

Section 1 - PRODUCT AND COMPANY IDENTIFICATION**Material Name**

BS3 Cyan

Product Description

SPC-0667C / SPC-0693C

Product Use

INK JET ink

Restrictions on Use

None known

Manufacturer Information

Mimaki Engineering Co., Ltd

2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 Japan

Phone: +81-268-64-2413

Importer / Distributor Information

MIMAKI AUSTRALIA PTY LTD.

Unit 14, 38-46 South Street, Rydalmere, NSW 2116, Australia

Phone: + 61-2-8036-4500

Emergency telephone number

+61 2 8014 4558 (within Australia only)

18000 74234 (within Australia only)

+65 3158 1074

Section 2 - HAZARDS IDENTIFICATION

Classified to Globally Harmonised System of Classification and Labelling of Chemicals, Third revised edition, published by the United Nations as modified under Schedule 6 of the Work Health and Safety Regulation.

GHS Classification

Flammable Liquids - Category 4

Acute Toxicity - Inhalation - Vapor - Category 4 (26% unknown)

Serious Eye Damage/Eye Irritation - Category 1

Reproductive Toxicity - Category 1B

Specific Target Organ Toxicity - Single Exposure - Category 1 (Hematopoietic System , central nervous system , kidneys)

Specific Target Organ Toxicity - Single Exposure - Category 2 (blood)

Specific Target Organ Toxicity - Single Exposure - Category 3

Specific Target Organ Toxicity - Repeated Exposure - Category 2 (Hematopoietic System , kidneys)

Hazardous to the Aquatic Environment - Chronic - Category 3

GHS Label Elements**Symbol(s)**



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Signal Word

Danger

Hazard Statement(s)

Combustible liquid.

Harmful if inhaled.

Causes serious eye damage.

May damage fertility or the unborn child.

Causes damage to organs.

May cause damage to organs.

May cause respiratory irritation. May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flame/hot surfaces - No smoking.

Use only outdoors or in a well-ventilated area.

Use Personal Protective equipment as required.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

Response

In case of fire: Use appropriate media for extinction.

If exposed: Call a POISON CENTER or doctor/physician.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Disposal

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

Statement(s) of Unknown Acute Toxicity

Inhalation 26% of the mixture consists of ingredient(s) of unknown acute toxicity.

Potential Environmental Effects

Harmful to aquatic life with long lasting effects.

Other Hazards Which Do Not Result in Classification

None known.

Main Symptoms and Emergency Overview

Harmful if inhaled. Causes serious eye damage. May damage fertility or the unborn child. Causes damage to organs.

May cause damage to organs. May cause respiratory irritation. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS



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CAS	Component Name	Percent
112-07-2	Ethylene glycol monobutyl ether acetate	50-60
108-65-6	Propylene glycol monomethyl ether acetate	15-25
96-48-0	.gamma.-Butyrolactone	15-25
Trade Secret	Vinyl chloride-vinyl acetate copolymers	1-10
Trade Secret	Copper phthalocyanine	1-10
Trade Secret	Additives	0.1-5

Section 4 - FIRST AID MEASURES

Inhalation

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

Skin

Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. Get medical attention if irritation develops.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects

Symptoms: Immediate

Harmful if inhaled, eye damage, central nervous system damage, kidney damage, hematopoietic effects, blood damage, respiratory tract irritation, central nervous system depression

Symptoms: Delayed

Reproductive Effects, hematopoietic effects, kidney damage

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

carbon dioxide, 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.

Hazardous Combustion Products

Oxides of carbon, oxides of nitrogen

Special 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



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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.

Hazchem/Emergency Action Code

2Z

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions

Avoid release to the environment.

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.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flame, and hot surfaces - No smoking. 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. Avoid release to the environment.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Store and handle in accordance with all current regulations and standards. Grounding and bonding required. Keep separated from incompatible substances.

Incompatible Materials

Acids, bases, oxidizing materials, amines

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Ethylene glycol monobutyl ether acetate	112-07-2
Safe Work Australia.	20 ppm TWA ; 133 mg/m3 TWA
	50 ppm STEL ; 333 mg/m3 STEL
ACGIH:	20 ppm TWA
Propylene glycol monomethyl ether acetate	108-65-6



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Safe Work Australia.	50 ppm TWA ; 274 mg/m3 TWA
	100 ppm STEL ; 548 mg/m3 STEL

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

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

Engineering Controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

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.

Respiratory Protection

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

Glove Recommendations

Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	cyan liquid	Physical State	liquid
Odor	solvent odor	Color	cyan
Odor Threshold	Not available	pH	Not available
Melting Point	<-30 °C	Boiling Point	Not available
Boiling Point Range	145-209 °C	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not applicable
Autoignition Temperature	Not available	Flash Point	66 ±1 °C
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	0.493 kPa (20 °C)
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	0.995 ±0.01 (25 °C)
Water Solubility	(slightly soluble)	Partition coefficient: n-octanol/water	Not available
Viscosity	4 ±0.3 mPa·s (25 °C)	Kinematic viscosity	Not available



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Solubility (Other)	Not available	Density	Not available
Physical Form	liquid	Molecular Weight	Not 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. Containers may rupture or explode if exposed to heat. Avoid contact with incompatible materials.

Incompatible Materials

Acids, bases, oxidizing materials, amines

Hazardous decomposition products

Oxides of carbon, oxides of nitrogen

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

irritation, difficulty breathing, vomiting, unconsciousness, loss of coordination, headache, drowsiness, dizziness, nausea, reproductive effects

Skin Contact

mild irritation

Eye Contact

eye damage

Ingestion

irritation, nausea, vomiting, drowsiness, dizziness

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Ethylene glycol monobutyl ether acetate (112-07-2)

Oral LD50 Rat 2400 mg/kg

Dermal LD50 Rabbit 1500 mg/kg

Inhalation LC50 Rat >400 ppm 4 h

Propylene glycol monomethyl ether acetate (108-65-6)

Oral LD50 Rat 8532 mg/kg

Dermal LD50 Rabbit >5 g/kg

.gamma.-Butyrolactone (96-48-0)

Oral LD50 Rat 1540 mg/kg

Inhalation LC50 Rat >5100 mg/m³ 4 h (no deaths occurred)

Copper phthalocyanine (Trade Secret)

Oral LD50 Rat >10000 mg/kg

Product Toxicity Data



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Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Oral	> 2000 mg/kg

Immediate Effects

Harmful if inhaled, eye damage, central nervous system damage, kidney damage, hematopoietic effects, blood damage, respiratory tract irritation, central nervous system depression

Delayed Effects

Reproductive Effects, hematopoietic effects, kidney damage

Irritation/Corrosivity Data

eye damage, respiratory tract irritation

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

Ethylene glycol monobutyl ether acetate	112-07-2
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
DFG:	Category 4 (no significant contribution to human cancer)
.gamma.-Butyrolactone	96-48-0
IARC:	Monograph 71 [1999] ; Supplement 7 [1987] ; Monograph 11 [1976] (Group 3 (not classifiable))
Vinyl chloride-vinyl acetate copolymers	Trade Secret
IARC:	Supplement 7 [1987] ; Monograph 19 [1979] (Group 3 (not classifiable))

Germ Cell Mutagenicity

No information available for the product.

Reproductive Toxicity

Available data characterizes components of this product as reproductive hazards.

Specific Target Organ Toxicity - Single Exposure

blood, central nervous system, kidneys, hematopoietic system

Specific Target Organ Toxicity - Repeated Exposure

kidneys, hematopoietic system

Aspiration hazard

No information available for the product.

Medical Conditions Aggravated by Exposure

respiratory disorders

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.



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Component Analysis - Aquatic Toxicity

Ethylene glycol monobutyl ether acetate	112-07-2
Algae:	EC50 72 h Desmodesmus subspicatus >500 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 37 mg/L IUCLID
Propylene glycol monomethyl ether acetate	108-65-6
Fish:	LC50 96 h Pimephales promelas 161 mg/L [static]
Invertebrate:	EC50 48 h Daphnia magna >500 mg/L IUCLID
.gamma.-Butyrolactone	96-48-0
Algae:	EC50 72 h Desmodesmus subspicatus 360 mg/L IUCLID ; EC50 96 h Desmodesmus subspicatus 79 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna Straus >500 mg/L IUCLID

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility in soil

No information available for the product.

Other adverse effects

No additional information available for the product.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Section 14 - TRANSPORT INFORMATION

ADG Information:

No Classification assigned.

IATA Information:

No Classification assigned.

ICAO Information:

No Classification assigned.

IMDG Information:

No Classification assigned.

International Bulk Chemical Code



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This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Ethylene glycol monobutyl ether acetate	112-07-2
IBC Code:	Category Y
Propylene glycol monomethyl ether acetate	108-65-6
IBC Code:	Category Z
.gamma.-Butyrolactone	96-48-0
IBC Code:	Category Y

Hazchem/Emergency Action Code
2Z

Section 15 - REGULATORY INFORMATION

Australia Regulations

Work Health and Safety Regulations - Prohibited Carcinogens

No component(s) are listed on the Prohibited Carcinogens list.

Work Health and Safety Regulations - Restricted Carcinogens

No component(s) are listed on the Restricted Carcinogens list.

Work Health and Safety Regulations - Restricted Hazardous Chemicals

No component(s) are listed on the Restricted Hazardous Chemicals list

Australia Work Health and Safety Regulations - Hazardous Chemicals Requiring Health Monitoring

None of this product's components are on the list.

Component Analysis - Inventory

Ethylene glycol monobutyl ether acetate (112-07-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

Propylene glycol monomethyl ether acetate (108-65-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

.gamma.-Butyrolactone (96-48-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW



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Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
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Vinyl chloride-vinyl acetate copolymers (Trade Secret)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

Copper phthalocyanine (Trade Secret)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

Additives (Trade Secret)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
No	No	No	No	No	No	No	No	No	No	No	No	No	No

Section 16 - OTHER INFORMATION

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire



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Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

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.