Shipping of Ink SPC-0380xx

Included in this document is the MSDS sheet for the Black Ink which has the highest concentration of flammable materials. Included is the DOT definition of a flammable liquid. **This applies to our SS2 Ink only**. Any other ink composition will require further clarification per its components.

DOT 49 CFR- Chapter I- Part 173

- 173.120 Class 3---Definition

> (a) *Flammable Liquid.* For the purpose of this subchapter, a *flammable liquid* (class 3) means a liquid having a flash point of **not more than 60.5˚C (141˚F)**, or any material in a liquid phase with a flash point at or above 37.8˚C (100˚F) that is intentionally heated and offered for transportation or transported at or above its flash point in a bulk packaging, with the following exceptions:
>
> (2) Any mixture having one or more components with a flash point of 60.5˚C (141˚F) or higher, that make up at least 99% of the total volume of the mixture, if the mixture is not offered for transportation or transported at or above its flash point.

Where does Mimaki Ink rate?

The average Flash Point of our inks is 62.2˚C (144˚F) which is higher than the definition limits above. The percent volume of any single flammable component is average less than 50% and no more than 60%.

With a Class 3 package rating, we can ship 25L (6.6 gal.) in a single package with no labels. Since our flash point is high and the total volume of

flammable liquid is less than 99% we are not restricted by 49 CFR shipping restraints. Also, most shipping methods (ground, air, sea) the temperature is less than 120˚F according to the data furnished by UPS. We have no control whether our inks are intentionally heated prior to or during shipping as per part (a) above.

This document in conjunction with the proper MSDS sheet for the material to be shipped will be sufficient for proof of DOT compliance.

Thanks,

Stan Haynes
Corporate Technical Coordinator
Mimaki USA
888-530-4021

Attached: (see next page)

SS2 Ink Cartridge Black

Revised 27 July 2004

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **SS2 Ink Cartridge Black**
Product Code: **SPC-0380K**
Company Identification
Manufacturer's Name/Supplier Address — Mimaki Engineering Co., Ltd.
1333-3 Kazawa Oaza Tomishi,
Nagano 389-0514 Japan

Phone Number/Fax — 81-268-64-2413 / 81-268-62-3996
Contact Person — Masaru ohnishi (Inks & Media Dept.)

2. COMPOSITION / INGREDIENT INFORMATION

This is a solvent ink formulation.

Components (% by weight)

Material	CAS Number	Contents%	Note
Carbon Black	Registered	2.0-8.0	Organic pigment
N-Butyl Acetate	123-84-4	2.0-4.0	Organic solvent
Propylene glycol mono-methyl ester acetate	-----	NONE	-----
Xylene	-----	NONE	-----
Trimethylbenzene	-----	NONE	-----
Phthalocyanine Blue	-----	NONE	-----
Nickel compound	-----	NONE	-----

3. HAZARDS IDENTIFICATION

3.1 Emergency overview: Flammable liquid, acute toxic substance

Ink component is a Black liquid that causes eye, nose or throat irritation, and can cause

slight central Nervous System Depression. Closed containers can expand by heat and fire and will build pressure and explode. Vapors can travel along the floors and ground until reaching a source of ignition and flash back. Avoid contact with eyes and clothing. In case of skin contact, wash with soap and water. May cause target organ effects. Keep out of the reach of children.

3.2 Potential Health Effects:

Eye: Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. See Section 11 for Toxicology.

Skin: Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching. See Section 11 for Toxicology.

Inhalation: Upper Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. See Section 11 for Toxicology.

Ingestion: Gastrointestinal Irritation: Signs/Symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. See Section 11 for Toxicology.

Target Organ Effect: Central Nervous System (CNS) Depression: Signs/symptoms May include headache, dizziness, drowsiness, diminished coordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

4 FIRST AID MEASURES

Eyes: Immediately flush with large amounts of water for 15 minutes, hold eyelid apart to ensure irrigation. Get medical attention.

Skin: Wash skin thoroughly with soap and water. Remove contaminated clothing and wash thoroughly before reuse. Consult a physician if irritation continues.

Inhalation: Remove individual to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion: Remain calm. Seek the attention of a physician.

5 FIRE FIGHTING MEASURES

Flammability: Combustible liquid. See Section 9 for Flash Point.

Extinguishing Media: Dry chemical, carbon dioxide, or alcohol foam or dry sand.

Fire Fighting Instructions: Water should not be used; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained positive pressure or pressure-

demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask and protective covering for exposed areas of the head.

6 ACCIDENTAL RELEASE MEASURES

Wear gloves, mask, apron and goggles as protective measures. Evacuate unprotected and untrained personnel from hazard area. Ventilate the area with fresh air. For large spills, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Contain the spill. Use sponges to wipe up the ink, then rinse the area with a damp cloth. Place waste in a closed container for disposal. Do not dispose of waste to the sewer or ground. Wash hands with soap and water.

7 HANDLING AND STORAGE

7.1 Handling:

Avoid eye contact with vapors, mists, or spray. Avoid breathing of vapors, mists or spray. Avoid prolonged or repeated skin contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. For industrial or professional use only. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. No smoking while handling this material. Avoid contact with oxidizing agents. Wear protection such as gloves, mask, apron, goggles, etc. Ground equipment against electrostatics and use explosion-proof electric equipment.

7.2 Storage:

Store away from acids. Store away from heat or open flame. Store out of direct sunlight. Store away from oxidizing agents. Keep container in a well-ventilated area.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Proper ventilation

Exposure Control: Not established

Personal Protection: Not required under proper installation or removal of cartridge in or out of the Printer. Other handling use requires gloves, goggles, apron, mask, etc.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Black Liquid
Odor: Slight solvent odor
pH: Not applicable
Boiling point: Over 124˚C (255.2˚F)

Steam pressure:	Less than 133Pa (20˚C/68˚F)
Flash point:	about 65.1˚C (149.2˚F)
Ignition point:	169˚C (336.2˚F)
Flammable point	1.7% - 33.0%
Oxidizing properties:	None
Vapor density:	0.973±0.01
Relative density:	No data available
Solubility in water:	Soluble
Solubility in fat:	No data available
Partition coefficient:	No data available
Viscosity:	No data available

10 STABILITY AND REACTIVITY

Stability:	Stable under normal temperature
Hazardous Polymerization:	No data available
Hazardous decomposition products:	No data available
Incompatibility:	Oxidizers and Explosives
Harmful gas from combustion:	CO, low-molecular monomer or other harmful gases may occur.

11 TOXICOLOGICAL INFORMATION

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

Acute Health Hazards: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation of ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

Chronic Health Hazards: None known

Carcinogenicity: With excessive exposure, carbon black has been listed as a possible human carcinogen. However, as engineered within this ink cartridge, emissions of air of carbon black during normal printing use have not been found. IARC, the International Agency for Research on Cancer, has found printing inks to be not classifiable as human carcinogens.

Toxicity: **N-Butyl Acetate:** Density – 150ppm
ACGIH(TLV) – 150ppm
Others – (rat) LD50:10768μL/kg
If improperly used, it may cause Liver and Kidney problems.

Eye Irritating: Mildly or serious irritating (exposure time and amount)

Skin Irritating: Minimally irritating

Skin sensitizing: No data available

12 ECOLOGICAL INFORMATION

No data available on the adverse effects of this material on the environment. Take precautions against accidental spillage into the rivers and upon the ground.

13 DISPOSAL CONSIDERATIONS

Used and unused cartridges are not a federal RCRA hazardous waste. Disposal should be in accordance with federal, state, and local requirements. Do not dispose of in the drainage system or on the ground.

14 TRANSPORTATION INFORMATION

Follow proper Handling and Storage. Follow proper transportation of a Flammable Substance laws.

15 REGULATORY INFORMATION

US information: Flammable Material. Hazardous Material 4^{th} category, 3^{rd} Petroleum oil (Aqueous).

16 OTHER INFORMATION

This "Material Safety Data Sheet" contains health, safety, and environmental information. It does not replace any precautionary language or use and disposal information which accompanies the product. The information contained herein is believed to be accurate at the time of preparation, but should only be used as a guide. It is subject to revision from time to time due to revision of laws and/or new knowledge. Mimaki Engineering does not warrant the completeness or accuracy of the information contained herein.

End of MSDS