

Safety Data Sheet

(Conforms to Regulation (EC) No 1907/2006)

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name : Eco-HS1 Ink Light Black

Product Code : SPC-0538LK

General Use : Ink for ink jet Printer

Product Description : Solvent pigment ink

MANUFACTURER

Company Name : Mimaki Engineering Co., Ltd

Address : 2182-3 Otsu, Shigeno, Tomi-shi, Nagano 389-0512 Japan

Telephone No. : +81-268-64-2413

Charge post : Inks and Media Division

Person in charge : Isao Tabayashi

E-mail address : tabayashi@mimaki.jp

IMPORTER/DISTRIBUTOR ESTABLISHED IN AU

Company Name : Digital Graphic Solutions Pty Ltd

Address : 9, First Avenue Unanderra, NSW 2526 Australia

Telephone No. : +61 2 4272 3663

Person in charge : Peter deMaagd

EMERGENCY : Mimaki Engineering Co., Ltd +81-268-64-2413

2. HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE : CONSIDERED A DANGEROUS SUBSTANCE ACCORDING TO DIRECTIVE 1999/45/EC AND ITS AMENDMENTS.

EMERGENCY OVERVIEW

: Harmful



Xn

R22 Harmful if swallowed.

R41 Risk of serious damage to eyes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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No	Chemical Name	Wt%	CAS No.	EC No.	Classification
1	Dipropylene glycolmethyl ether acetate	10-20	88917-22-0	406-880-6	not classified
2	Dipropylene glycoldimethyl ether	45-55	111109-77-4	404-640-5	not classified
3	gamma-butyrolactone	25-35	96-48-0	202-509-5	not classified
4	Chloroethylene Polymer-Vinyl Acetate	1-5	9003-22-9	Polymer exclusion	not classified
5	Carbon-Black	<1	1333-86-4	215-609-9	not classified
6	Amines, coco alkyl, ethoxylated	1-5	61791-14-8	500-152-2	not classified

*The wording of the symbol(s) and risk phrase(s) is specified in 16.OTHER INFORMATION.

4. FIRST AID MEASURES

INHALATION

: If fumes or combustion products are inhaled remove from contaminated area.

Lay patient down. Keep warm and rested.

Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.

Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

Transport to hospital, or doctor.

EYE

: If this product comes in contact with the eyes:

Wash out immediately with fresh running water.

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

If pain persists or recurs seek medical attention.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

: If skin contact occurs:

Immediately remove all contaminated clothing, including footwear.

Flush skin and hair with running water (and soap if available).

Seek medical attention in event of irritation.

SWALLOWED

: If swallowed do NOT induce vomiting.

If vomiting occurs, lean patient forward or place on left side

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(head-down position, if possible) to maintain open airway and prevent aspiration.

Observe the patient carefully.

Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

Seek medical advice.

If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA	: Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide. Water spray or fog - Large fires only.
FIRE/EXPLOSION HAZARD	: Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive. Combustion products include: carbon dioxide (CO ₂), nitrogen oxides (NO _x), other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.
PERSONAL PROTECTION	: Glasses: Chemical goggles. Gloves: PVC chemical resistant type. Respirator: Type AK- P Filter of sufficient capacity
FIRE FIGHTING	: Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or

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water course.

Use water delivered as a fine spray to control fire and cool adjacent area.

Avoid spraying water onto liquid pools.

DO NOT approach containers suspected to be hot.

Cool fire exposed containers with water spray from a protected location.

If safe to do so, remove containers from path of fire.

FIRE : Avoid contamination with oxidising agents i.e. nitrates, oxidising
INCOMPATIBILITY acids, chlorine bleaches, pool chlorine etc. as ignition may result.

6. ACCIDENTAL RELEASE MEASURES

MINOR SPILLS : Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Control personal contact by using protective equipment.
Contain and absorb spill with sand, earth, inert material or vermiculite.
Wipe up.
Place in a suitable labelled container for waste disposal.

MAJOR SPILLS : Moderate hazard.
Clear area of personnel and move upwind.
Alert Fire Brigade and tell them location and nature of hazard.
Wear breathing apparatus plus protective gloves.
Prevent, by any means available, spillage from entering drains or water course.
No smoking, naked lights or ignition sources.
Increase ventilation.
Stop leak if safe to do so.
Contain spill with sand, earth or vermiculite.
Collect recoverable product into labelled containers for recycling.
Absorb remaining product with sand, earth or vermiculite.
Collect solid residues and seal in labelled drums for disposal.
Wash area and prevent runoff into drains.
If contamination of drains or waterways occurs, advise emergency services.

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7. HANDLING AND STORAGE

PROCEDURE FOR HANDLING	<p>: Avoid all personal contact, including inhalation.</p> <p>Wear protective clothing when risk of exposure occurs.</p> <p>Use in a well-ventilated area.</p> <p>Avoid smoking, naked lights or ignition sources.</p> <p>Avoid contact with incompatible materials.</p> <p>When handling, DO NOT eat, drink or smoke.</p> <p>Avoid physical damage to containers</p> <p>Always wash hands with soap and water after handling.</p> <p>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</p>
STORAGE	: Glycol ethers may form peroxides under certain conditions.
INCOMPATIBILITY	<p>: In the presence of strong bases or the salts of strong bases, at elevated temperatures, the potential exists for runaway reactions.</p> <p>Contact with aluminium should be avoided. Release of hydrogen gas may result.</p> <p>Avoid reaction with oxidising agents.</p>
STORAGE REQUIREMENTS	<p>: Store in original containers.</p> <p>No smoking, naked lights or ignition sources.</p> <p>Store in a cool, dry, well-ventilated area.</p> <p>Store away from incompatible materials and foodstuff containers.</p> <p>Protect containers against physical damage and check regularly for leaks.</p>

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS

EH40/2005	Carbon black (CAS 1333-86-4)
Workplace exposure limits	Long-term exposure limit (8-hour TWA reference period) 3.5mg/m ³ Short-term exposure limit (15-minute reference period) 7mg/m ³ The all materials had no OELs on our records.

PERSONAL PROTECTION

EYE : Safety glasses with side shields. Chemical goggles.

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Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task.

This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.

Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available.

In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.

Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly.

[CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

: Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

Suitability and durability of glove type is dependent on usage.

Factors such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity,

are important in the selection of gloves.

OTHER

: Overalls. P.V.C. apron. Barrier cream.

Skin cleansing cream. Eye wash unit.

RESPIRATOR

: Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

ENGINEERING

: Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

CONTROLS

Correct fit is essential to obtain adequate protection.

Supplied-air type respirator may be required in special circumstances.

Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be

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required in some situations.

Provide adequate ventilation in warehouse or closed storage area.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Appearance Physical state	: Liquid
Colour	: Black
Odour	: Solvent Odor
pH	: Not available
Boiling Point / Boiling Range	: 175~209 degree C
Flash Point	: 73±1 degree C
Flammability(solid, gas)	: Not available
Vapour Pressure	: 0.257kPa (20 degree C)
Relative density	: 0.985±0.01 (25 degree C)
Solubility (ies)	: Very small amount
Water solubility	: Not available
Viscosity	: 4.0±0.3 mPa·s (25 degree C)
Vapour density	: 6.6
Melting Point / Melting Range	: <-30 degree C
Upper/lower flammability or explosive limits	: 15.60 ~ 0.85vol%

10. STABILITY AND REACTIVITY

STABILITY	: Stable
CONDITIONS TO AVOID	: Excessive heat and cold, sparks, ignition sources, direct sunlight and high humidity. Will be hydrolysis with heated alkali. (Gamma-Btyrolacton)
MATERIALS TO AVOID	: Oxidant, explosive substance
HAZARDOUS DECOMPOSITION	: To burn this product may be produce toxic gases such as CO and low-molecular-weight monomers.

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PRODUCTS

OTHER : Plastic and rubbers might be melted.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY : Oral; Rats LD50 2,675mg/kg
Dermal; Rabbit LD50 2,681mg/kg
Inhalation; Rats LC50 13mg/L (4h)

gamma-butyrolactone : TOXICITY
Oral (rat) LD50: 1540 mg/kg
Dermal (g.pig) LD50: >5000 mg/kg

IRRITATION
Skin (rabbit): non- irritating * * [Manuf. ISP]
Eye (rabbit): SEVERE

EYE IRRITATION : Not available
SKIN IRRITATION : Not available
SENSITIZATION : Not available
MUTAGENICITY : Not available
CARCINOGENICITY : gamma-butyrolactone; IARC as Group 3
: Carbon black; IARC as Group 2B
(Not possible to classify as a printing ink)

12. ECOLOGICAL INFORMATION

GENERAL NOTES : 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 : Rainbow trout LC50 (96h) 111mg/L (Dipropylene glycol methyl ether acetate)
: Guppy LC50 (96h) 1000mg/L (Dipropylene glycol dimethyl ether)
: Leuciscus idus LC50 (96h) 220 - < 460mg/L (Gamma-Butyrolactone)

PERSISTENCE AND DEGRADABILITY
: Not available

BIOACCUMULATIVE POTENTIAL
: logKow = 0.61 (Dipropylene glycol methyl ether acetate)

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: logKow = 0.42 (Dipropylene glycol dimethyl ether)

: logKow = 0.556 (Gamma-Butyrolactone)

RESULTS OF PBT ASSESSMENT

: Not Contain

13. DISPOSAL CONSIDERATIONS

Have waste inks, containers and other materials disposed by licensed industrial waste disposer.

Do not dump drainage flushed containers and equipment into sewers, on the ground.

Dispose of wastes from drainage or incineration, in compliance with the laws and regulations.

Adsorb to diatom earth and others to dispose waste inks, and use open incinerator.

Dispose of wastes by licensed industrial waste disposer to comply with the local laws and regulations.

Empty inks and other materials out of containers if disposed.

Comply with all EU, national and local regulations.

Do not dump this product into sewers, on the ground or into any body of water.

14. TRANSPORT INFORMATIONS

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

HAZCHEM : None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:ADR, IATA, IMDG

15. REGULATORY INFORMATION

This product is classified as follows and labeled accordingly.

Symbol

:  Xn - Harmful.

Risk Phrase

: R22 - Harmful if swallowed.

R41 - Risk of serious damage to eyes.

Safety Advise

: S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S39 - Wear eye/face protection.

Please refer to any other EU, national and local measures.

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16. 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.

Revision history

Version	Date	Content
1.0	2008/03/05	: First issue