1. Identification

Product Name : BS4 ink Black
Order No. : BS4-K-60 / BS4-K-2L
Ink Ver. : 3
General Use : Ink for ink jet printer
Product Description : Solvent pigment ink
SDS Number : 037-S183957
Manufacture
Company Name : Mimaki Engineering Co., Ltd.
Address : 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN
Telephone No. : +81-268-64-2413
Importer / Distributor Established in USA
Company Name : MIMAKI USA, INC.
Address : 150 Satellite Boulevard NE , suite A, Suwanee, Georgia 30024, U.S.A.
Telephone No. : +1-678-730-0170
Emergency Telephone No. : +1 866 928 0789 (within United States only, Toll free)
+1 215 207 0061

2. Hazards Identification

[HCS Classification]

Physical Hazards
Flammable Liquids : Category 4

Health Hazards
Serious Eye Damage / Irritation : Category 2A
Carcinogenicity : Category 2
Specific Target Organ Toxicity (Single Exposure) : Category 2(central nervous system)
Specific Target Organ Toxicity : Category 1 (lungs)
Repeated Exposure

The above list does not include category being non-classifiable or not-applicable.

[HCS Label Elements]
Symbol

Signal Word
DANGER

Hazard Statements
H227 Combustible liquid.
H319 Cause serious eye irritation.
H351 Suspected of causing cancer.
H371 May cause damage to organs (central nervous system)
H372 Causes damage to organs through prolonged or repeated exposure (lungs).

Precautionary Statements

[Prevention]
P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.
P370+P378 In case of fire: Use appropriate media for extinction.

[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Chemical Name</th>
<th>Wt%</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Glycol ether solvents</td>
<td>70-80</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>2</td>
<td>γ - Butyrolactone</td>
<td>10-20</td>
<td>96-48-0</td>
</tr>
<tr>
<td>3</td>
<td>Carbon black</td>
<td>1-10</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>4</td>
<td>Chlorinated Ethylene-Vinyl Acetate Copolymer (CEVA)</td>
<td>1-10</td>
<td>Trade Secret</td>
</tr>
</tbody>
</table>
5. Acrylic type resine 1-10 Trade Secret
6. Additive 0.1-5 Trade Secret

The chemical identity and/or percentage of composition is being withheld as a trade secret.

4. First Aid Measures

Description of Necessary Measures

**Inhalation**: Remove person to fresh air and keep comfortable for breathing. Give artificial respiration if not breathing. Call a POISON CENTER or doctor/physician.

**Eye Contact**: Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation or pain persists after fifteen minutes of eye irrigation, seek medical attention.

**Skin Contact**: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before re-use.

**Ingestion**: If swallowed, get medical attention.

**Most Important Symptoms/Effects**

**Acute**: eye irritation, central nervous system damage

**Delayed**: cancer, lung damage

**Indication of Immediate Medical Attention and Special Treatment Needed, If Needed**: Treat symptomatically and supportively.

5. Fire Fighting Measures

**Flammable Properties**

Flash Point: 70 °C
Auto Ignition Temperature: 169 °C (Glycol ether type solvent)
Flammable Point: 2.5vol%–33.0Vo% (Glycol ether type solvent)

**Extinguishing Media**

Carbon dioxide, regular dry powder, regular dry chemical, water spray, alcohol resistant foam.

**Unsuitable Extinguishing Media**

Do not scatter spilled material with high-pressure water streams.

**Special Hazards Arising from the Chemical**

Combustible liquid and vapor. Irritating fumes and gases may be released upon thermal processing or during combustion.
Hazardous Combustion Products: **Combustion**: oxides of carbon, oxides of nitrogen

Fire Fighting Measures: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Avoid inhalation of material or combustion by-products. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

Special Protective Equipment and Precautions for Firefighters: Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

### 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up: Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray.

- **Small spills**: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.
- **Large spills**: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

### 7. Handling and Storage

Precautions for Safe Handling: Keep away from heat, sparks, open flame, and hot surfaces • No smoking. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe
vapor or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling.

Conditions for Safe Storage, including any Incompatibilities:

- Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Grounding and bonding required. Store locked up. Keep separated from incompatible substances.
- Incompatible materials include acids, bases, oxidizing materials, and halogens.

8. Exposure Controls / Personal Protection

Exposure Limit Values

**Carbon black (1333-86-4)**

- **ACGIH:** 3 mg/m³ TWA (inhalable fraction)
- **OSHA:** 3.5 mg/m³ TWA
- **NIOSH:** 3.5 mg/m³ TWA; 0.1 mg/m³ TWA
  
  (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)

- **Mexico:** 3.5 mg/m³ TWA LMPE-PPT
  7 mg/m³ STEL [LMPE-CT]

Component Biological Limit Values:

- There are no biological limit values for the component(s) of this product.

Exposure Controls

Occupational Exposure Controls:

- **Appropriate Engineering Controls:** Provide local exhaust or process enclosure ventilation system.
- **Ensure compliance with applicable exposure limits.**

Individual Protection Measures, such as Personal Protective Equipment:

- **Respiratory Protection:** Consult with a health and safety professional for specific respirators appropriate for your use.

- **Glove Recommendations:** Wear appropriate chemical resistant gloves.
Eye /Face Protection

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate chemical resistant clothing.

Environmental Exposure Controls

Not available

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance Physical State</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>black</td>
</tr>
<tr>
<td>Odor</td>
<td>solvent odor</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling Point / Boiling Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point / Melting Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>70°C (Tag closed cup)</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>169 °C (Glycol ether type solvent)</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper / Lower Flammability or</td>
<td>2.5 vol %-33.0 vol % (Glycol ether type solvent)</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt;=0.1 kPa (20°C) (Glycol ether type solvent)</td>
</tr>
<tr>
<td>Density</td>
<td>0.969 g/cm³</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>4.0-4.5 mPa/s @25 °C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
</tbody>
</table>
10. Stability and Reactivity

Reactivity : No reactivity hazard is expected.
Conditions to Avoid : Avoid flames, sparks, and other sources of ignition. Avoid contact with incompatible materials.
Stability : Stable under normal conditions of use.
Materials to Avoid : acids, bases, oxidizing materials, halogens
Hazardous Reactions / Decomposition Products : Combustion: oxides of carbon, oxides of nitrogen

11. Toxicological Information

Acute Toxicity

Component Analysis - LD50/LC50
The component(s) of this material have been reviewed in various sources and the following selected endpoints are published:

- Glycol ether solvents (Trade Secret)
  Oral LD50 Rat 6500 µL/kg
- γ-Butyrolactone (96-48-0)
  Oral LD50 Rat 1540 mg/kg  Inhalation LC50 Rat >5100 mg/m3 4 h
- Additive (Trade Secret)
  Oral LD50 Rat 40 g/kg  Dermal LD50 Rabbit >20 mL/kg
- Carbon black (1333-86-4)
  Oral LD50 Rat >15400 mg/kg

Information on Likely Routes of Exposure

- Inhalation : irritation, headache, cancer, dizziness, drowsiness, lung damage.
- Ingestion : vomiting, nausea.
- Skin Contact : irritation, skin disorders.
- Eye Contact : irritation.
- Immediate Effects : eye irritation, central nervous system damage.
- Delayed Effects : lung damage, cancer.
- Medical Conditions Aggravated by Exposure : No information available for the product.
- Irritation/Corrosivity Data : eye irritation.
- Respiratory Sensitization : No information available for the product.
Safety Data Sheets

Dermal Sensitization : No information available for the product.
Germ Cell Mutagenicity : No information available for the product.

Carcinogenicity

Component Carcinogenicity

\( \gamma \)-Butyrolactone (96-48-0)
- IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 11 [1976] (Group 3 (not classifiable))

Chlorinated Ethylene-Vinyl Acetate Copolymer (CEVA) (Trade Secret)
- IARC: Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

Carbon black (1333-86-4)
- ACGIH: A3 · Confirmed Animal Carcinogen with Unknown Relevance to Humans
- IARC: Monograph 93 [2010]; Monograph 65 [1996] (Group 2B (possibly carcinogenic to humans))
- DFG: Category 3B (could be carcinogenic for man, inhalable fraction)
- OSHA: Present

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity · Single Exposure
- central nervous system, dizziness, drowsiness.

Specific Target Organ Toxicity · Repeated Exposure
- Lungs.

Aspiration Hazard

No information available for the product.

12. Ecological Information

Handling is noted because it might influence the environment when leaking and abandoning it. Especially, note that the product doesn’t flow directly to ground, the river, and the drain ditch.

Component Analysis · Aquatic Toxicity

\( \gamma \)-Butyrolactone (96-48-0)
- Algae: 72 Hr EC50 Desmodesmus subspicatus: 360 mg/L; 96 Hr EC50 Desmodesmus subspicatus: 79 mg/L
- Invertebrate: 48 Hr EC50 Daphnia magna Straus: >500 mg/L

Mobility : No information available for the product.
Persistence and Degradability : No information available for the product.
Bioaccumulative Potential: No information available for the product.
Other Adverse Effects: No additional information is available.

13. Disposal Considerations

Disposal Methods: Dispose in accordance with all applicable regulations.
Component Waste: The U.S. EPA has not published waste numbers for this product's components.
Disposal of Contaminated Packaging: Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

Comply with all USA, national and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

Check a thing without a leak in a container.
Perform prevention of collapse of cargo surely.
Us Department of Transportation (DOT)
Hazardous Materials Description and Proper Shipping Name
Hazardous Class or Division:
Packaging Group (PG): III
US DOT Information: Not regulated as dangerous goods for transport. *1
*1 Class combustible liquid (NA1993), Packing group III for quantities of 450 liters (119 gallons) or more: not regulated for smaller quantities
TDG Information: Not regulated as dangerous goods for transport.
Marine Pollutant: γ-Butyrolactone (96-48-0)
IBC Code: Category Y
15. Regulatory Information

U.S. Federal Regulations: None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312: Acute Health: Yes  Chronic Health: No  Fire: Yes  Pressure: No  Reactive: No

U.S. State Regulations: The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

California Proposition 65: WARNING: This product can expose you to chemicals including Carbon black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Canada: WHMIS CLASSIFICATION: B3, D2A, D2B.

Canadian WHMIS Ingredient Disclosure List (IDL): Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which fall under WHMIS criteria specified in the Controlled Products Regulations and present above the threshold limits listed on the IDL.

Carbon black (1333-86-4)  1 %

Chemical Inventory Listings

Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>US</th>
<th>CA</th>
<th>EU</th>
<th>AU</th>
<th>PHIL</th>
<th>JP</th>
<th>KR</th>
<th>CN</th>
<th>NZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycol ether solvents</td>
<td>Trade Secret</td>
<td>Yes</td>
<td>NSL</td>
<td>EIN</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>γ -Butyrolactone</td>
<td>96-48-0</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Chlorinated Ethylene-Vinyl Acetate Copolymer (CEVA)</td>
<td>Trade Secret</td>
<td>Yes</td>
<td>DSL</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

16. Other Information
Safety Data Sheets

Key / Legend

ACGIH · American Conference of Governmental Industrial Hygienists; ADR · European Road Transport; CAS · Chemical Abstracts Service; CLP · Classification, Labelling and Packaging; EEC · European Economic Community; EIN (EINECS) · European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) · European List of Notified Chemical Substances; IARC · International Agency for Research on Cancer; IATA · International Air Transport Association; IMDG · International Maritime Dangerous Goods; IBC Code · International Bulk Chemical Code; Kow · Octanol/water partition coefficient; LC50 · Lethal Concentration, 50%; LD50 · Lethal Dose, 50%; LEL · Lower Explosive Limit; LOLI · List Of Lists™ · ChemADVISOR's Regulatory Database; MAK · Maximum Concentration Value in the Workplace; MEL · Maximum Exposure Limits; NTP = National Toxicology Program; REACH · Registration, Evaluation, Authorisation and Restriction of Chemicals; RID · European Rail Transport; STEL · Short-term Exposure Limit; TWA · Time Weighted Average; UEL · Upper Explosive Limit

Other Information

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