SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: GC-50M , GC-50M25, GC-50M50 ink

Use: Water based Pigment Ink.

Manufacturer:
Brother Industries, Ltd.
15-1 Naeshiro-cho,
Mizuho-Ku,
Nagoya 467-8561,
Japan
Telephone (for information): +81-52-824-2735

Importer USA:
Brother International Corporation
P.O. Box 6911, 100 Somerset Corporate Boulevard, Bridgewater, NJ 08807-0911, USA
Telephone (for information): +1-800-284-4329

Importer Europe:
Brother Internationale Industriemaschinen GmbH
Dusseldorfer Str. 7-9,
D-46446,
Emmerich, am Rhein,
Germany
Telephone (for information): +49-2-822-6090

Importer Australia:
Brother International (Aust.) Pty. Ltd. ACN 001 393 835
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia
Telephone (for information): +61-2-9887-4344

Emergency Phone No.:
CHEMTREC
+1-703-527-3887 (International)
+1-800-424-9300 (North America)

For France only:
Antipoison Center telephone number: ORFILA +33-1-45-425-959

E-mail address for information: sds.info@brother.co.jp

2. HAZARDS IDENTIFICATION

Potential Health Effects:

Inhalation:
May cause irritation to the respiratory system. Mucous membranes.
Effects and Symptoms - Increased difficulty in breathing. Sneezing. Coughing. Headache, nausea and vomiting. Irritation of nose and throat. The vapor may have narcotic effect. May cause damage to organs: Liver. Kidneys.

Skin Contact:
Irritating to skin. Effects and Symptoms: Redness. Pain. Repeated or prolonged contact may cause defatting of the skin resulting in dryness, cracking and dermatitis.

Eye Contact:
Causes eye irritation. Redness. Pain.

Ingestion:
Will cause irritation of the gastrointestinal tract. Effects and Symptoms: Nausea. Diarrhea. Vomiting.

Chronic:
May cause anemia with leukocytosis (transient increase in the white blood cell count). May cause damage to organs: Liver. Kidneys.

Medical Advice:
Seek medical treatment when anyone has symptoms apparently due to swallowing, inhalation or contact with skin or eyes.

EC Classification: R22: Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	EC No.	%W/W	EU Hazard Symbols	EU Risk Phrases
Diethylene glycol	111-46-6	203-872-2	45 - 50	Xn	R22
C.I. Pigment Red	Registered	Registered	4	None.	None.
Binder resin	Registered	Registered	9.5	None.	None.
Water	7732-18-5	231-791-2	36.5-41.5	Not classified.	Not classified.

Carcinogen
Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA regulated.

PBT SUBSTANCE. and vPvB SUBSTANCE.
No component of this ink is a PBT or vPvB substance under Regulation (EC) 1907/2006.

4. FIRST AID MEASURES

Inhalation: Obtain immediate medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest.

Skin Contact: Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.

Eye Contact: Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.

Ingestion: Obtain immediate medical attention. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink.

Further Medical Treatment: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish with water spray, dry chemical or alcohol foam. CO_2.

Unsuitable Extinguishing Media: Do not use water jet.

Special firefighting procedures: Combustion or thermal decomposition will evolve toxic and irritant vapors. A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

Hazardous Decomposition Product(s): Carbon monoxide, Carbon dioxide and Nitrogen oxides.

Unusual fire and explosion hazards: None.

Explosion limits: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal Protection: Wear suitable protective clothing, gloves and eye/face protection. See Section: 8.

Environmental Precautions: Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

Methods for Cleaning Up: Adsorb spillages onto sand, earth or any suitable adsorbent material. Sweep up spilled substance and remove to safe place. Clean up spill immediately. Eliminate sources of ignition. Use only non-sparking tools. Ensure adequate ventilation. A vapor suppressing foam may be used to reduce vapors.

7. HANDLING AND STORAGE

Handling:	Wash thoroughly after handling. Use only in well-ventilated areas. Ensure adequate grounding. Use non-sparking hand tools and explosion proof electrical equipment. Decontaminate empty containers before recycling. Keep container tightly closed. Keep away from heat. Avoid friction, sparks, or other means of ignition.
Storage:	Keep away from heat. Avoid friction, sparks, or other means of ignition. Keep in a cool, well ventilated place. Keep away from incompatible materials. Keep container tightly closed.
Specific use:	Coating.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:	None.
Environmental Exposure Controls:	Use with local exhaust ventilation.
Personal Protection:	Respirators: Wear suitable respiratory protective equipment. Eye/face: Goggles. Skin: Protective gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

pH (Value):	7.5 - 9.5
Form:	Liquid.
Color:	Red.
Odor:	Slight.
Boiling Point (℃):	100
Melting Point (℃):	Not determined.
Vapor Pressure (Pascal):	Not determined.
Viscosity (mPa.s):	14± 1
Flash Point (℃):	Not available.
Flammable Limits (Upper) (%v/v):	Not determined.
Flammable Limits (Lower) (%v/v):	Not determined.
Explosive Properties:	None.
Auto Ignition Temperature (℃):	
Specific Gravity:	0.9 - 1.0
Vapor Density (Air=1):	Not determined.
Partition Coefficient (n-Octanol/water):	Not determined.
Relative Evaporation Rate (Ether=1):	Not determined.
Oxidizing Properties:	None.
Solubility (Water):	Soluble.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Conditions to avoid:	Keep away from sources of ignition. Keep away from heat. Avoid generation of dust.
Materials to avoid:	Strong oxidizing agents.
Hazardous Decomposition Product(s):	Carbon monoxide, Carbon dioxide and Nitrogen oxides.
Hazardous polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Ingestion: Acute Ink LD_{50} > 2500 mg/kg (OECD NO. 423)

Inhalation: Not available.

Skin Contact: Non-irritant. (OECD No. 405)

Eye Contact: Minimal irritant to the eye. (OECD No. 404)

Mutagenicity: Not available.

Skin sensitization: Not available.

Reproductive toxicity: Not available.

Carcinogenicity Information.
Not available.

12. ECOLOGICAL INFORMATION

No data available on the adverse effects of this product on the environment.

Toxicity: 96Hr LC_{50} (Daphnia magna) : 0.3 - 1.0 mg/l (Diethylene glycol)

Environmental Fate and Distribution: The substance has low mobility in soil.
The product is partially biodegradable in water. May evaporate quickly.

Persistence and Degradation: Water, half-life < 1 Days.
Partition Coefficient (n-Octanol/water) < 3.0.
Slow Photolysis. half-life : 1 - 10 Days. / AIR
The product has low potential for bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Dispose of in compliance with Federal, State and local regulations.

14. TRANSPORT INFORMATION

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

UN No.: None.
Class: None.

15. REGULATORY INFORMATION

USA: All chemicals in this product comply with TSCA rules and regulations including TSCA Section 5 (Inventory Rules).

EU: Harmful if swallowed.

Canada: WHMIS: Not applicable. (Manufactured article)



Harmful.

Hazard Symbol:	Xn
Risk Phrases:	R22: Harmful if swallowed.
Safety Phrases:	S46: If swallowed, seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

The following sections contain revisions or new statements: All sections.

EU Hazard Symbols	Xn: Harmful.
Safety Phrases:	S46: If swallowed, seek medical advice immediately and show this container or label.
Additional Information:	The information relates only to this product. It may not be valid, if used in combination with any other materials or in any other process, and it is based on our best knowledge as of the date of preparation (revision).
Reference:	- U.S. 29CFR Part 1910 - ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices - EU Directive 91/322/EEC and 2000/39/EC - IARC Monographs on the Evaluation Carcinogenic Risks to Humans World Health Organization - NTP 11th Report on Carcinogens
Abbreviations:	ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances HCS: Hazard Communication Standard (US) IARC: International Agency for Research on Cancer IOELV: Indicative Occupational Exposure Limit Value NOHSC: National Occupational Health and Safety Commission (Australia) NTP: National Toxicology Program (US) OSHA: Occupational Safety and Health Administration (US) PBT: Persistent, Bioaccumulative and Toxic. PEL: Permissible Exposure Limit TLV: Threshold Limit Value (ACGIH) TSCA: Toxic Substances Control Act (US) vPvB: very Persistent and very Bioaccumulative. WHMIS: Workplace Hazardous Material Information System (Canada)