SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name : Heatless Ink IV IQ990 Black
SDS Number : 15A021

Date Prepared : 20.03.2015
Revision Date : 14.09.2017

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

1.1 Product identifier
Product name : Heatless Ink IV IQ990 Black

1.2 Relevant identified uses of the substance or mixture, and uses advised against
Use of the substance/mixture : Ink for ink jet printer

1.3 Details of the supplier of the safety data sheet
Company : GENERAL CO., LTD.
18, Satsukigaoka, Minakuchi-cho, Koka-shi, Siga 528-0062, Japan
Telephone : +81-748-65-2260
Fax : +81-748-63-1922
E-mail : qa_1@general.co.jp

1.4 Emergency telephone number : +81-748-65-2260

2. Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008
- Flam. Liq. 2
- Eye Dam. 1
- STOT SE 3
- Aquatic Chronic 3

2.2 Label elements
Labelling according to Regulation (EC) No. 1272/2008
Hazard pictograms : 

Signal word : Danger
Hazard statements : Highly flammable liquid and vapour.
Causes serious eye damage.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.

Precautionary statements
Prevention : Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.

Response : IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use an appropriate extinguishing agent for extinction.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER of doctor/physician if you feel unwell.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name: Heatless Ink IV IQ990 Black
Date Prepared: 20.03.2015
SDS Number: 15A021
Revision Date: 14.09.2017

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.


Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
None known

3. Composition/information on ingredients

3.1 Chemical characterization

3.2 Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>EC Number</th>
<th>Contents (wt %)</th>
<th>Classification (EC) No 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyestuff</td>
<td>117527-94-3</td>
<td>403-720-7</td>
<td>&lt;10</td>
<td>Aquatic Chronic 2: H411</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>200-578-6</td>
<td>&lt;65</td>
<td>Flam. Liq. 2: H225</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1 Description of first aid measures

General advice: When symptoms persist or in all cases of doubt seek medical advice.
Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Get medical advice/attention if you feel unwell.
Skin contact: Wash thoroughly with soap and plenty of water while removing all contaminated clothes.
If skin irritation or rash occurs: Get medical advice/attention.
Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to remove. Continue to rinse for at least 15 minutes.
Get medical attention immediately.
Ingestion: Wash mouth with water and seek medical advice immediately.
Do not induce vomiting.

Information for doctor: No information is available.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of immediate medical attention and special treatment needed
Treat symptomatically.
5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide (CO2), Dry chemical, Alcohol-resistant foam, Water spray.

Unsuitable extinguishing media: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides will form in fire.

5.3 Advice for firefighters

Wear suitable protective suit and self-contained breathing apparatus.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment as specified in section 8.

6.2 Environmental precautions

Do not release into soil, sewers, river, or the public water courses.

6.3 Methods and materials for containment and cleaning up

In the case of a cartridge: Not applicable.

At the time of the leakage of contents: Absorb or cover with dry earth, sand or other non-combustible material and transfer to sealable containers. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4 Reference to other sections

Refer to Section 7, 8 and 13.

7. Handling and storage

7.1 Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Prohibition of dropping and throwing. Avoid contact with skin, eyes and clothing. Do not breathe vapours. Use only in a well-ventilated area. When using do not eat or drink. Wash hands thoroughly after handling. Keep away from fire, sparks and heated surfaces. Take precautionary measures against electrostatic discharges.

7.2 Conditions for safe storage, including any incompatibilities

Do not store ink in high or freezing temperature. Keep away from heat and direct sunlight. Do not store ink with acids, oxidizing agents or explosives. Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end uses

No further relevant information available.

8. Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>EU-OEL (TWA)</th>
<th>EU-OEL (STEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyestuff</td>
<td>117527-94-3</td>
<td>0.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>1000 ppm, 1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td>1-Propanol</td>
<td>71-23-8</td>
<td>200 ppm, 500 mg/m³, 250 ppm, 625 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>500 ppm, 1210 mg/m³, 1000 ppm, 2420 mg/m³</td>
<td></td>
</tr>
<tr>
<td>1-Butanol</td>
<td>71-36-3</td>
<td>50 ppm, 150 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name : Heatless Ink IV IQ990 Black
Date Prepared : 20.03.2015
SDS Number : 15A021
Revision Date : 14.09.2017

8.2 Exposure controls
Engineering measures
Local Exhaust : Adequate ventilation should be provided so that exposure limits are not exceeded.

Personal protective equipment
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection : Impermeable gloves.
Skin and body protection : Protective suit, Safety shoes.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Solvent type ink
Colour : Black
Odour : Alcohol odour
pH : No data available
Melting point : No data available
Boiling point : No data available
Flash point : 12.0 degrees C (Closed cup)
Evaporation rate : No data available
Upper/lower explosive limits : No data available
Vapour pressure : No data available
Vapour density : No data available
Relative density : No data available
Water solubility : Insolubility
Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : 2.2 - 2.6 mPa·s (at 25 degrees C)
Explosive properties : This product is considered a no explosive material under normal use condition.
Oxidising properties : There is nothing in general storage and handling.

9.2 Other information
No further relevant information available.

10. Stability and reactivity

10.1 Reactivity
No hazardous reactions with proper storage and handling.

10.2 Chemical stability
The product is stable under normal conditions.

10.3 Possibility of hazardous reactions
No hazardous reactions with proper storage and handling.

10.4 Conditions to avoid
High temperature, heat, sparks, flames and other sources of ignition. Oxidizing condition.

10.5 Incompatible materials
No information available.

10.6 Hazardous decomposition products
Carbon oxides, nitrogen oxides will form in fire.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name : Heatless Ink IV IQ990 Black  Date Prepared : 20.03.2015
SDS Number : 15A021  Revision Date : 14.09.2017

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Compound</th>
<th>Species</th>
<th>Effect</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>rat</td>
<td>LD50</td>
<td>7060 mg/kg</td>
</tr>
<tr>
<td>1-Propanol</td>
<td>rat</td>
<td>LD50</td>
<td>3830 mg/kg</td>
</tr>
<tr>
<td>1-Butanol</td>
<td>rat</td>
<td>LD50</td>
<td>1227 mg/kg    (calculation value)</td>
</tr>
<tr>
<td>Ethanol</td>
<td>rabbit</td>
<td>LDLo</td>
<td>20000 mg/kg</td>
</tr>
<tr>
<td>1-Propanol</td>
<td>rabbit</td>
<td>LD50</td>
<td>&gt;10000 mg/kg</td>
</tr>
<tr>
<td>Ethanol</td>
<td>rat</td>
<td>LC50</td>
<td>63000 ppm/4h</td>
</tr>
<tr>
<td>1-Propanol</td>
<td>rat</td>
<td>LC50</td>
<td>&gt;9.8 mg/l/4h</td>
</tr>
<tr>
<td>1-Propanol</td>
<td>rabbit</td>
<td>72h</td>
<td>Slight</td>
</tr>
<tr>
<td>1-Butanol</td>
<td>rabbit</td>
<td>405 mg/24h</td>
<td>Moderate</td>
</tr>
<tr>
<td>1-Propanol</td>
<td>rabbit</td>
<td>72h</td>
<td>Severe</td>
</tr>
<tr>
<td>1-Butanol</td>
<td>rabbit</td>
<td>1.62 mg</td>
<td>Severe</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation

<table>
<thead>
<tr>
<th>Compound</th>
<th>Species</th>
<th>Duration</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Propanol</td>
<td>rabbit</td>
<td>72h</td>
<td>Non-sensitizing</td>
</tr>
</tbody>
</table>

12. Ecological information

12.1 Toxicity

Toxicity to fish

<table>
<thead>
<tr>
<th>Compound</th>
<th>Species</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>(Pimephales promelas)</td>
<td>&gt;100 mg/l/96h</td>
</tr>
<tr>
<td>1-Propanol</td>
<td>(Pimephales promelas)</td>
<td>&gt;804 mg/l/96h</td>
</tr>
<tr>
<td>Dyestuff</td>
<td>(Fish)</td>
<td>2.0 mg/l</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects

No further relevant information available.

13. Disposal considerations

13.1 Waste treatment methods

Product

Dispose of waste material in accordance with local, state and federal pollution regulations.

Contaminated packaging

When disposing of an empty container, dispose after removing contents materials completely. Dispose of this material and its container according to your country law.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name: Heatless Ink IV IQ990 Black
SDS Number: 15A021
Date Prepared: 20.03.2015
Revision Date: 14.09.2017

14. Transport information

International Regulations

| UN number     | 1210 |
| UN proper shipping name | Printing Ink |
| Class         | III  |
| Packing group | II  |

Sea transport

| IMDG-Code : |       |
| UN number   | 1210  |
| UN proper shipping name | Printing Ink |
| Class       | III  |
| Packing group | II  |
| Marine pollutant | No |

Air transport

| ICAO-TI/IATA-DGR : |       |
| UN number         | 1210  |
| UN proper shipping name | Printing Ink |
| Class              | III  |
| Packing group      | II  |

Land transport

| ADR/RID : |       |
| UN number | 1210  |
| UN proper shipping name | Printing Ink |
| Class       | III  |
| Packing group | II  |

15. Regulatory information

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

EU regulations

(EC) No 1907/2006 (REACH)
Annex XIV (Authorisation) : Not regulated
Annex XVII (Restrictions on use) : Not regulated

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out.

16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Product name: Heatless Ink IV IQ990 Black
Date Prepared: 20.03.2015
SDS Number: 15A021
Revision Date: 14.09.2017

H336 : May cause drowsiness or dizziness.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.

The information contained herein is based on the current knowledge.
This Safety Data Sheet is intended to describe our products in correctness of safety requirements.
It should not therefore be construed as guaranteeing specific properties.
The data applies to only usual handing.