	Viscosity	4.0 ± 0.5 cps
14	pH	Not applicable
15	Oxidizing properties	No data available
16	Vapor Density	Not Applicable
17	VOCs	Not Applicable

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be

product specifications.

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid Heat,

flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

11.2 Health Hazards:

Acute Health Hazards: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

Chronic Health Hazards: No information available

Mutagenicity: No information available

Carcinogenicity: 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.

11.3 Toxicity:

Acute Toxicity Data:

[Diethylene Glycol Ethyl Methyl Ether]:

LD50 Oral, rat: >6,500mg/kg

LD50 Dermal, rabbit: >7,070mg/kg

[Gamma-Butyrolactone]:

LD50 Oral, rat: 1,540 mg/kg

LD50 Oral, mouse: 1,460 mg/kg

LD50 Dermal, guinea pig: >5,000 mg/kg

LC50 Inhalation, rat: >5,100 mg/m³/4H

Draize test, Skin rabbit: 500 µL Severe

Inhalation:

Not available

Irritating:

[Diethylene Glycol Ethyl Methyl Ether]:

Eye irritating: Moderate (Draize P.I.I.=2.5)

[Gamma-Butyrolactone]:

Eye irritating: (Rabbit OECD 405)

Sensitization:

Not available

Reproductive toxicity:

Not available

12. Ecological information

12.1 Toxicity

Acquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

13. Disposal considerations

13.1 Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.

15. Regulatory information

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

EU Regulation (EC) No. 1272/2008 (CLP Regulations)

REACH Status: In compliance.

Pre-registration status: All components are listed or exempted.

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment

No data available

15.3 Other information

US Regulation:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 5 Significant New Use Rule Regulation proposed: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated.

TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY

TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated.

Clean Air Act Section 112, Hazardous Air Pollutants (HAPs): Not regulated.

California Proposition 65: Not regulated.

16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

Safety Data Sheet in accordance with GHS(Rev.5)

Printing date 22. 02. 2021 Version: 1 Revision: 22. 02. 2021

1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: G123 Ink Cleaning Liquid

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 SDS No.

1.4 Details of the supplier of the safety data sheet

Manufacturer/Supplier: DGI
Address: 52 CHEONGDAM-RO, YANGJU-SI,
GYEONGGI-DO, 11459, KOREA
Phone: +82-31-820-8900
e-mail: sales@dgi-net.com

2. Hazards identification

2.1 Classification of the mixture

Classification according to GHS
Acute Tox.4: H312 Harmful in contact with skin.
Acute Tox.4: H332 Harmful if inhaled.

2.2 Label elements

Labeling according to GHS
[Hazard pictograms]



[Signal word]: Danger

[Hazard statements]

H312 Harmful in contact with skin.
H332 Harmful if inhaled.

[Precautionary statements]

P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3. Composition/information on ingredients

Chemical characterization: Mixture
Ink Jet printing ink in organic solvents.

Ingredients	CAS-No.	EINECS	EU Pre-registration No.	Percent	Classification GHS (Rev.5)
Ethylene Glycol Monobutyl Ether Acetate	112-07-2	203-933-3	Not available for the moment	45%-55%	Acute Tox. 4 H312 Acute Tox. 4 H332
Diethylene Glycol Monobutyl Ether Acetate	124-17-4	204-685-9	Not available for the moment	45%-55%	

4. First aid measures

4.1 Description of first aid measures

- Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin contact: Wash off with soap and plenty of water. Consult a physician.
Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

[Potential acute health effects]

- Eye contact:** No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

[Over-exposure signs/symptoms]

- Eye contact:** No specific data.
Inhalation: No specific data.
Skin contact: No specific data.
Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.

5.4 Further information

Use water spray to cool unopened containers

5.5 NFPA Ratings:

Health: 2 Flammability: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking.
Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

no data available

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Components ACGIH: TWA

Ethylene Glycol Monobutyl Ether Acetate 20 ppm

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

[Eye/face protection]

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

[Skin protection]

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

[Body Protection]

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

[Respiratory protection]

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

1	Color	Colorless
2	Odor	Slight odor
3	Boiling point/boiling range of ink	approx. 176 °C or higher
4	Melting Point/Melting Range	No data available
5	Flash point of ink	78 °C
6	Auto-Ignition Temperature	not below 220 °C
7	Flammability(solid, gas)	Not Applicable
8	Explosive Properties	Lower limits: 0.88 vol% Upper limits: 8.54 vol% (Ethylene Glycol Monobutyl Ether Acetate) Lower limits: 1.0 vol% Upper limits: 5.3 vol% (Diethylene Glycol Monobutyl Ether Acetate)
9	Vapour Pressure	No data available
10	Specific Gravity	0.96 ± 0.02(25°C)
11	Solubility	No data available
12	Water solubility	insoluble
13	Viscosity	3.0 ± 0.5 cps
14	pH	Not applicable
15	Oxidizing properties	No data available
16	Vapor Density	Not Applicable
17	VOCs	No data available

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat,

flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

11.2 Health Hazards:

Acute Health Hazards: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

Chronic Health Hazards: No information available

Mutagenicity: No information available

Carcinogenicity: No information available

11.3 Toxicity:

Acute Toxicity Data:

[Ethylene Glycol Monobutyl Ether Acetate]:

LD50 Oral, rat: 2,400 mg/kg

LD50 Oral, mouse: 3,200 mg/kg

LD50 Skin, rabbit: 1,500 mg/kg

Draize test, Eye rabbit: 500 mg/24H Mild

[Diethylene Glycol Monobutyl Ether Acetate]:

LD50 Oral (rat): 6,500 mg/kg

LD50 Oral (mouse): 6,600 mg/kg

LD50 Oral (rabbit): 2,260 mg/kg

LD50 Dermal (rabbit): 14,500 mg/kg

Inhalation:

Not available

Irritating:

[Ethylene Glycol Monobutyl Ether Acetate]:

Eye irritating: 500mg/24H Mild (Rabbit OECD405)

Skin irritating: 500mg/24H Mild (open@ Rabbit OECD404)

[Diethylene Glycol Monobutyl Ether Acetate]:

Skin (rabbit): 500 mg (open)-Mild

Eye (rabbit): 500 mg - Moderate

Sensitization:

Not available

Reproductive toxicity:

The information shown in SECTION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

12. Ecological information

12.1 Toxicity

Acquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

13. Disposal considerations

13.1 Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Transport and storage of the product in accordance with general precautions and instructions mentioned in this SDS.

15. Regulatory information

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

EU Regulation (EC) No. 1272/2008 (CLP Regulations)

REACH Status: In compliance.

Pre-registration status: All components are listed or exempted.

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

15.2 Chemical Safety Assessment

No data available

15.3 Other information

US Regulation:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated.

TSCA Section 5 Significant New Use Rule Regulation proposed: Not regulated.

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated.

TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY

TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated.

Clean Air Act Section 112, Hazardous Air Pollutants (HAPs): Not regulated.

California Proposition 65: Not regulated.

16.

17. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.