Material Safety Data Sheet

Ink Cartridge(BK) (MSDS:H086059-00-03-NA-E)

Section 1. Chemical product and company identification

Common name : **Ink Cartridge(BK)**
Code : H086059-00
Material uses : Not available.
Supplier/ Manufacturer : Noritsu Koki Co Limited, 579-1, Umehara, Wakayama-shi, 640-8550, Japan
Emergency: +81 73 456 3969 Phone: +81 73 456 3969 Fax: +81 73 456 3991
In case of emergency : CHEMTREC, U.S. : (800) 424-9300 International: (703) 527-3887

Section 2. Hazards identification

Physical state : Liquid.
Emergency overview : Warning!

CANCER HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE CANCER
CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.

Avoid contact with skin and clothing. Wash thoroughly after handling. Risk of cancer depends on duration and level of exposure.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects
Eyes : Irritating to eyes.
Skin : Irritating to skin. May cause sensitization by skin contact.
Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Potential chronic health effects : CARCINOGENIC EFFECTS: Classified + (Proven.) by NIOSH [Carbon Black]. Classified 2B (Possible for human.) by IARC [Carbon Black]. Classified A4 (Not classifiable for human or animal.) by ACGIH [Carbon Black]. Classified 3 (Not classifiable for human.) by IARC [Triethanolamine].
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
Medical conditions aggravated by overexposure : Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

See toxicological Information (section 11)

Section 3. Composition, Information on Ingredients

	CAS number	% by weight
United States		
Glycerin, (Glycerol)	56-81-5	10 - 13
Carbon Black	1333-86-4	3 - 5
Triethanolamine	102-71-6	1 - 3
Canada		
Carbon Black	1333-86-4	3 - 5
Triethanolamine	102-71-6	1 - 3

Mexico

	UN number	IDLH	Classification H	F	R	Special	CAS number	% by weight
Glycerin, (Glycerol)	Not regulated.	-	0	1	0		56-81-5	10 - 13
Carbon Black	Not regulated.	1750 mg/m^3	2	0	0		1333-86-4	3 - 5
Triethanolamine	Not regulated.	-	1	1	0		102-71-6	1 - 3

This material is classified hazardous under OSHA regulations in the United States, the WHMIS Controlled Product Regulation in Canada and the NOM-018-STPS-2000 in Mexico.
See Chapters 8, 11 and 14 for details.

Section 4. First aid measures

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

Notes to physician : No specific antidote. Medical staff must contact Poison Control Center.

Section 5. Fire fighting measures

Flammability of the product : May be combustible at high temperature.

Flash point : Closed cup: >100°C (212°F). (Pensky-Martens.)

Products of combustion : These products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2...).

Fire hazards in presence of various substances : Slightly flammable to flammable in presence of open flames, sparks and static discharge.
Non-flammable in presence of heat.

Because of the large amount of water contained in the product, the product might be combustible only after partial or complete evaporation.

Fire fighting media and instructions : Use an extinguishing agent suitable for surrounding fires.

No specific hazard.

Special protective equipment for fire-fighters : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

Handling : Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls, Personal Protection

Engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Recommended:Safety glasses.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
>8 hour(s) (breakthrough time): Disposable vinyl gloves.

Skin/Body : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Body: Recommended:Lab coat.

Personal protection in case of a large spill : Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

Product name	Exposure limits
United States	
Glycerin, (Glycerol)	**ACGIH TLV (United States, 9/2004).** TWA: 10 mg/m^3 8 hour(s). Form: Mist **OSHA PEL (United States, 8/1997).** TWA: 5 mg/m^3 8 hour(s). Form: Respirable fraction TWA: 15 mg/m^3 8 hour(s). Form: All forms.
Carbon Black	**ACGIH TLV (United States, 1/2004).** TWA: 3.5 mg/m^3 8 hour(s). Form: All forms. **NIOSH REL (United States, 12/2001).** TWA: 3.5 mg/m^3 10 hour(s). Form: All forms. TWA: 0.1 MGPHM3 10 hour(s). Form: All forms. **OSHA PEL (United States, 8/1997).** TWA: 3.5 mg/m^3 8 hour(s). Form: All forms.
Triethanolamine	**ACGIH TLV (United States, 2003).** TWA: 5 mg/m^3 8 hour(s). Form: All forms.
Canada	
Carbon Black	**ACGIH TLV (Canada, 2003).** TWA: 3.5 mg/m^3 8 hour(s). Form: All forms.
Triethanolamine	**ACGIH TLV (Canada, 2003).** TWA: 5 mg/m^3 8 hour(s). Form: All forms. **CSST (Canada, 2001).** TWA: 5 mg/m^3 8 hour(s).
Mexico	
Glycerin, (Glycerol)	**NOM-010-STPS (Mexico, 12/1999).** CPT: 10 mg/m^3 8 hour(s). Form: Mist
Carbon Black	**NOM-010-STPS (Mexico, 12/1999).** CCT: 7 mg/m^3 15 minute(s). Form: Smoke CPT: 3.5 mg/m^3 8 hour(s). Form: Smoke
Triethanolamine	**ACGIH TLV (United States, 2003).** TWA: 5 mg/m^3 8 hour(s). Form: All forms.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state : Liquid.

Color : Black.

Odor : Odorless.

pH : 8.7 [Basic.]

Boiling/condensation point : The lowest known value is 100°C (212°F) (Water).

Melting/freezing point : >0°C (32°F)

Specific gravity : 1.048 (Water = 1)

Vapor pressure : The highest known value is 2.3 kPa (17.5 mm Hg) (at 20°C) (Water).

Vapor density : The highest known value is 0.62 (Air = 1) (Water).

Ionicity (in water) : Amphoteric. (Water).

Dispersion properties : See solubility in water, methanol, acetone.

Solubility : Miscible in water.

Section 10. Stability and reactivity

Stability and reactivity : The product is stable.

Incompatibility with various substances : Reactive with oxidizing agents.

Hazardous polymerization : Will not occur.

Section 11. Toxicological information

Toxicity data

Ingredient name	Test	Result	Route	Species
Carbon Black	LD50	>15400 mg/kg	Oral	Rat
Triethanolamine	LD50	2200 mg/kg	Oral	Rabbit

Acute Effects

Eyes : Irritating to eyes.

Skin : Irritating to skin. May cause sensitization by skin contact.

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects : CARCINOGENIC EFFECTS: Classified + (Proven.) by NIOSH [Carbon Black]. Classified 2B (Possible for human.) by IARC [Carbon Black]. Classified A4 (Not classifiable for human or animal.) by ACGIH [Carbon Black]. Classified 3 (Not classifiable for human.) by IARC [Triethanolamine].
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

Section 12. Ecological information

Ecotoxicity data

Ingredient name	Species	Period	Result
Triethanolamine	Scenedesmus subspicatus (EC50)	48 hour(s)	470 mg/l
	Scenedesmus subspicatus (EC50)	48 hour(s)	750 mg/l
	Pimephales promelas (LC50)	96 hour(s)	11800 mg/l

Products of degradation : These products are carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO_2...).

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

Classification

Mexico/TDG/DOT/ IMDG/ IATA : Not regulated.

Label

Not applicable.

Additional information

Not applicable.

Section 15. Regulatory information

United States

HCS Classification : Irritating material
Sensitizing material
Carcinogen

U.S. Federal regulations : TSCA 8(b) inventory: All components listed.
TSCA precursor chemical list: Triethanolamine
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Glycerin, (Glycerol); Carbon Black; Triethanolamine
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Glycerin, (Glycerol): Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Carbon Black: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Triethanolamine: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

State regulations : Pennsylvania RTK: Glycerin, (Glycerol): (generic environmental hazard); Carbon Black: (generic environmental hazard); Triethanolamine: (generic environmental hazard)
Massachusetts RTK: Glycerin, (Glycerol); Carbon Black; Triethanolamine
New Jersey: Carbon Black

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Carbon Black	Yes.	No.	No.	No.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (VERY TOXIC).
Class D-2B: Material causing other toxic effects (TOXIC).

DSL : All components listed.

Mexico

Classification :

International regulations

International lists : All components listed are listed on major international inventories or exempted from being listed in Australia (AICS), Europe (EINECS/ELINCS), Korea (TCCL), Japan (METI/MOL), Philippines (RA6969).

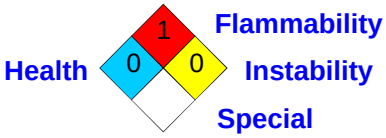
Section 16. Other information

Label Requirements : CANCER HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE CANCER
CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.

Hazardous Material Information System (U.S.A.) :

Health	*	0
Fire hazard		1
Reactivity		0
Personal protection		C

National Fire Protection Association (U.S.A.) :



References : ANSI Z400.1, MSDS Standard, 2001. -Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2002. - Official Mexican Standards NOM-018-STPS-2000 and NOM-004-SCT2-1994.

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