Creation Date : August 18, 2003
Revision Date : April 17, 2006

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: UMN-207 Black [uni-ball Signo 207]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : August 18, 2003
Revision Date : April 17, 2006
File No. : 068170A Rev. 2.5.01.04

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Diethylene glycol	111-46-6	Registered	2038722	10- 30
Additives	Registered	Registered	Polymer Registered	10- 30
Carbon Black	1333-86-4	Registered	2156099	< 10
Ethylene glycol	107-21-1	Registered	2034733	< 10

Other parts : Other parts are excluded from 'chemical substances'.

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<Diethylene glycol>
MAJOR HEALTH HAZARDS: central nervous system depression, kidney damage
<Carbon Black>
MAJOR HEALTH HAZARDS: suspect cancer hazard (in animals)
PHYSICAL HAZARDS: Dust/air mixtures may ignite or explode.

4. FIRST-AID MEASURES

Inhalation:
Not applicable.
(Due to its low vapor pressure. Inhalation is unlikely at room temperature.)

Skin contact:
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye contact:
Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:
If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of refill(UMR-87) : about 1.1g]

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.
Exitinguishing media:
Suitable : regular dry chemical, carbon dioxide, water, regular foam.
Large fires : Use regular foam or flood with fine water spray.
Fire fighting : The Products is no flammable.
Use extinguishing agents appropriate for surrounding fire.
Avoid inhalation of material or combustion by-products.
Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Not available.
Environmental precautions : Do not wash away into shower or water way.
Methods for cleaning up : Wipe off by dry cloth and wash with water.
: In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards.
Keep separated from incompatible substances.

Handling:
Technical measures : Don't swallow ink.
: Don't shake.
: Keep out of the reach of children.
: Avoid contact with skin and eyes.
Precautions : Not available.
Safe handling advice : Not available.
Storage:
Technical measures : Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition : Avoid direct sunlight.
: Do not leave the products in high temperature space.
: Recommended temperature: 0-30 C.
Incompatible products : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
strong oxidizers, oxidizing materials	Additive
oxidizing materials, halogens	Carbon Black
oxidizing materials, bases, acids, reducing agents, metals	Ethylene glycol

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	3.5mg/m3	Carbon Black
ACGIH	15mg/m3 (Total dust) 3.5mg/m3(total dust) TWA 100mg/m3 ceiling (particulate)(aerosol)	Additive Carbon Black Ethylene glycol
EC	3.5mg/m3 52mg/m3(20ppm) TWA(skin),	Carbon Black Ethylene glycol
DFG	44mg/m3(10ml/m3) MAK (peak limitation category-II, 2)	Diethylene glycol

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Liquid.
Colour : Black.
Odour : None odour.
pH : 7.3±0.2
Boiling point : Not available. [Water/ 100 C]
Melting point : <-10 C
Flash point : Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature : Not applicable. [Diethylene glycol/ 224 C]
Explosion limits : Not applicable.
[Lower flammable limit / 3.2% , Upper flammable limit / 15.3% <Ethylene glycol>]
Density : about 1.1 / 25 C
Vapour density (air=1) : Not available. [Ethylene glycol/ 2.1]
Solubility in water : Soluble.
Evaporation rate : Not available.
Volatile : 80-83%

10. STABILITY AND REACTIVITY

Stability : Stability.

Hazardous reactions : Will not occur.

Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition.
Avoid contact with incompatible materials.

Materials to avoid : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
strong oxidizers, oxidizing materials	Additive
oxidizing materials, halogens	Carbon Black
oxidizing materials, bases, acids, reducing agents, metals	Ethylene glycol

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
corrosive acrolein, miscellaneous decomposition products.	Additive
oxides of sulfur.	Carbon Black

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	3300mg/kg-Cat, 7800mg/kg-Guinea pig 334mg/kg-Rat, >8000mg/kg-Rat 1650mg/kg-Cat, 4700mg/kg-Rat	Diethylene glycol Additive Carbon Black Ethylene glycol
Inhalation LC50	Not available.	
Skin LD50	11890mg/kg-Rabbit >2000mg/kg-Rat 9530uL/kg-Rabbit	Diethylene glycol Additive Ethylene glycol
Local effects	dehydration Irritant;inhalation, skin Irritant;inhalation, skin, eye	Additive Carbon Black Ethylene glycol

Chronic toxicity and long term toxicity

The substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system, liver, and kidneys. Exposure may result in unconsciousness.	Diethylene glycol
Respiratory disorders.	Carbon Black
The substance may have effects on the central nervous system, resulting in abnormal eye movements (nystagmus).	Ethylene glycol

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	nausea,cough irritation irritation,cough	Diethylene glycol Additive / Carbon Black Ethylene glycol
Skin contact	irritation,redness irritation,sensitization irritation irritation,dry	Diethylene glycol Additive Carbon Black Ethylene glycol
Eye contact	irritation,redness irritation mechanical irritation, discoloration of lids	Diethylene glycol / Ethylene glycol Additive Carbon Black
Ingestion	nausea,vomiting	Diethylene glycol / Ethylene glycol
Specific effects	IARC Group 2B	Carbon Black

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

Waste from residues : Disposal in accordance with all current regulations and standards.

Contaminated packaging : Not applicable.

Creation Date : August 18, 2003
Revision Date : April 17, 2006

14. TRANSPORT INFORMATION

HS Code : 960810

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Carbon Black / Ethylene glycol

EU labeling

25%<=Xn;R22 : Diethylene glycol / Ethylene glycol

R22 : Harmful if swallowed.

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over : Carbon Black / Ethylene glycol

Hazard and safety information

Products are manufactured in accordance with European regulation EN71 part 3

Products are manufactured in accordance with ELV directive of EU.

16. OTHER INFORMATION

This sheet completes the technical sheet of use but it doesn't replace it.
The information contained in this sheet are based knowledge of the products
at the data : (April 17, 2006). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : August 18, 2003
Revision Date : April 17, 2006

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: UMN-207 Blue [uni-ball Signo 207]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : August 18, 2003
Revision Date : April 17, 2006
File No. : 068171A Rev. 2.5.01.04

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Diethylene glycol	111-46-6	Registered	2038722	10- 30
Coloring agent	Registered	Registered	Registered	< 10
Additives	Registered	Registered	Polymer	< 10

Other parts : Other parts are excluded from 'chemical substances'.

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<Diethylene glycol>
MAJOR HEALTH HAZARDS: central nervous system depression, kidney damage

4. FIRST-AID MEASURES

Inhalation:
Not applicable.
(Due to its low vapor pressure. Inhalation is unlikely at room temperature.)

Skin contact:
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye contact:
Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:
If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of refill(UMR-87) : about 1.1g]

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.
Exitinguishing media:
Suitable : regular dry chemical, carbon dioxide, water, regular foam.
Large fires : Use regular foam or flood with fine water spray.
Fire fighting : The Products is no flammable.
Use extinguishing agents appropriate for surrounding fire.
Avoid inhalation of material or combustion by-products.
Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Not available.
Environmental precautions : Do not wash away into shower or water way.
Methods for cleaning up : Wipe off by dry cloth and wash with water.
: In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards.
Keep separated from incompatible substances.

Handling:
Technical measures : Don't swallow ink.
: Don't shake.
: Keep out of the reach of children.
: Avoid contact with skin and eyes.
Precautions : Not available.
Safe handling advice : Not available.

Storage:
Technical measures : Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition : Avoid direct sunlight.
: Do not leave the products in high temperature space.
: Recommended temperature: 0-30 C.
Incompatible products : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
oxidizing materials	Coloring agent
strong oxidizers, oxidizing materials	Additive

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.
Control parameters (Information of components.)

OSHA	5mg/m3(Respirable flaction), 15mg/m3(Total dust) [Nuisance Dust]	Coloring agent
ACGIH	10mg/m3(Nuisance particulate)	Coloring agent
EC	Not available.	
DFG	44mg/m3(10ml/m3) MAK(peak limitation category-II, 2)	Diethylene glycol

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form	: Liquid.
Colour	: Blue.
Odour	: None odour.
pH	: 7.3±0.2
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-10 C
Flash point	: Not applicable. [Diethylene glycol/ 124 C(CC)]
Autoignition temperature	: Not applicable. [Diethylene glycol/ 224 C]
Explosion limits	: Not applicable.
	[Lower flammable limit / 1.3% , Upper flammable limit / 13.5% <Diethylene glycol>]
Density	: about 1.1 / 25 C
Vapour density (air=1)	: Not available. [Diethylene glycol/ 3.7]
Solubility in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 82-85%

10. STABILITY AND REACTIVITY

Stability : Stability.

Hazardous reactions : Will not occur.

Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition.
Avoid contact with incompatible materials.

Materials to avoid : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
oxidizing materials	Coloring agent
strong oxidizers, oxidizing materials	Additive

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
oxides of nitrogen.	Coloring agent
corrosive acrolein.	Additive

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	3300mg/kg-Cat, 7800mg/kg-Guinea pig >=5000mg/kg-Rat	Diethylene glycol Coloring agent
Inhalation LC50	Not available.	
Skin LD50	11890mg/kg-Rabbit	Diethylene glycol

Local effects	dehydration	Additive

Chronic toxicity and long term toxicity

The substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system, liver, and kidneys. Exposure may result in unconsciousness.	Diethylene glycol

Creation Date : August 18, 2003
Revision Date : April 17, 2006

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	nausea,cough irritation	Diethylene glycol Coloring agent
Skin contact	irritation,redness sensitization	Diethylene glycol Coloring agent
Eye contact	irritation,redness irritation	Diethylene glycol Coloring agent
Ingestion	nausea,vomiting gastric disturbances	Diethylene glycol Coloring agent

Specific effects Not available.

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

Waste from residues : Disposal in accordance with all current regulations and standards.

Contaminated packaging : Not applicable.

14. TRANSPORT INFORMATION

HS Code : 960810

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Not restricted.

EU labeling

25%<=Xn;R22 : Diethylene glycol

R22 : Harmful if swallowed.

CANADA Hazardous Products Act - Ingredient Disclosure List

: Not restricted.

Hazard and safety information

Products are manufactured in accordance with European regulation EN71 part 3
Products are manufactured in accordance with ELV directive of EU.

16. OTHER INFORMATION

This sheet completes the technical sheet of use but it doesn't replace it.
The information contained in this sheet are based knowledge of the products at the data : (April 17, 2006). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.

Creation Date : August 18, 2003
Revision Date : April 17, 2006

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: UMN-207 Red [uni-ball Signo 207]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : August 18, 2003
Revision Date : April 17, 2006
File No. : 068172A Rev. 2.5.02.04

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Diethylene glycol	111-46-6	Registered	2038722	10- 30
Coloring agent	Registered	Registered	Registered	< 10
Additives	Registered	Registered	Polymer	< 10

Other parts : Other parts are excluded from 'chemical substances'.

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<Diethylene glycol>
MAJOR HEALTH HAZARDS: central nervous system depression, kidney damage

4. FIRST-AID MEASURES

Inhalation:
Not applicable.
(Due to its low vapor pressure. Inhalation is unlikely at room temperature.)

Skin contact:
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye contact:
Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:
If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of refill(UMR-87) : about 1.1g]

Creation Date : August 18, 2003
Revision Date : April 17, 2006

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.
Exitinguishing media:
Suitable : regular dry chemical, carbon dioxide, water, regular foam.
Large fires : Use regular foam or flood with fine water spray.
Fire fighting : The Products is no flammable.
Use extinguishing agents appropriate for surrounding fire.
Avoid inhalation of material or combustion by-products.
Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Not available.
Environmental precautions : Do not wash away into shower or water way.
Methods for cleaning up : Wipe off by dry cloth and wash with water.
: In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards.
Keep separated from incompatible substances.

Handling:
Technical measures : Don't swallow ink.
: Don't shake.
: Keep out of the reach of children.
: Avoid contact with skin and eyes.
Precautions : Not available.
Safe handling advice : Not available.
Storage:
Technical measures : Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition : Avoid direct sunlight.
: Do not leave the products in high temperature space.
: Recommended temperature: 0-30 C.
Incompatible products : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
oxidizing materials	Coloring agent
strong oxidizers, oxidizing materials	Additive

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	Not available.	
ACGIH	Not available.	
EC	Not available.	
DFG	44mg/m3(10ml/m3) MAK(peak limitation category-II, 2)	Diethylene glycol
JAIH	2mg/m3(Respirable fraction), 8mg/m3(Total dust)	Coloring agent

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form	: Liquid.
Colour	: Red.
Odour	: None odour.
pH	: 7.5±0.3
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-10 C
Flash point	: Not applicable. [Diethylene glycol/ 124 C(CC)]
Autoignition temperature	: Not applicable. [Diethylene glycol/ 224 C]
Explosion limits	: Not applicable.
	[Lower flammable limit / 1.3% , Upper flammable limit / 13.5% <Diethylene glycol>]
Density	: about 1.1 / 25 C
Vapour density (air=1)	: Not available. [Diethylene glycol/ 3.7]
Solubility in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 81-84%

10. STABILITY AND REACTIVITY

Stability : Stability.

Hazardous reactions : Will not occur.

Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition.
Avoid contact with incompatible materials.

Materials to avoid : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
oxidizing materials	Coloring agent
strong oxidizers, oxidizing materials	Additive

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
oxides of nitrogen, sulfur, hydrogen chloride gas.	Coloring agent
corrosive acrolein.	Additive

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	3300mg/kg-Cat, 7800mg/kg-Guinea pig >=5000mg/kg-Rat	Diethylene glycol Coloring agent
Inhalation LC50	>=2250mg/m3-Rat	Coloring agent
Skin LD50	11890mg/kg-Rabbit >=2000mg/kg-Rat	Diethylene glycol Coloring agent

Local effects	dehydration	Additive

Chronic toxicity and long term toxicity

The substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system, liver, and kidneys. Exposure may result in unconsciousness. Diethylene glycol

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	nausea,cough	Diethylene glycol
Skin contact	irritation,redness sensitization	Diethylene glycol Additive
Eye contact	irritation,redness	Diethylene glycol
Ingestion	nausea,vomiting	Diethylene glycol

Specific effects Not available.

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

Waste from residues : Disposal in accordance with all current regulations and standards.

Contaminated packaging : Not applicable.

14. TRANSPORT INFORMATION

HS Code : 960810

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Not restricted.

EU labeling

25%<=Xn;R22 : Diethylene glycol

R22 : Harmful if swallowed.

CANADA Hazardous Products Act - Ingredient Disclosure List : Not restricted.

Hazard and safety information

Products are manufactured in accordance with European regulation EN71 part 3

Products are manufactured in accordance with ELV directive of EU.

16. OTHER INFORMATION

This sheet completes the technical sheet of use but it doesn't replace it.
The information contained in this sheet are based knowledge of the products at the data : (April 17, 2006). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.

Creation Date : July 21, 2004
Revision Date : April 17, 2006

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: UMN-207 Blue-black [uni-ball Signo 207]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : July 21, 2004
Revision Date : April 17, 2006
File No. : 068176A Rev. 2.5.01.02

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Diethylene glycol	111-46-6	Registered	2038722	10- 30
Coloring agents	Registered	Registered	Registered	< 10
Additives	Registered	Registered	Polymer	< 10

Other parts : Other parts are excluded from 'chemical substances'.

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<Diethylene glycol>
MAJOR HEALTH HAZARDS: central nervous system depression, kidney damage

4. FIRST-AID MEASURES

Inhalation:
Not applicable.
(Due to its low vapor pressure. Inhalation is unlikely at room temperature.)

Skin contact:
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye contact:
Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:
If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of refill(UMR-87) : about 1.1g]

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.
Exitinguishing media:
Suitable : regular dry chemical, carbon dioxide, water, regular foam.
Large fires : Use regular foam or flood with fine water spray.
Fire fighting : The Products is no flammable.
Use extinguishing agents appropriate for surrounding fire.
Avoid inhalation of material or combustion by-products.
Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Not available.
Environmental precautions : Do not wash away into shower or water way.
Methods for cleaning up : Wipe off by dry cloth and wash with water.
: In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards.
Keep separated from incompatible substances.

Handling:
Technical measures : Don't swallow ink.
: Don't shake.
: Keep out of the reach of children.
: Avoid contact with skin and eyes.
Precautions : Not available.
Safe handling advice : Not available.

Storage:
Technical measures : Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition : Avoid direct sunlight.
: Do not leave the products in high temperature space.
: Recommended temperature: 0-30 C.
Incompatible products : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
oxidizing materials	Coloring agent
strong oxidizers, oxidizing materials	Additive

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3(Respirable flaction), 15mg/m3(Total dust) [Nuisance Dust]	Coloring agent
ACGIH	10mg/m3(Nuisance particulate)	Coloring agent
EC	Not available.	
DFG	44mg/m3(10ml/m3) MAK(peak limitation category-II, 2)	Diethylene glycol

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form	: Liquid.
Colour	: Blue-black.
Odour	: None odour.
pH	: 7.3±0.2
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-10 C
Flash point	: Not applicable. [Diethylene glycol/ 124 C(CC)]
Autoignition temperature	: Not applicable. [Diethylene glycol/ 224 C]
Explosion limits	: Not applicable.
	[Lower flammable limit / 1.3% , Upper flammable limit / 13.5% <Diethylene glycol>]
Density	: about 1.1 / 25 C
Vapour density (air=1)	: Not available. [Diethylene glycol/ 3.7]
Solubility in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 84-87%

10. STABILITY AND REACTIVITY

Stability : Stability.

Hazardous reactions : Will not occur.

Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition.
Avoid contact with incompatible materials.

Materials to avoid : (Information of components.)

acids, bases, oxidizing materials	Diethylene glycol
oxidizing materials	Coloring agent
strong oxidizers, oxidizing materials	Additive

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
oxides of nitrogen, sulfur.	Coloring agent
corrosive acrolein.	Additive

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	3300mg/kg-Cat, 7800mg/kg-Guinea pig >5000mg/kg-Rat	Diethylene glycol Coloring agent
Inhalation LC50	Not available.	
Skin LD50	11890mg/kg-Rabbit	Diethylene glycol

Local effects	dehydration	Additive

Chronic toxicity and long term toxicity

The substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system, liver, and kidneys. Exposure may result in unconsciousness.	Diethylene glycol

Creation Date : July 21, 2004
Revision Date : April 17, 2006

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	nausea,cough irritation	Diethylene glycol Coloring agent
Skin contact	irritation,redness irritation sensitization	Diethylene glycol Coloring agent Additive
Eye contact	irritation,redness irritation	Diethylene glycol Coloring agent
Ingestion	nausea,vomiting gastric disturbances	Diethylene glycol Coloring agent

Specific effects Not available.

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

Waste from residues : Disposal in accordance with all current regulations and standards.

Contaminated packaging : Not applicable.

14. TRANSPORT INFORMATION

HS Code : 960810

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Not restricted.

EU labeling

25%<=Xn;R22 : Diethylene glycol

R22 : Harmful if swallowed.

CANADA Hazardous Products Act - Ingredient Disclosure List : Not restricted.

Hazard and safety information

Products are manufactured in accordance with European regulation EN71 part 3
Products are manufactured in accordance with ELV directive of EU.

16. OTHER INFORMATION

This sheet completes the technical sheet of use but it doesn't replace it.
The information contained in this sheet are based knowledge of the products at the data : (April 17, 2006). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.