SAFETY DATA SHEET

MSDS: 2011057011EU
Date Prepared: 2012/3/23
Date Revised: 2013/4/1

Product Name: Disperse Dye Ink TYPE-A YELLOW

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

Product Name: Disperse Dye Ink TYPE-A YELLOW
Identification of the supplier:
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.%</th>
<th>CAS#</th>
<th>REACH</th>
<th>Symbol R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>20-25</td>
<td>107-21-1</td>
<td>203-473-3</td>
<td>No registration number available. Xn:R22</td>
<td>Acute Tox.4, H302</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>5-7</td>
<td>34590-94-8</td>
<td>252-104-2</td>
<td>No registration number available. –</td>
<td>–</td>
</tr>
<tr>
<td>ethoxylated tetramethyldecyndiol</td>
<td>1-2</td>
<td>9014-85-1</td>
<td>500-022-5</td>
<td>No registration number available. Xi:R36 R52/53</td>
<td>Eye Irrit.2, H319 Acute Chronic.3, H412</td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.
4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Skin Contact: Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye Contact: Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical: **Hazardous combustion products** Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

**Hazardous decomposition products** When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting: In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters: Wear as appropriate: Full protective flameproof clothing. Wear self contained breathing apparatus for fire fighting if necessary.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep in a well-ventilated place. Keep away from sources of ignition. Do not inhale vapours.

Environmental precautions: Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems. Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up: Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. Clean preferably with a detergent; avoid use of solvents.

7. Handling and storage

7.1. Precautions for safe handling:

Safe handling advice
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Operators should wear antistatic foot wear and clothing. No sparking tools should be used. Avoid skin and eye contact. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Comply with the health and safety at work laws. If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Never use pressure to empty container; container is not a pressure vessel. Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
Observe label precautions. Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethane diol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(CAS.No.107-21-1)</td>
<td>None</td>
<td>100 [mg/m3]</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>100 [ppm]</td>
<td>150 [ppm]</td>
</tr>
<tr>
<td>(CAS.No.34590-94-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethoxylated tetra methyldecynediol</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>(CAS.No.9014-85-1)</td>
<td>established</td>
<td>established</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

Product

Physical state: Liquid
Colour: Yellow
Odor threshold: No data.
PH: 7.7-8.3
Melting point/freezing point: No data.
Initial boiling point and boiling range: 100°C
Flash point: 100°C
Auto-ignition temperature: 270°C
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A YELLOW

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: not required under normal use.

Hazardous decomposition products: None known.

11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product.
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly.
See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity

Acute oral toxicity

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td>-</td>
<td>&gt;2000mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

There are no data available on the product itself.
The product should not be allowed to enter drains or watercourses.
The data in this section is consistent with data from chemical safety reports available at the date of revision.
12.1. Toxicity

Aquatic toxicity
Acute and extended toxicity of fishes

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>Cyprinodon variegatus</td>
<td>LC50</td>
<td>96h</td>
<td>52mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(sheepshead minnow)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Toxicity with aquatic plants

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>green algae</td>
<td>EC50</td>
<td>72h</td>
<td>105mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(type not specified)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects
The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials. For details, see section 3

Adsorbed organic bound halogens (AOX)
Product does not contain organic linked halogens contributing to AOX.

13. Disposal considerations
Dispose of in accordance with local regulations.

Product
Recommendation:
A disposal process that converts the waste into energy is recommended.
If this is not possible the hazardous waste must be disposed of by incineration.
Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

UN CLASS
Class: Not applicable.
UN number: Not applicable.
Proper shipping name: Not applicable.
Packing group: Not applicable.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment
No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases :
R22: Harmful if swallowed.
R36: Irritating to eyes.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H phrases :
H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H412: Harmful to aquatic life with long lasting effects.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Disperse Dye Ink TYPE-A MAGENTA

Identification of the supplier:
Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.%</th>
<th>CAS#</th>
<th>REACH</th>
<th>Symbol</th>
<th>R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>20-25</td>
<td>107-21-1 203-473-3</td>
<td>No registration number available.</td>
<td>Xn: R22</td>
<td>Acute Tox.4, H302</td>
<td></td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>5-7</td>
<td>34590-94-8 252-104-2</td>
<td>No registration number available.</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Ethanediol ethoxylated tetramethyldecynediol</td>
<td>1-2</td>
<td>9014-85-1 500-022-5</td>
<td>No registration number available.</td>
<td>Xi: R36 R52/53 Eye Irrit.2, H319 Acute Chronic.3, H412</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.
4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Skin Contact: Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye Contact: Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical: Hazardous combustion products: Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

Hazardous decomposition products: When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting: In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters: Wear as appropriate: Full protective flameproof clothing. Wear self contained breathing apparatus for fire fighting if necessary.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep in a well-ventilated place. Keep away from sources of ignition. Do not inhale vapours.

Environmental precautions: Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems. Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up: Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. Clean preferably with a detergent; avoid use of solvents.

7. Handling and storage

7.1. Precautions for safe handling:

Safe handling advice

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Operators should wear antistatic foot wear and clothing. No sparking tools should be used. Avoid skin and eye contact. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Comply with the health and safety at work laws.

If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion

Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Never use pressure to empty container; container is not a pressure vessel. Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Observe label precautions. Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV—TWA</td>
<td>TLV—STEL</td>
</tr>
<tr>
<td>ethanediol (CAS.No.107-21-1)</td>
<td>None established</td>
<td>100 [ mg/m³ ]</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether (CAS.No.34590-94-8)</td>
<td>100 [ ppm ]</td>
<td>150 [ ppm ]</td>
</tr>
<tr>
<td>ethoxylated tetra methyldecynediol (CAS.No.9014-85-1)</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Magenta</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data.</td>
</tr>
<tr>
<td>pH:</td>
<td>7.7-8.3</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>100°C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>100°C</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>270°C</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A MAGENTA

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: not required under normal use

Hazardous decomposition products: None known.

11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product.

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity
Acute oral toxicity

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td>-</td>
<td>&gt;2000mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

There are no data available on the product itself.

The product should not be allowed to enter drains or watercourses.

The data in this section is consistent with data from chemical safety reports available at the date of revision.
12.1. Toxicity

Aquatic toxicity

Acute and extended toxicity of fishes

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>Cyprinodon variegatus</td>
<td>LC50</td>
<td>96h</td>
<td>52mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(sheepshead minnow)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Toxicity with aquatic plants

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>green algae</td>
<td>EC50</td>
<td>72h</td>
<td>105mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(type not specified)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects

The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials. For details, see section 3.

Adsorbed organic bound halogens (AOX)

Product does not contain organic linked halogens contributing to AOX.

13. Disposal considerations

Dispose of in accordance with local regulations.

Product

Recommendation:
A disposal process that converts the waste into energy is recommended.
If this is not possible the hazardous waste must be disposed of by incineration.
Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

<table>
<thead>
<tr>
<th>UN CLASS</th>
<th>Class</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

15. Regulatory information

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

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment

No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases :
- R22: Harmful if swallowed.
- R36: Irritating to eyes.
- R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-phrases :
- H302: Harmful if swallowed.
- H319: Causes serious eye irritation.
- H412: Harmful to aquatic life with long lasting effects.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A CYAN

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

Product Name: Disperse Dye Ink TYPE-A CYAN
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.%</th>
<th>CAS#</th>
<th>REACH</th>
<th>Symbol R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>20-25</td>
<td>107-21-1</td>
<td>No registration number available.</td>
<td>Xn;R22</td>
<td>Acute Tox.4, H302</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>5-7</td>
<td>34590-94-8</td>
<td>No registration number available.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ethoxylated tetramethyldecynediol</td>
<td>1-2</td>
<td>9014-85-1</td>
<td>No registration number available.</td>
<td>Xi;R36</td>
<td>Eye Irrit.2, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500-022-5</td>
<td></td>
<td>R52/53</td>
<td>Acute Chronic.3, H412</td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.
4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice.
Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist.
Move to fresh air in case of accidental inhalation of vapours.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

Skin Contact: Do NOT use solvents or thinners.
Take off all contaminated clothing immediately.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
If skin irritation persists, call a physician.

Eye Contact: Remove contact lenses.
Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.
Seek medical advice.

Ingestion: If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.
Keep at rest.

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical: Hazardous combustion products
Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting: In the event of fire, cool tanks with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters: Wear as appropriate: Full protective flameproof clothing.
Wear self contained breathing apparatus for fire fighting if necessary.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
- Keep in a well-ventilated place.
- Keep away from sources of ignition.
- Do not inhale vapours.

Environmental precautions:
- Do not let product enter drains.
- Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.
- Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up:
- Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations.
- Clean preferably with a detergent; avoid use of solvents.

7. Handling and storage

7.1. Precautions for safe handling:

Safe handling advice
- Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
- The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
- Operators should wear antistatic foot wear and clothing.
- No sparking tools should be used.
- Avoid skin and eye contact.
- Do not breathe vapours or spray mist.
- Smoking, eating and drinking should be prohibited in the application area.
- For personal protection see section 8.
- Comply with the health and safety at work laws.
- If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
- Solvent vapours are heavier than air and may spread along floors.
- Vapours may form explosive mixtures with air.
- Never use pressure to empty container; container is not a pressure vessel.
- Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
- Observe label precautions.
- Store between 5 and 25 ℃ in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
- No smoking.
- Prevent unauthorized access.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV—TWA</td>
<td>TLV—STEL</td>
</tr>
<tr>
<td>ethanediol (CAS.No.107-21-1)</td>
<td>None established</td>
<td>100 [mg/m³]</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether (CAS.No.34590-94-8)</td>
<td>100 [ppm]</td>
<td>150 [ppm]</td>
</tr>
<tr>
<td>ethoxylated tetra methyldecynediol (CAS.No.9014-85-1)</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Cyan</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data.</td>
</tr>
<tr>
<td>pH:</td>
<td>7.7-8.3</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>100°C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>100°C</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>270°C</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A CYAN

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: not required under normal use

Hazardous decomposition products: None known.

11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product.

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly.

See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity

Acute oral toxicity

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td>&gt;2000mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

There are no data available on the product itself.
The product should not be allowed to enter drains or watercourses.
The data in this section is consistent with data from chemical safety reports available at the date of revision.
12.1. Toxicity

Aquatic toxicity

Acute and extended toxicity of fishes

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>Cyprinodon variegatus (sheepshead minnow)</td>
<td>LC50</td>
<td>96h</td>
<td>52mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Toxicity with aquatic plants

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>green algae (type not specified)</td>
<td>EC50</td>
<td>72h</td>
<td>105mg/l</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects

The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials.

For details, see section 3

Adsorbed organic bound halogens (AOX)

Product does not contain organic linked halogens contributing to AOX.

13. Disposal considerations

Dispose of in accordance with local regulations.

Product

Recommendation:

A disposal process that converts the waste into energy is recommended.

If this is not possible the hazardous waste must be disposed of by incineration.
SAFETY DATA SHEET

MSDS: 2011057031EU
Date Prepared: 2012/3/23
Date Revised: 2013/4/1

Product Name: Disperse Dye Ink TYPE-A CYAN

Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned. Improperly emptied containers are considered hazardous waste.

14. Transport information

UN CLASS
Class: Not applicable.
UN number: Not applicable.
Proper shipping name: Not applicable.
Packing group: Not applicable.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment
No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases:
R22: Harmful if swallowed.
R36: Irritating to eyes.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H phrases:
H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H412: Harmful to aquatic life with long lasting effects.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A RED

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

Product Name: Disperse Dye Ink TYPE-A RED
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.%</th>
<th>CAS#</th>
<th>REACH</th>
<th>Symbol R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>20-25</td>
<td>107-21-1 203-473-3</td>
<td>No registration number available.</td>
<td>Xn;R22</td>
<td>Acute Tox.4, H302</td>
</tr>
<tr>
<td>ethoxylated tetramethylecycnediol</td>
<td>1-2</td>
<td>9014-85-1 500-022-5</td>
<td>No registration number available.</td>
<td>Xi;R36 R52/53</td>
<td>Eye Irrit.2, H319 Acute Chronic.3, H412</td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.
4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Skin Contact: Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye Contact: Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical:
- Hazardous combustion products: Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.
- Hazardous decomposition products: When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting: In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters: Wear as appropriate: Full protective flameproof clothing. Wear self contained breathing apparatus for fire fighting if necessary.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
- Keep in a well-ventilated place.
- Keep away from sources of ignition.
- Do not inhale vapours.

Environmental precautions:
- Do not let product enter drains.
- Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.
- Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up:
- Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations.
- Clean preferably with a detergent: avoid use of solvents.

7. Handling and storage

7.1. Precautions for safe handling:

Safe handling advice
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
Operators should wear antistatic foot wear and clothing.
No sparking tools should be used.
Avoid skin and eye contact.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Comply with the health and safety at work laws.
If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Never use pressure to empty container: container is not a pressure vessel.
Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
Observe label precautions.
Store between 5 and 25 ℃ in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
No smoking.
Prevent unauthorized access.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.
Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol (CAS.No.107-21-1)</td>
<td>None established</td>
<td>100 [mg/m³]</td>
</tr>
<tr>
<td>ethoxyalted tetra methyldecynediol (CAS.No.9014-85-1)</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself.
The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Red</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data.</td>
</tr>
<tr>
<td>pH:</td>
<td>7.7–8.7</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>100°C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>100°C</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>270°C</td>
</tr>
<tr>
<td>Upper/lower flammability</td>
<td>3.2%–15.3% (based on organic solvents) or explosive limits:</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: not required under normal use

Hazardous decomposition products: None known.

11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product.
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly.
See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity

Acute oral toxicity

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td></td>
<td>&gt;2000mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

Mutagenicity
Ames Test: Positive (Data of similar product)

12. Ecological information

There are no data available on the product itself.
The product should not be allowed to enter drains or watercourses.
The data in this section is consistent with data from chemical safety reports available at the date of revision.
12.1. Toxicity

**Aquatic toxicity**

**Acute and extended toxicity of fishes**

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>Cyprinodon variegatus</td>
<td>LC50</td>
<td>96h</td>
<td>52mg/l</td>
<td></td>
</tr>
</tbody>
</table>

**Toxicity with aquatic plants**

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>green algae</td>
<td>EC50</td>
<td>72h</td>
<td>105mg/l</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects

The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials. For details, see section 3

**Adsorbed organic bound halogens (AOX)**

Product does not contain organic linked halogens contributing to AOX.

13. Disposal considerations

Dispose of in accordance with local regulations.

**Product**

Recommendation:

A disposal process that converts the waste into energy is recommended.

If this is not possible the hazardous waste must be disposed of by incineration.
Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

UN CLASS  Class: Not applicable.
UN number: Not applicable.
Proper shipping name: Not applicable.
Packing group: Not applicable.

15. Regulatory information

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

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment

No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases:
R22: Harmful if swallowed.
R36: Irritating to eyes.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-phrases:
H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H412: Harmful to aquatic life with long lasting effects.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company makes no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Disperse Dye Ink TYPE-A VIOLET
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.%</th>
<th>CAS#</th>
<th>REACH</th>
<th>Symbol R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>20-25</td>
<td>107-21-1, 203-473-3</td>
<td>No registration number available.</td>
<td>Xi: R22</td>
<td>Acute Tox.4, H302</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>5-7</td>
<td>34590-94-8, 252-104-2</td>
<td>No registration number available.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ethoxylated tetramethyldecynediol</td>
<td>1-2</td>
<td>9014-85-1, 500-022-5</td>
<td>No registration number available.</td>
<td>Xi: R36, R52/53</td>
<td>Eye Irrit.2, H319, Acute Chronic.3, H412</td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.
4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice.
Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist.
Move to fresh air in case of accidental inhalation of vapours.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

Skin Contact: Do NOT use solvents or thinners.
Take off all contaminated clothing immediately.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
If skin irritation persists, call a physician.

Eye Contact: Remove contact lenses.
Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.
Seek medical advice.

Ingestion: If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.
Keep at rest.

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical:
Hazardous combustion products
Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting: In the event of fire, cool tanks with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters: Wear as appropriate: Full protective flameproof clothing.
Wear self contained breathing apparatus for fire fighting if necessary.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
- Keep in a well-ventilated place.
- Keep away from sources of ignition.
- Do not inhale vapours.

Environmental precautions:
- Do not let product enter drains.
- Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.
- Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up:
- Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations.
- Clean preferably with a detergent; avoid use of solvents.

7. Handling and storage

7.1. Precautions for safe handling:

Safe handling advice
- Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
- The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
- Operators should wear antistatic foot wear and clothing.
- No sparking tools should be used.
- Avoid skin and eye contact.
- Do not breathe vapours or spray mist.
- Smoking, eating and drinking should be prohibited in the application area.
- For personal protection see section 8.
- Comply with the health and safety at work laws.
- If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
- Solvent vapours are heavier than air and may spread along floors.
- Vapours may form explosive mixtures with air.
- Never use pressure to empty container; container is not a pressure vessel.
- Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
- Observe label precautions.
- Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
- No smoking.
- Prevent unauthorized access.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol (CAS.No.107-21-1)</td>
<td>None established</td>
<td>100 [ mg/m3 ] 20 [ppm]</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether (CAS.No.34590-94-8)</td>
<td>100 [ ppm ] 150 [ ppm ]</td>
<td>50 [ppm]</td>
</tr>
<tr>
<td>ethoxylated tetra methyldecynediol (CAS.No.9014-85-1)</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself.
The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing.
Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Violet</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data.</td>
</tr>
<tr>
<td>pH:</td>
<td>7.7-8.7</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>100°C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>100°C</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>270°C</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A VIOLET

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: Not required under normal use.

Hazardous decomposition products: None known.

11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity

EINECS-No. Chemical Name Species Type Exposure Value Method
203-473-3 ethanediol rat LD50 – >2000mg/kg

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The data in this section is consistent with data from chemical safety reports available at the date of revision.
12.1. Toxicity

Aquatic toxicity
Acute and extended toxicity of fishes

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>Cyprinodon variegatus (sheepshead minnow)</td>
<td>LC50</td>
<td>96h</td>
<td>52mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Toxicity with aquatic plants

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>green algae (type not specified)</td>
<td>EC50</td>
<td>72h</td>
<td>105mg/l</td>
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</tr>
</tbody>
</table>

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects
The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials.
For details, see section 3

Adsorbed organic bound halogens (AOX)
Product does not contain organic linked halogens contributing to AOX.

13. Disposal considerations
Dispose of in accordance with local regulations.

Product
Recommendation:
A disposal process that converts the waste into energy is recommended.
If this is not possible the hazardous waste must be disposed of by incineration.
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A VIOLET

Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

UN CLASS
Class: Not applicable.

UN number: Not applicable.

Proper shipping name: Not applicable.

Packing group: Not applicable.

15. Regulatory information

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

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment

No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases:

R22: Harmful if swallowed.
R36: Irritating to eyes.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-phrases:

H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H412: Harmful to aquatic life with long lasting effects.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Disperse Dye Ink TYPE-A PINK
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements
S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

Substance/Mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.%</th>
<th>CAS#</th>
<th>REACH</th>
<th>Symbol R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>15-20</td>
<td>107-21-1</td>
<td>203-473-3</td>
<td>No registration number available.</td>
<td>Xn; R22 Acute Tox.4, H302</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>5-7</td>
<td>34590-94-8</td>
<td>252-104-2</td>
<td>No registration number available.</td>
<td>-</td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.

4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist, Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
5. Fire-fighting measures

Suitable Extinguishing Media:
Water spray, dry chemical, foam.

Extinguishing Media to Avoid:
High volume water jet

Specific hazards arising from the chemical:

Hazardous combustion products
Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting:
In the event of fire, cool tanks with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters:
Wear as appropriate: Full protective flameproof clothing.
Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Keep in a well-ventilated place.
Keep away from sources of ignition.
Do not inhale vapours.

Environmental precautions:
Do not let product enter drains.
Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.
Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up:
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations.
Clean preferably with a detergent: avoid use of solvents.
7. Handling and storage

7.1. Precautions for safe handling:
Safe handling advice
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
Operators should wear antistatic foot wear and clothing.
No sparking tools should be used.
Avoid skin and eye contact.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Comply with the health and safety at work laws.
If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Never use pressure to empty container; container is not a pressure vessel.
Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
Observe label precautions.
Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
No smoking.
Prevent unauthorized access.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.
Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV—TWA</td>
<td>TLV—STEL</td>
</tr>
<tr>
<td>ethanediol (CAS.No. 107-21-1)</td>
<td>None</td>
<td>100 [ mg/m3 ]</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether (CAS.No. 34590-94-8)</td>
<td>100 [ ppm ]</td>
<td>150 [ ppm ]</td>
</tr>
</tbody>
</table>

Ingredient Name

ACGIH

TLV—TWA

TLV—STEL

Exposure limits
Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

Product

Physical state: Liquid
Colour: Magenta
Odor threshold: No data.
ph: 7.7-8.3
Melting point/freezing point: No data.
Initial boiling point and boiling range: 100℃
Flash point: 100℃
Auto-ignition temperature: 270℃
Upper/lower flammability or explosive limits: 3.2%-15.3% (based on organic solvents)
Vapour pressure: 0.0 hPa
Vapour density: No data.
Specific Gravity: 1.07 [g/cm³]
Solubility: Water solubility: appreciable

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: Not required under normal use

Hazardous decomposition products: None known.
11. Toxicological information

11.1. Information on toxicological effects

**General observations**
There is no data available on the product.
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 3 for details.

**Practical experience**
Swallowing may cause nausea, diarrhoea and vomiting.

**Acute toxicity**

**Acute oral toxicity**

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td>-</td>
<td>&gt;2000mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

There are no data available on the product itself.
The product should not be allowed to enter drains or watercourses.
The data in this section is consistent with data from chemical safety reports available at the date of revision.

12.1. Toxiciy
No information available.

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects
The preparation was evaluated in accordance with the conventional method of the preparation directive 1999/45/EG and was not classified as environmental dangerous.

**Adsorbed organic bound halogens (AOX)**
Product does not contain organic linked halogens contributing to AOX.
13. Disposal considerations

Dispose of in accordance with local regulations.

Recommendation:
A disposal process that converts the waste into energy is recommended.
If this is not possible the hazardous waste must be disposed of by incineration.

Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

UN CLASS
Class: Not applicable.
UN number: Not applicable.
Proper shipping name: Not applicable.
Packing group: Not applicable.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment
No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases:
R22: Harmful if swallowed.

Full text of H-phrases:
H302: Harmful if swallowed.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Disperse Dye Ink TYPE-A SKY
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/Mixture: Mixture</th>
<th>Ingredients and Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredient Name</td>
<td>Concentration wt.%</td>
</tr>
<tr>
<td>ethanediol</td>
<td>20-25</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>5-7</td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.

4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice.
Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist.
Move to fresh air in case of accidental inhalation of vapours.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.
Product Name: Disperse Dye Ink TYPE-A SKY

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical:

Hazardous combustion products
Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting:
In the event of fire, cool tanks with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters:
Wear as appropriate: Full protective flameproof clothing.
Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Keep in a well-ventilated place.
Keep away from sources of ignition.
Do not inhale vapours.

Environmental precautions:
Do not let product enter drains.
Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.
Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up:
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations.
Clean preferably with a detergent: avoid use of solvents.
7. Handling and storage

7.1. Precautions for safe handling:

Safe handling advice
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
Operators should wear antistatic foot wear and clothing.
No sparking tools should be used.
Avoid skin and eye contact.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Comply with the health and safety at work laws.
If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Never use pressure to empty container: container is not a pressure vessel.
Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
Observe label precautions.
Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
No smoking.
Prevent unauthorized access.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.
Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

8. Exposure controls/personal protection

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV—TWA</td>
<td>TLV—STEL</td>
</tr>
<tr>
<td>ethanediol (CAS.No. 107-21-1)</td>
<td>None established</td>
<td>100 [ mg/m³ ]</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether (CAS.No. 34590-94-8)</td>
<td>100 [ ppm ]</td>
<td>150 [ ppm ]</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A SKY

Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour:</td>
<td>Cyan</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data.</td>
</tr>
<tr>
<td>pH:</td>
<td>7.7-8.3</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data.</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>100°C</td>
</tr>
<tr>
<td>and boiling range:</td>
<td></td>
</tr>
<tr>
<td>Flash point:</td>
<td>100°C</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>270°C</td>
</tr>
<tr>
<td>Upper/lower flammability</td>
<td>3.2%-15.3% (based on organic solvents)</td>
</tr>
<tr>
<td>or explosive limits:</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>0.0 hPa</td>
</tr>
<tr>
<td>Vapour density:</td>
<td>No data.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.06 [g/cm³]</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Water solubility: appreciable</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: not required under normal use

Hazardous decomposition products: None known.
11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity
Acute oral toxicity

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td>-</td>
<td>&gt;2000mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The data in this section is consistent with data from chemical safety reports available at the date of revision.

12.1. Toxicity
No information available.

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects
The preparation was evaluated in accordance with the conventional method of the preparation directive 1999/45/EC and was not classified as environmental dangerous.

Adsorbed organic bound halogens (AOX)
Product does not contain organic linked halogens contributing to AOX.
13. Disposal considerations

Dispose of in accordance with local regulations.

Product
Recommendation:
A disposal process that converts the waste into energy is recommended.
If this is not possible the hazardous waste must be disposed of by incineration.

Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

<table>
<thead>
<tr>
<th>UN CLASS</th>
<th>Class:</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UN number:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Proper shipping name:</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Packing group:</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

15. Regulatory information

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

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment

No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases :
R22: Harmful if swallowed.

Full text of H phrases :
H302 : Harmful if swallowed.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Disperse Dye Ink TYPE-A GRAY
Identification of the supplier: Konica Minolta, Inc.
Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
- S23: Do not breathe vapour.
- S38: In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS#</th>
<th>Concentration wt.%</th>
<th>REACH</th>
<th>Symbol R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>107-21-1</td>
<td>20-25</td>
<td>No registration number available.</td>
<td>Xn;R22</td>
<td>Acute Tox.4, H302</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>34590-94-8</td>
<td>3-5</td>
<td>No registration number available.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>252-104-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.

4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical:
- **Hazardous combustion products**
  - Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.
- **Hazardous decomposition products**
  - When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting:
- In the event of fire, cool tanks with water spray.
- Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters:
- Wear as appropriate: Full protective flameproof clothing.
- Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
- Keep in a well-ventilated place.
- Keep away from sources of ignition.
- Do not inhale vapours.

Environmental precautions:
- Do not let product enter drains.
- Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.
- Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up:
- Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations.
- Clean preferably with a detergent: avoid use of solvents.
7. Handling and storage

7.1. Precautions for safe handling:
Safe handling advice
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
Operators should wear antistatic foot wear and clothing.
No sparking tools should be used.
Avoid skin and eye contact.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Comply with the health and safety at work laws.
If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Never use pressure to empty container: container is not a pressure vessel.
Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
Observe label precautions.
Store between 5 and 25 ℃ in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
No smoking.
Prevent unauthorized access.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

8. Exposure controls/personal protection
Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

Control parameters

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TLV—TWA</td>
<td>TLV—STEL</td>
</tr>
<tr>
<td>ETHANEDIOl (CAS.No. 107-21-1)</td>
<td>None established</td>
<td>100 [ mg/m3 ]</td>
</tr>
<tr>
<td>DiPROPYLENE GLYCOL METHYL ETHER (CAS.No. 34590-94-8)</td>
<td>100 [ ppm ]</td>
<td>150 [ ppm ]</td>
</tr>
</tbody>
</table>
Product Name: Disperse Dye Ink TYPE-A GRAY

Personal Protective Equipment

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Eye/face protection: Wear protective eyewear for protection against solvent spatter.

Skin Protection: Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

9. Physical and chemical properties

Product

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Black</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data</td>
</tr>
<tr>
<td>pH:</td>
<td>7.7-8.7</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>No data</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>100℃</td>
</tr>
<tr>
<td>Flash point:</td>
<td>100℃</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>270℃</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits:</td>
<td>3.2%-15.3% (based on organic solvents)</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>0.0 hPa</td>
</tr>
<tr>
<td>Vapour density:</td>
<td>No data</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.06 [g/cm³]</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Water solubility: appreciable</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Chemical stability: The product is chemically stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).

Incompatible materials: not required under normal use

Hazardous decomposition products: None known.
11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity
Acute oral toxicity

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td>-</td>
<td>&gt;2000mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The data in this section is consistent with data from chemical safety reports available at the date of revision.

12.1. Toxicity
No information available.

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects
The preparation was evaluated in accordance with the conventional method of the preparation directive 1999/45/EC and was not classified as environmental dangerous.

Adsorbed organic bound halogens (AOX)
Product does not contain organic linked halogens contributing to AOX.
13. Disposal considerations

Dispose of in accordance with local regulations.

**Product**
Recommendation:
A disposal process that converts the waste into energy is recommended.
If this is not possible the hazardous waste must be disposed of by incineration.

**Uncleaned packaging**
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

**UN CLASS**
- Class: Not applicable.
- UN number: Not applicable.
- Proper shipping name: Not applicable.
- Packing group: Not applicable.

15. Regulatory information

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

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment

No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases:
- R22: Harmful if swallowed.

Full text of H-phrases:
- H302: Harmful if swallowed.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
1. Identification of the substance/mixture and of the company/undertaking

Product Name: Disperse Dye Ink TYPE-A BLACK

Identification of the supplier:
Konica Minolta, Inc.

Address: 2-7-2, Marunouchi, Chiyoda-ku, Tokyo, 100-7015, JAPAN
Tel: +81-42-589-3739
FAX: +81-42-589-3868

2. Hazards identification

The mixture is non-dangerous in accordance with Directive 1999/45/EC.

2.1. Classification of the substance or mixture

Classification of the mixture
Not applicable.

2.2. Label elements

S-phrase(s)
S23 Do not breathe vapour.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Concentration wt.%</th>
<th>CAS#</th>
<th>REACH</th>
<th>Symbol R-phrases</th>
<th>CLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol</td>
<td>15-20</td>
<td>107-21-1</td>
<td>No registration number available.</td>
<td>Xn;R22 Acute Tox.4, H302</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>203-473-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether</td>
<td>5-7</td>
<td>34590-94-8</td>
<td>No registration number available.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>252-104-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ethoxylated tetramethyldecynediol</td>
<td>1-2</td>
<td>9014-85-1</td>
<td>No registration number available.</td>
<td>Xi;R36 R52/53 Eye Irrit.2, H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>500-022-5</td>
<td></td>
<td></td>
<td>Acute Chronic.3, H412</td>
</tr>
</tbody>
</table>

Up to the given revision date of this safety data sheet no REACH registration numbers are assigned to the chemical substances used in this preparation.
4. First-aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice.
Never give anything by mouth to an unconscious person.

Inhalation: Avoid inhalation of vapour or mist.
Move to fresh air in case of accidental inhalation of vapours.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

Skin Contact: Do NOT use solvents or thinners.
Take off all contaminated clothing immediately.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
If skin irritation persists, call a physician.

Eye Contact: Remove contact lenses.
Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.
Seek medical advice.

Ingestion: If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.
Keep at rest.

5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, dry chemical, foam.
Extinguishing Media to Avoid: High volume water jet
Specific hazards arising from the chemical: Hazardous combustion products
Fire will produce dense black smoke containing hazardous combustion products. Exposure to decomposition products may be a hazard to health.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Fire Fighting: In the event of fire, cool tanks with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters: Wear as appropriate: Full protective flameproof clothing.
Wear self contained breathing apparatus for fire fighting if necessary.
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A BLACK

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
- Keep in a well-ventilated place.
- Keep away from sources of ignition.
- Do not inhale vapours.

Environmental precautions:
- Do not let product enter drains.
- Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.
- Please avoid any emission of volatile organic compounds as possible.

Methods and materials for containment and cleaning up:
- Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations.
- Clean preferably with a detergent; avoid use of solvents.

7. Handling and storage

7.1. Precautions for safe handling:

Safe handling advice
- Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
- The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
- Operators should wear antistatic foot wear and clothing.
- No sparking tools should be used.
- Avoid skin and eye contact.
- Do not breathe vapours or spray mist.
- Smoking, eating and drinking should be prohibited in the application area.
- For personal protection see section 8.
- Comply with the health and safety at work laws.
- If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
- Solvent vapours are heavier than air and may spread along floors.
- Vapours may form explosive mixtures with air.
- Never use pressure to empty container; container is not a pressure vessel.
- Always keep in containers of same material as the original one.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
- Observe label precautions.
- Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
- No smoking.
- Prevent unauthorized access.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.
SAFETY DATA SHEET

Product Name: Disperse Dye Ink TYPE-A BLACK

**Advice on common storage**
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

Do not store together with explosives, compressed, liquefied and pressurised gases, aerosols, flammable liquids, oxidizing products, non combustible toxic products and infectious products.

**8. Exposure controls/personal protection**

Appropriate engineering controls: Use process enclosures or local exhaust ventilation.

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH TLV—TWA</th>
<th>ACGIH TLV—STEL</th>
<th>EU Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanediol (CAS.No.107-21-1)</td>
<td>None</td>
<td>100 [mg/m3]</td>
<td>20 [ppm]</td>
</tr>
<tr>
<td>Dipropylene glycol methyl ether (CAS.No.34590-94-8)</td>
<td>100 [ppm]</td>
<td>150 [ppm]</td>
<td>50 [ppm]</td>
</tr>
<tr>
<td>ethoxylated tetra methyldecynediol (CAS.No.9014-85-1)</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Personal Protective Equipment

- **Respiratory Protection:** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- **Hand protection:** The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.
- **Eye/face protection:** Wear protective eyewear for protection against solvent spatter.
- **Skin Protection:** Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

**9. Physical and chemical properties**

**Product**

- **Physical state:** Liquid
- **Colour:** Black
- **Odor threshold:** No data.
- **pH:** No data.
- **Melting point/freezing point:** No data.
- **Initial boiling point and boiling range:** 100°C
- **Flash point:** 100°C
- **Auto-ignition temperature:** 270°C
Product Name: Disperse Dye Ink TYPE-A BLACK

Upper/lower flammability 3.2%-15.3% (based on organic solvents) or explosive limits:
Vapour pressure: 0.1 hPa
Vapour density: No data.
Specific Gravity: 1.14 [g/cm³]
Solubility: Water solubility : appreciable

10. Stability and reactivity

Reactivity: Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.
Chemical stability: The product is chemically stable.
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: Stable under recommended storage and handling conditions (see section 7).
Incompatible materials: not required under normal use
Hazardous decomposition products: None known.

11. Toxicological information

11.1. Information on toxicological effects

General observations
There is no data available on the product.
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly.
See sections 2 and 3 for details.

Practical experience
Swallowing may cause nausea, diarrhoea and vomiting.

Acute toxicity
Acute oral toxicity

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-473-3</td>
<td>ethanediol</td>
<td>rat</td>
<td>LD50</td>
<td>&gt;2000mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mutagenicity
Ames Test : Positive

12. Ecological information

There are no data available on the product itself.
The product should not be allowed to enter drains or watercourses.
The data in this section is consistent with data from chemical safety reports available at the date of revision.
12.1. Toxicity

Aquatic toxicity

Acute and extended toxicity of fishes

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure Time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>Cyprinodon variegatus (sheepshead minnow)</td>
<td>LC50</td>
<td>96h</td>
<td>52mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Toxicity with aquatic plants

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure Time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-022-5</td>
<td>ethoxylated tetra methyldecynediol</td>
<td>green algae (type not specified)</td>
<td>EC50</td>
<td>72h</td>
<td>105mg/l</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects

The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials. For details, see section 3

Adsorbed organic bound halogens (AOX)

Product does not contain organic linked halogens contributing to AOX.

13. Disposal considerations

Dispose of in accordance with local regulations.
Product
Recommendation:
A disposal process that converts the waste into energy is recommended.
If this is not possible the hazardous waste must be disposed of by incineration.

Uncleaned packaging
Recommendation:
Properly emptied containers are to be scrap processed or reconditioned.
Improperly emptied containers are considered hazardous waste.

14. Transport information

UN CLASS  Class: Not applicable.
UN number: Not applicable.
Proper shipping name: Not applicable.
Packing group: Not applicable.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
The mixture is non-dangerous in accordance with Directive 1999/45/EC.

15.2. Chemical Safety Assessment
No safety checks were carried out on the mixture.

16. Other information

Full text of R-phrases:
R22: Harmful if swallowed.
R36: Irritating to eyes.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-phrases:
H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H412: Harmful to aquatic life with long lasting effects.

The above information is believed to be accurate and represents the best information currently available to our company. However, our company make no warranty with respect to such information, and our company assume no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.