

From:NORITSU KOKI CO., LTD.Emergency Telephone:+8579-1, UmeharaAll Non-Emergency Phone:+8Wakayama-shi, 640-8550Fax:+8JapanE-mail:m

+81 73 454 0309 +81 73 454 0309 +81 73 454 4618 msds@nkc.noritsu.co.jp

Ink Cartridge (LM) (H086041-00)

MSDS Number: MSDSH086041-00-04-OT-E--- Effective Date: 11/13/2009

1. Product Identification

| Product Name: | Ink Cartridge (LM) (H086041-00) |
|---------------|---------------------------------|
| Synonyms: | None |
| Use: | Inkjet Printing Ink |

2. Hazards Identification

2.1 Emergency Overview:

This ink does not meet the criteria for dangerous classification according to EU Directive 1999/45/EC. Ink component is a magenta liquid that may cause eye irritation. Avoid contact with eyes or clothing. In the case of skin contact, wash with soap and water. Keep out of reach of children.

2.2 Potential Health Effects:

Eyes: Ink contact with eye may be mildly irritating. See Section 11 for toxicology.

Skin: Ink contact with skin may cause irritation, swilling, or redness. See Section 11 for toxicology.

Inhalation: Intentional exposure to ink vapors (mist) will cause respiratory irritation. See Section 11 for toxicology.

Ingestion: May cause upset stomach.

3. Composition Information

This is an aqueous ink formulation.

| Ink Composition | CAS No. | EEC No. | EU registration No. | % By Weight | EU Symbols | EU R- phrase | EU OELs | Remark |
|-------------------------------|-----------------|-----------------|------------------------------|----------------|---------------|-----------------|------------|--------|
| Proprietary dyes/ pigments | Trade secret | Trade secret | Not available for the moment | < 5 | None | None | None | None |
| Proprietary organic material | Trade secret | Trade secret | Not available for the moment | 10 - 15 | None | None | None | None |
| Glycerol | Trade secret | Trade secret | Not available for the moment | 15 - 20 | None | None | None | None |
| Triethanolamine | 102-71-6 | 203-049-8 | Not available for the moment | < 1 | None | None | None | None |
| Water | 7732-18-5 | 231-791-2 | Exemption | balance | None | None | None | None |

4. First Aid Measures

- **4.1 Eyes:** Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Seek medical attention if eye irritation continues.
- **4.2 Skin:** Wash surface areas with soap and water. Wash soiled clothing before wearing again. Consult a physician if irritation continues.
- **4.3 Inhalation:** Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen. Seek immediate medical attention.
- 4.4 Ingestion: Seek medical advise; and attention if stomach continues to be upset.

5. Fire Fighting Measures

5.1 Flammability: Not flammable
5.2 Extinguishing Media: Dry chemical or carbon dioxide
5.3 Fire Fighting Instructions: No special fire fighting procedures are required other than breathing apparatus. No special explosion hazards are known.

6. Accidental Release Measures

| 6.1 Personal precautions: | Eye or Skin protection required during clean-up. Use proper ventilation. |
|--------------------------------|--|
| 6.2 Environmental precautions: | Do not release to sewer, surface- or ground-water. |
| 6.3 Methods for cleaning up: | If a spill occurs, use sponges to wipe-up ink, then rinse area with damp |
| | cloth. Place waste in closed container for disposal. Do not dispose of waste |
| | to the sewer. Wash hands with soap and water. |

7. Handling and Storage

- 7.1 Handling: Keep out of reach of children and do not drink ink. Do not dismantle cartridge.
- **7.2 Storage:** Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store cartridges with oxidizing agents or explosives. Make sure cartridge is dry before insertion into printer housing.
- 7.3 Specific use(s): Not specified

8. Exposure Controls and Personal Protection

8.1 Exposure limit values: Not established

8.2 Exposure Controls:

8.2.1 Occupational exposure control

Proper ventilation, in prevention

8.2.1.1 Respiratory protection

Not required under suitable use as setting the cartridge on the printer.

8.2.1.2 Hand protection

Not required under suitable use as setting the cartridge on the printer.

8.2.1.3 Eye protection

Not required under suitable use as setting the cartridge on the printer.

8.2.1.4 Skin protection

Not required under suitable use as setting the cartridge on the printer.

8.2.2 Environmental exposure control

Not established

9. Physical and Chemical Properties of Ink Formulation

| - | - | |
|------------------------------------|---|--|
| 9.1 General information | | |
| Appearance: | Magenta liquid. | |
| Odor: | Slightly. | |
| 9.2 Important health, safety and e | nvironmental information | |
| рН: | $8.6 \sim 10.0$ at 20° C/ 68° F | |
| Boiling point: | No data available | |
| Flash point: | Not detected until 95°C / 203 °F (closed cup, ASTM D3278) | |
| Flammability(solid, gas): | Not applicable | |
| Explosive properties: | None | |
| Oxidizing properties: | None | |
| Vapor density: | No data available | |
| Relative density: | 1.07 at 20°C / 68°F | |
| Solubility: | No data available | |
| Water solubility: | Complete | |
| Partition coefficient: n-octano | l/water : No data available | |
| Viscosity: | Less than 5 mPa • s | |
| Vapor density: | No data available | |
| Evaporation rate: | No data available | |
| 9.3 Other information | | |
| Melting point: | No data available | |
| | | |

10. Stability and Reactivity

| Stability: | Stable under normal temperature |
|------------------------------|--|
| Hazardous Polymerization: | No data available |
| 10.1 Conditions to avoid: | High and freezing temperatures |
| 10.2 Materials to avoid: | Oxidizers and explosives |
| 10.3 Hazardous decomposition | products: None under normal temperature |

11. Toxicological and Health Hazards

*Based on toxicology data of chemically similar material **Routes of Overexposure:** Eye, skin, inhalation, and oral **Acute Health Hazards:**

- Overexposure of eye surface to ink may be mildly irritating
- · Overexposure of skin to ink contact may cause irritation and in some people swelling and redness
- · Intentional inhalation overexposure to ink vapors may result in respiratory tract irritation

• Intentional or accidental oral ingestion may cause an upset stomach

| Chronic Health Hazards: | None known |
|---------------------------|---|
| Mutagenicity: | Negative (by Ames test)* |
| Carcinogenicity: | Not contain any substances listed in IARC Monographs(Group 1,2A and 2B) |
| | and Annex I of (67/548/EEC) for the ingredients of the ink. |
| Toxicity Data: Oral LD50: | >2500mg/kg (Rats) * |
| Dermal LD50: | >2000mg/kg (Rats) * |
| Inhalant LC50: | Not applicable |
| Eye irritating: | Minimal irritant (Rabbits, OECD405) * |
| Skin irritation: | Mild irritant (Rabbits, OECD 404) * |

12. Ecological Information

12.1 Ecotoxicity:No data available on the adverse effects of this ink on the environment12.2 Mobility:No data available on the adverse effects of this ink on the environment12.3 Persistence and degradability:No data available on the adverse effects of this ink on the environment12.4 Bioaccumulative potential:No data available on the adverse effects of this ink on the environment12.5. Result of PBT assessment:Has not carried out PBT assessment12.6. Other adverse effects:No data available

13. Disposal Considerations

Disposal should be in accordance with federal, state, and local requirements.

14. Transport Information

UN Class/UN Number: Not applicable

Dot, IMO, or IATA: Not hazardous classification

15. Regulatory Considerations

EU information:

Chemical Safety Assessment according to (EC)1907/2006:

This ink has not carried out any Chemical Safety Assessment yet. Symbols and indication according to 1999/45/EC:

This ink does not meet the criteria for classification as dangerous.

US information:

TSCA Section 4(a) Final Test Rules Regulated:Not regulatedTSCA Section 8(a) Preliminary Assessment Information Rule(PAIR):Not regulatedTSCA Section 8(a) Inventory Update Rule:Not regulatedSubject to a Special Regulatory Action under TSCA (2002 EPA Instructions, App. B)Not regulatedTSCA Section 12(b) One-Time Export Notification Regulated:Not regulatedCalifornia Proposition 65:Not regulated

Canada information:WHMIS Controlled Product:Not applicable (Manufactured article)

Australia Information:

Statement of Hazardous Nature: Not classified as hazardous according to criteria of NOHSC

16. Other Information

List of relevant R-phrases: Nothing

This "Material Safety Data Sheet" contains health, safety, and environmental information. It does not replace any precautionary language or use and disposal information which accompanies the product. The information contained herein is believed to be accurate at the time of preparation, but should only be used as a guide. It is subject to revision from time to time.

MSDS – Ink Cartridge (LM) (H086038-00-04-OT-E)

Revision Information: Initial MSDS Development.

Disclaimer:

NORITSU KOKI CO., LTD. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. NORITSU KOKI CO., LTD. makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. NORITSU KOKI CO., LTD. will not be responsible for damages resulting from use of or reliance upon this information.

Prepared by:NORITSU KOKI CO., LTD.Phone Number:+81 73 454 0309 (Japan)