

## Safety Data Sheets

### 1. Identification

Product Name	: SS2 ink Black
Order No.	: SPC-0380K-3A /SPC-0411K-3A
General Use	: Ink for ink jet printer
Product Description	: Solvent pigment ink
SDS Number	: 037-S030519
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, suite A, Suwanee, Georgia 30024, U.S.A.
Telephone No.	: +1-678-730-0170
Emergency Telephone No.	: +81-268-64-2281

### 2. Hazards Identification

#### [GHS Classification]

##### Physical Hazards

Flammable Liquids : Category 4

##### Health Hazards

Acute Toxicity – Oral : Category 4 (80-90% unknown)

Eye Damage / Irritation : Category 2

Carcinogenicity : Category 2

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

Specific Target Organ Toxicity : Category 1 (lungs)  
(Repeated Exposure)

##### Environmental Hazards

Hazardous to the Aquatic : Category 3

Environment - Acute Hazard

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

## Safety Data Sheets

[GHS Label Elements]

Symbol



Signal Word

Danger

Hazard Statements

H227 Combustible liquid

H302 Harmful if swallowed

H319 Cause serious eye irritation

H351 Suspected of causing cancer

H371 May cause damage to central nervous system

H372 Causes damage to lungs through prolonged or repeated exposure.

H402 Harmful to aquatic life

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 vapor or mist.

P264 Wash hands thoroughly after handling.

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

P273 Avoid release to the environment.

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

[Response]

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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 or doctor/physician.

P314 Get medical advice/attention if you feel unwell.

(P301+)P330 IF SWALLOWED: Rinse mouth.

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.

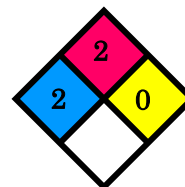
[Disposal]

P501 Dispose of contents and container in accordance with local, regional, national and international regulation.

# Safety Data Sheets

NFPA Rating (scale 0 – 4)

Health = 2  
 Flammability = 2  
 Instability = 0  
 Special = None



## CANADIAN WHMIS SYMBOLS



### 3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Glycol ether solvents	75-85	Trade Secret
2	Lactone solvent series	10-20	Trade Secret
3	Carbon black	1-5	1333-86-4
4	Vinyl resin	1-5	Trade Secret
5	Rust preventive	0.1-1	Trade Secret

### 4. First Aid Measures

Inhalation	: Remove person to fresh air and keep comfortable for 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. Get immediate medical attention.
Skin Contact	: Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. Get medical attention if irritation develops.
Ingestion	: If swallowed, get medical attention.

## Safety Data Sheets

### Most Important Symptoms/Effects

Acute : eye irritation, central nervous system damage

Delayed : cancer, lung damage

Indication of Immediate : Treat symptomatically and supportively.

Medical Attention and

Special Treatment

Needed, If Needed

## 5. Fire Fighting Measures

Flammable Properties : Flash point 71.1°C (TCC)

Auto Ignition Temperature: 169°C

Flammable point : 2.2% to 33.0%

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, acid halides

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.

## Safety Data Sheets

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. 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.

### 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 and eye/face protection. Wash thoroughly after handling. Avoid release to the environment.

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.

# Safety Data Sheets

## 8. Exposure Controls / Personal Protection

### Exposure Limit Values

No	Chemical Name		TWA
3	Carbon black (1333-86-4)	ACGIH	3 mg/m <sup>3</sup> TWA (inhalable fraction)
		OSHA	3.5 mg/m <sup>3</sup> TWA
		NIOSH	3.5 mg/m <sup>3</sup> TWA; 0.1 mg/m <sup>3</sup> TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)
		Mexico	3.5 mg/m <sup>3</sup> TWA LMPE-PPT 7 mg/m <sup>3</sup> 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 : 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.

### Personal Protection

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



Hand Protection : Wear appropriate chemical resistant gloves.



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



## Safety Data Sheets

Skin Protection : Wear appropriate chemical resistant clothing.



### 9. Physical and Chemical Properties

Appearance	- Physical State	: Liquid
	- Color	: Black
Odor		: slight solvent odor
pH		: Not available
Boiling Point / Boiling Range		: $\geq 176$ °C
Melting Point / Melting Range		: Not available
Decomposition Temperature		: Not available
Flash Point		: 71.1°C (closed cup)
Auto ignition temperature		: 169°C
Flammability (Solid, Gas)		: Not applicable
Explosive Properties		: Not available
Oxidizing Properties		: Not available
Upper / Lower Flammability or Explosive Limits		: 2.2% to 33.0%
Vapor Pressure		: Less than 133Pa(20°C)
Specific Gravity		: 0.975 (20 °C)
Solubility		: Not available
Water Solubility		: Not available
Partition Coefficient (n-octanol / Water)		: Not available
Viscosity		: $3.6 \pm 0.3$ (20° C)
Vapor Density		: Not available
Evaporation Rate		: Not available
VOC		: 911.2 g/L

### 10. Stability and Reactivity

Reactivity	: No reactivity hazard is expected.
Chemical Stability	: Stable under normal conditions of use.

## Safety Data Sheets

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, halogens
Hazardous Decomposition	: Combustion: oxides of carbon, acid halides

### 11. Toxicological Information

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

#### Lactone solvent series (Proprietary)

Inhalation LC50 Rat >5100 mg/m<sup>3</sup> 4 h; Oral LD50 Rat 1540 mg/kg

#### Information on Likely Routes of Exposure

Inhalation	: irritation, nausea, headache, drowsiness, dizziness, loss of coordination, unconsciousness, coma, lack of sense of smell, chest pain, difficulty breathing, hearing loss, lung damage, cancer
Ingestion	: irritation, nausea, headache, drowsiness, dizziness, loss of coordination, unconsciousness, coma
Skin Contact	: irritation, nausea, headache, drowsiness, dizziness, unconsciousness, coma, skin disorders
Eye Contact	: irritation
Immediate Effects	: eye irritation, central nervous system damage
Delayed Effects	: cancer, lung damage
Medical Conditions	: respiratory disorders
Aggravated by Exposure	
Irritation/Corrosivity	: eye irritation
Data	
Respiratory	: No information available for the product.
Sensitization	
Dermal Sensitization	: No information available for the product.
Germ Cell Mutagenicity	: No information available for the product.



# Safety Data Sheets

Carcinogenicity : Component Carcinogenicity

Lactone solvent series (Proprietary)

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

Vinyl resin (Proprietary)

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

Reproductive Toxicity : No information available for the product.

Specific Target Organ : central nervous system

Toxicity - Single

Exposure

Specific Target Organ : lungs

Toxicity - Repeated

Exposure

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.

Ecotoxicity : Harmful to aquatic life.

Component Analysis - : Lactone solvent series (Proprietary)

Aquatic Toxicity

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

## Safety Data Sheets

Persistence and Degradability	: Not available
Bioaccumulation	: Not available
Mobility	: Not available
Other Toxicity	: Not available

### 13. Disposal Considerations

	: 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 Methods	: Dispose in accordance with all applicable regulations.
Component Waste Numbers	: 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.

### 14. Transport Information

	Check a thing without a leak in a container. Perform prevention of collapse of cargo surely.
US DOT Information	
Shipping Name	: Combustible liquid, n.o.s. (Contains: Glycol ether solvents, Lactone solvent series)
UN Number	: NA1993
Hazardous Class	: Combustible liquid
Packing Group (PG)	: III
TDG Information	: Not regulated as dangerous goods for transport.
Marine Pollutant	: Lactone solvent series (Proprietary) IBC Code: Category Y

# Safety Data Sheets

## 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 Title III Section 311/312 : Acute Health: Yes  
 Chronic Health: Yes  
 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:

Component	CAS No.	CA	MA	MN	NJ	PA
Carbon black	1333-86-4	Yes	Yes	Yes	Yes	Yes

California Proposition 65 : **WARNING:**



This product can expose you to chemicals including Arsenic compounds, Cadmium and cadmium compounds, Carbon black, Chromium (hexavalent compounds), Lead and lead compounds, Mercury and mercury compounds, Nickel compounds, Vinyl Chloride, which are known to the State of California to cause cancer/ birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://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

## Safety Data Sheets

Component	US	CA	EU	AU	PHIL	JP	KR	CN	NZ
Glycol ether solvents (Proprietary)	Yes	NSL	EIN	No	No	Yes	No	Yes	No
Lactone solvent series (Proprietary)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Carbon black (1333-86-4)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Vinyl resin (Proprietary)	Yes	DSL	No	Yes	Yes	Yes	Yes	Yes	Yes
Rust preventive (Proprietary)	Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	Yes

### 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; 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

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 combination with any other material or process.

Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.