

Safety Data Sheets

1. Identification

Product Name	: DD400 Gray
Order No.	: DD400-G-2L
General Use	: Ink jet printing ink
Product Description	: Disperse Dye Ink
SDS Number	: 037-W400713
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	: 4851 Thurmon Tanner Parkway, STE 100 Flowery Branch, GA 30542, 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

[GHS Classification]

Physical Hazards

Flammable Liquids : Not classified

Health Hazards

Skin Corrosion / Irritation : Category 2

Eye Damage / Irritation : Category 2A

Toxic to Reproduction : Category 1B

Specific Target Organ Toxicity (Single Exposure) : Category 1 (Central Nervous System, heart, kidneys, respiratory system, Hematopoietic System)

Specific Target Organ Toxicity (Single Exposure) : Category 3

Specific Target Organ Toxicity (Repeated Exposure) : Category 1 (Central Nervous System, heart, respiratory system, kidneys)

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

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[GHS Label Elements]

Symbol



Signal Word

Danger

Hazard Statements

H315 Causes skin irritation.

H319 Causes serious eye irritation

H360 May damage fertility or the unborn child

H370 Causes damage to organs (Central Nervous System, heart, kidneys, respiratory system, Hematopoietic System).

H335 May cause respiratory irritation.

H336 May cause drowsiness and dizziness.

H372 Causes damage to organs through prolonged or repeated exposure (Central Nervous System, heart, respiratory system, kidneys).

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.

P260 Do not breathe gas/mist.

P264 Wash hands and eyes thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

[Storage]

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]

P501 Dispose of contents/container in accordance with

local/regional/national/international regulation (to be specified).

Other Hazards

None known.

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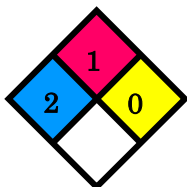
NFPA Rating (scale 0 – 4)

Health = 2

Flammability = 1

Instability = 0

Special =



3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Water	35-45	7732-18-5
2	Ethylene glycol	25-35	107-21-1
3	wetting agent/moistening agents	15-25	Trade Secret
4	Dispersant	1-10	Trade Secret
5	dispersed dye/dispersive dye	0.5-10	Trade Secret
6	Additives	<10	Trade Secret
7	1,2-Benzisothiazol-3(2H)-one	<0.1	2634-33-5

4. First Aid Measures

- Inhalation** : Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- Eye Contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
- Skin Contact** : Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.
- Ingestion** : Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse mouth.
- Most Important Symptoms/Effects** : **Acute**
skin irritation, eye irritation, respiratory tract irritation, central nervous system depression, central nervous system damage, heart damage, kidney damage, respiratory system damage, hematopoietic

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system damage.

Delayed

reproductive effects, central nervous system damage, heart damage, respiratory system damage, kidney damage.

Indication of Immediate : Treat symptomatically and supportively.

Medical Attention and

Special Treatment

Needed, If Needed

5. Fire Fighting Measures

Flammable Properties : Not Flammable

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 : Negligible fire hazard during intended use. Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

Hazardous Combustion Products : oxides of carbon

Fire Fighting Measures : Move material from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

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 : Wear personal protective clothing and equipment, see Section 8.

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Procedures

Methods and Materials for Containment and Cleaning Up : Avoid heat, flames, sparks and other sources of ignition. 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.

Environmental Precautions : Avoid release to the environment.

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. Do not breathe vapor or mist. Use only outdoors or in a well-ventilated area. 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 in a well-ventilated place. Keep container tightly closed. Store locked up.
 Further information on storage conditions: Store and handle in accordance with all current regulations and standards. Keep cool. Keep separated from incompatible substances.

Incompatible Materials : oxidizing materials, bases, acids, reducing agents, metals

8. Exposure Controls / Personal Protection

Exposure Limit Values : **Ethylene glycol (107-21-1)**
 ACGIH: 25 ppm TWA vapor fraction
 50 ppm STEL vapor fraction ; 10 mg/m³ STEL inhalable particulate matter, aerosol only
 Europe: 20 ppm TWA ; 52 mg/m³ TWA
 Possibility of significant uptake through the skin
 40 ppm STEL ; 104 mg/m³ STEL
 Mexico: 100 mg/m³ Ceiling aerosol

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ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI) : There are no biological limit values for any of this product's components.

Exposure Controls

Occupational Exposure Controls

Appropriate : Provide local exhaust or process enclosure ventilation system.

Engineering Controls 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 : Wear appropriate chemical resistant gloves.

Recommendations



Eye /Face Protection : Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.



Safety
 Skin Protection : Wear appropriate chemical resistant clothing.



9. Physical and Chemical Properties

Appearance	gray liquid	Physical State	liquid
Odor	slight odor	Color	gray
Odor Threshold	Not available	pH	6 - 9 (25 °C)
Melting Point	Not available	Boiling Point	Not available
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not available

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Autoignition Temperature	Not available	Flash Point	(Not flammable)
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	1 - 1.5 (25 °C)
Water Solubility	(Easily soluble)	Partition coefficient: n-octanol/water	Not available
Viscosity	2 - 10 cPs (25 °C)	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	Not available
Physical Form	liquid	Molecular Weight	Not available

Other Information

No additional information is available.

10. Stability and Reactivity

Reactivity	: No reactivity hazard is expected.
Chemical Stability	: Stable at normal temperatures and pressure.
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	: oxidizing materials, bases, acids, reducing agents, metals.
Hazardous decomposition products	: oxides of carbon

11. Toxicological Information

Information on Likely Routes of Exposure

Inhalation	: irritation, reproductive effects, organ damage.
Skin Contact	: irritation
Eye Contact	: irritation
Ingestion	: irritation, organ damage

Acute and Chronic Toxicity

Component Analysis -	: The components of this material have been reviewed in various
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LD50/LC50	sources and the following selected endpoints are published: Water (7732-18-5) Oral LD50 Rat >90 mL/kg Ethylene glycol (107-21-1) Oral LD50 Rat 4700 mg/kg Dermal LD50 Rat 10600 mg/kg 1,2-Benzisothiazol-3(2H)-one (2634-33-5) Oral LD50 Rat 1020 mg/kg Product Toxicity Data - Acute Toxicity Estimate Dermal > 2000 mg/kg Inhalation – Vapor > 20 mg/L Oral > 2000 mg/kg
Immediate Effects	: skin irritation, eye irritation, respiratory tract irritation, central nervous system depression, central nervous system damage, heart damage, kidney damage, respiratory system damage, hematopoietic system damage.
Delayed Effects	: reproductive effects, central nervous system damage, heart damage, respiratory system damage, kidney damage.
Irritation/Corrosivity Data	: skin irritation, eye irritation.
Respiratory	: No information available for the product.
Sensitization	
Dermal Sensitization	: No information available for the product.
Component	: Ethylene glycol 107-21-1
Carcinogenicity	ACGIH: A4 - Not Classifiable as a Human Carcinogen
Germ Cell Mutagenicity	: No information available for the product.
Tumorigenic Data	: No information available for the product.
Reproductive Toxicity	: Available data characterizes components of this product as reproductive hazards.
Specific Target Organ Toxicity - Single Exposure	: central nervous system, heart, kidneys, respiratory system, hematopoietic system
Specific Target Organ Toxicity - Repeated Exposure	: central nervous system, heart, respiratory system, kidneys
Aspiration hazard	: Not expected to be an aspiration hazard.
Medical Conditions	: No data available.

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Aggravated by Exposure

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.

Ecotoxicity	: Ethylene glycol (107-21-1) Fish: LC50 96 h Oncorhynchus mykiss 41000 mg/L; LC50 96 h Oncorhynchus mykiss 14 - 18 mL/L [static]; LC50 96 h Lepomis macrochirus 27540 mg/L [static]; LC50 96 h Oncorhynchus mykiss 40761 mg/L [static]; LC50 96 h Pimephales promelas 40000 - 60000 mg/L [static]; LC50 96 h Poecilia reticulata 16000 mg/L [static] Algae: EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L IUCLID Invertebrate: EC50 48 h Daphnia magna 46300 mg/L IUCLID
Persistence and Degradability	: No information available for the product.
Bioaccumulative Potential	: No information available for the product.
Mobility	: No information available for the product.

13. Disposal Considerations

Disposal Methods	: Comply with all USA, national and local regulations. <u>Do not dump this product into sewers, on the ground or into any body of water.</u>
Disposal of Contaminated Packaging	: Empty containers may contain product residue. Dispose in accordance with all applicable regulations.
Component Waste Numbers	: The U.S. EPA has not published waste numbers for this product's components.

14. Transport Information

Check a thing without a leak in a container.
Perform prevention of collapse of cargo surely.

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US DOT Information

UN/NA # : Not regulated

TDG Information

UN/NA # : Not regulated

International Bulk

Chemical Code

: 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 107-21-1

IBC Code: Category Y

15. Regulatory Information

U.S. Federal Regulations

: This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Ethylene glycol (107-21-1)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C) 2017 reporting categories

: Reproductive Toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity.

U.S. State Regulations

: The following components appear on one or more of the following state hazardous substances lists

Component	CAS	CA	MA	MN	NJ	PA
Ethylene glycol	107-21-1	Yes	Yes	Yes	Yes	Yes

California Proposition 65

: **WARNING:**



This product can expose you to chemicals including Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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 meet WHMIS criteria specified in the Controlled

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Products Regulations and are present above the threshold limits listed on the IDL

Ethylene glycol (107-21-1) 1 %

Component Analysis - Inventory

Water (7732-18-5)

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	No	No	Yes	No	No	Yes	Yes	Yes	Yes

Ethylene glycol (107-21-1)

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

wetting agent/moistening agents (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

Dispersant (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

dispersed dye/dispersive dye (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

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

1,2-Benzisothiazol-3(2H)-one (2634-33-5)

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

16. Other Information

Key / Legend:

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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; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); 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; 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 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).

Disclaimer:

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.

It relates only to the specific material designated herein, and does not relate to use in



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combination with any other material or process.

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