

Section 1 - IDENTIFICATION

Product Identifier: BS4 ink Black

Product Description

BS4-K-60 / BS4-K-2L

Ink Ver 2

Product Use

Pigment ink for ink jet printer.

Restrictions on Use

None known.

Manufacturer Information

Mimaki Engineering Co., Ltd
2182-3 Shigeno-otsu, Tomi-shi, Nagano
389-0512 Japan

Telephone number: +81-268-64-2413

Emergency telephone number: +81-268-64-2281

Importer / Distributor Information

MIMAKI SINGAPORE PTE. LTD.
31 Kaki Bukit Road 3 Singapore 417818 TechLink #02-03

Telephone number: +65-6508-2789

Section 2 - HAZARDS IDENTIFICATION

SPRING/SS 586-2:2014

Serious Eye Damage/Eye Irritation, Category 2A

Skin sensitizer, Category 1

Carcinogenicity, Category 2

Specific Target Organ Toxicity - Single Exposure, Category 2 (central nervous system)

Specific Target Organ Toxicity - Repeated Exposure, Category 1 (lungs)

Hazardous to the aquatic environment - acute hazard, Category 3

Hazardous to the aquatic environment - chronic hazard, Category 2

LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statement(s)

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H371 May cause damage to central nervous system.

H373 May cause damage to lungs through prolonged or repeated exposure.

Safety Data Sheets

H402 Harmful to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

P201 Obtain special instructions before use. **P202** Do not handle until all safety precautions have been read and understood. **P260** Do not breathe dust/fume/gas/mist/vapours/spray. **P270** Do not eat, drink or smoke when using this product. **P272** Contaminated work clothing should not be allowed out of the workplace. **P280** Wear protective gloves/protective clothing/eye protection/face protection. **P264** Wash thoroughly after handling. **P273** Avoid release to the environment.

Response

P302+P352 IF ON SKIN: Wash with plenty of soap and water **P308+P313** IF exposed or concerned: Get medical advice/attention. **P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **P333+P313** If skin irritation or rash occurs: Get medical advice/attention. **P337+P313** If eye irritation persists: Get medical advice/attention. **P363** Wash contaminated clothing before reuse. **P391** Collect spillage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards Which Do Not Result in Classification

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent
Trade Secret	Glycol ether solvents	70-80
96-48-0	γ -Butyrolactone	10-20
Trade Secret	Additive 2	0.1-5
1333-86-4	Carbon black	1-10
Trade Secret	Acrylic type resins	1-10
Trade Secret	Chlorinated Ethylene-Vinyl Acetate Copolymer (CEVA)	1-10
Trade Secret	Additive 1	0.1-5
Trade Secret	Additive 3	0.1-5

Contaminants

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

Section 4 - FIRST AID 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.

Skin

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use.

Eyes

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.



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Ingestion

If swallowed, get medical attention.

Note to Physicians

Treat symptomatically and supportively.

Symptoms: Immediate

eye irritation, central nervous system damage, allergic skin reaction.

Symptoms: Delayed

cancer, lung damage, allergic skin reaction.

* * *Section 5 - FIRE FIGHTING MEASURES* * *

Flammable Properties

Combustible liquid and vapor. Irritating fumes and gases may be released upon thermal processing or during combustion.

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.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

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.

Hazardous Combustion Products

Combustion: oxides of carbon, oxides of nitrogen

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Personal Precautions

Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions

Avoid release to the environment.

Methods for Containment

Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray.

Cleanup Methods

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.

Section 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

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.

Incompatibilities: acids, bases, oxidizing materials, halogens

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Carbon black (1333-86-4)

Singapore: 3.5 mg/m³ PEL

ACGIH: 3 mg/m³ TWA (inhalable fraction)

Biological exposure limits

There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

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

Protective Clothing

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

Consult with a health and safety professional for specific respirators appropriate for your use.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheets

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Physical State:	Liquid	Appearance:	black liquid
Color:	black	Physical Form:	liquid
Odor:	solvent odor	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Flash Point:	70 °C
Decomposition Temperature:	Not available	Evaporation Rate:	Not available
LEL:	2.5 vol % (Glycol ether type solvent)	UEL:	33.0 vol % (Glycol ether type solvent)
Vapor Pressure:	<=0.1 kPa (20°C)(Glycol ether type solvent)	Vapor Density (air = 1):	Not available
Density:	0.977 g/cm3	Water Solubility:	Not available
Log KOW:	Not available	Coeff. Water/Oil Dist:	Not available
Auto Ignition Temperature:	169 °C (Glycol ether type solvent)	Viscosity:	4.0-4.5 mPas @25 °C
Volatility:	Not available	Oxidizing Properties:	Not available
Explosive Properties:	Not available	Flammability (solid, gas):	Not applicable

Other Property Information

No additional information is available.

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal conditions of use.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid flames, sparks, and other sources of ignition. Avoid contact with incompatible materials.

Materials to Avoid (Incompatibilities)

acids, bases, oxidizing materials, halogens

Hazardous Decomposition:

Combustion: oxides of carbon, oxides of nitrogen

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic 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 2 (Trade Secret)

Oral LD50 Rat 40 g/kg; Dermal LD50 Rabbit >20 mL/kg

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Carbon black (1333-86-4)

Oral LD50 Rat >15400 mg/kg

Immediate Effects

eye irritation, central nervous system damage, allergic skin reaction

Delayed Effects

lung damage, cancer, allergic skin reaction

Irritation/Corrosivity Data

eye irritation

Respiratory Sensitizer

No information available for the product.

Dermal Sensitizer

May cause an allergic skin reaction.

Carcinogenicity

Component Carcinogenicity

γ -Butyrolactone (96-48-0)

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 11 [1976] (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

Chlorinated Ethylene-Vinyl Acetate Copolymer (CEVA) (Trade Secret)

IARC: Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

Mutagenic Data

No information available for the product.

Reproductive Effects Data

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

central nervous system

Specific Target Organ Toxicity - Repeated Exposure

lungs

Aspiration Hazard

No information available for the product.

Medical Conditions Aggravated by Exposure

No information available for the product.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life.

Toxic to aquatic life with long lasting effects.



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Component Analysis - Aquatic Toxicity

γ -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

Additive 2 (Trade Secret)

Algae: 72 Hr EC50 Desmodesmus subspicatus: 8 mg/L

Other Toxicity

No additional information is available.

Bioaccumulation

No information available for the product.

Bioconcentration

No information available for the product.

Biodegradation

No information available for the product.

Mobility

No information available for the product.

Other Information

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Information

There is no applicable waste information for this product's components.

Section 14 - TRANSPORT INFORMATION

IATA Information

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

UN #: UN3082 Hazard Class: 9 Packing Group: III

Required Label(s): 9

Special Provision : A197 *1

ICAO Information

Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

UN #: UN3082 Hazard Class: 9 Packing Group: III

Required Label(s): 9

IMDG Information

Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

UN #: UN3082 Hazard Class: 9 Packing Group: III

Required Label(s): 9

Special Provision : 2.10.2.7 *1

Marine Pollutant

γ -Butyrolactone (96-48-0)

IBC Code: Category Y

*1 Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) is excepted from Dangerous Goods regulations
-- see UN Special Provision.

Section 15 - REGULATORY INFORMATION

Singapore Regulations

Component Analysis

No information was found for the substance(s) in Singapore regulations.

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PHIL	JP	KR	CN	NZ
Glycol ether solvents	Trade Secret	Yes	NSL	EIN	No	No	Yes	No	Yes	Yes
γ -Butyrolactone	96-48-0	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Additive 2	Trade Secret	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Additive 3	Trade Secret	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Carbon black	1333-86-4	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Chlorinated Ethylene-Vinyl Acetate Copolymer (CEVA)	Trade Secret	Yes	DSL	No	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

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

Disclaimer

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.

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