

Ingestion:

If swallowed, seek medical advice, and show the MSDS to the physician then.

[Ink quantity of refill(UMR-10) : about 1.1g]

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.

Extinguishing 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.

: Recap after use.

: 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, combustible materials, halo carbons, metals, 1,2-Propanediol

metal salts, oxidizing materials, reducing agents

oxidizing materials

Resin

oxidizing materials, halogens

Carbon Black

oxidizing materials, metals

Additive

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	3.5mg/m ³	Carbon Black
ACGIH	3.5mg/m ³ (total dust) TWA	Carbon Black
EC	3.5mg/m ³	Carbon Black
UK	150ppm(474mg/m ³) TWA(total(vapor and pariculates)), 10mg/m ³ TWA(particulates)	1,2-Propanediol

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[]: Information of components.

Physical state and form : Middle viscous liquid.
 Colour : Black.
 Odour : None odour.
 pH : about 8.8
 Boiling point : Not available. [Water/ 100 C]
 Melting point : <-10 C
 Flash point : Not applicable. [1,2-Propanediol/ 99 C(CC)]
 Autoignition temperature : Not applicable. [1,2-Propanediol/ 371 C]
 Explosion limits : Not applicable.
 [Lower flammable limit / 2.6% , Upper flammable limit / 12.5% <1,2-Propanediol>]
 Density : 1.0-1.1 / 25 C
 Vapour density (air=1) : Not available. [1,2-Propanediol/ 2.60-2.62]
 Solubility in water : Soluble.
 Evaporation rate : Not available.
 Volatile : 85-88%

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, combustible materials, halo carbons, metals, oxidizing materials	1,2-Propanediol Resin
oxidizing materials, halogens	Carbon Black
oxidizing materials, metals	Additive

Hazardous decomposition products : (Information of components.)

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

11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	20000mg/kg-Rat >10000mg/kg-Rat 1900mg/kg-Rat	1,2-Propanediol Carbon Black Additive
Inhalation LC50	Not available.	
Skin LD50	20800mg/kg-Rabbit >3000mg/kg-Rabbit	1,2-Propanediol Carbon Black

Local effects

Irritant;inhalation, skin dehydration	Carbon Black Additive
Irritant;inhalation, skin Corrosive;eye	Additive

Chronic toxicity and long term toxicity

Repeated or prolonged contact may cause skin sensitization. Respiratory disorders.	1,2-Propanediol Carbon Black
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Signs and Symptos of overexposure and aggravated by exposure

Inhalation	nausea,headache irritation	1,2-Propanediol Resin / Carbon Black / Additive
Skin contact	irritation,allergic reaction irritation irritation,defatting	1,2-Propanediol Resin / Carbon Black Additive
Eye contact	irritation,pain irritation mechanical irritation	1,2-Propanediol Resin Carbon Black Additive
Ingestion	allergic reaction,vomiting vomiting,digestive disorders	1,2-Propanediol Additive

Specific effects

IARC Group 2B	Carbon Black
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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) : Carbon Black

EU labeling : Not restricted.

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over : 1,2-Propanediol / Carbon Black / Additive

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 : (June 19, 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.

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: UM-153S Blue [uni-ball GEL IMPACT]

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 : Oct. 4, 2002
Revision Date : Jun. 19, 2006
File No. : 067372A Rev. 2.5.03.03

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
1,2-Propanediol	57-55-6	Registered	2003380	< 10
Glycerine	56-81-5	Registered	2002895	< 10
Ethylene glycol	107-21-1	Registered	2034733	< 10
Resin	Registered	Registered	Polymer	< 10
Coloring agent	Registered	Registered	Registered	< 10
Additive	Registered	Registered	Registered	< 10

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Not available.

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-10) : about 1.1g]

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.

Extinguishing 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.

: Recap after use.

: 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, combustible materials, halo carbons, metals, 1,2-Propanediol

metal salts, oxidizing materials, reducing agents
acids, bases, oxidizing materials, metal oxides, peroxides, Glycerine

reducing agents
oxidizing materials, bases, acids, reducing agents, metals Ethylene glycol

oxidizing materials Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3 TWA (respirable dust fraction), 15mg/m3 TWA (total dust)	Glycerine
	5mg/m3(Respirable flaction), 15mg/m3(Total dust) [Nuisance Dust]	Coloring agent
ACGIH	10mg/m3 TWA 100mg/m3 ceiling(particulate)(aerosol) 10mg/m3(Nuisance dust)	Glycerine Ethylene glycol Coloring agent
EC	52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin)	Ethylene glycol
UK	150ppm(474mg/m3) TWA(total(vapor and pariculates)), 10mg/m3 TWA(particululates)	1,2-Propanediol

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[]: Information of components.

Physical state and form	: Middle viscous liquid.
Colour	: Blue.
Odour	: None odour.
pH	: about 8.8
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-10 C
Flash point	: Not applicable. [1,2-Propanediol/ 99 C(CC)]
Autoignition temperature	: Not applicable. [1,2-Propanediol/ 371 C]
Explosion limits	: Not applicable. [Lower flammable limit / 2.6% , Upper flammable limit / 12.5% <1,2-Propanediol>]
Density	: about 1.1 / 25 C
Vapour density (air=1)	: Not available. [1,2-Propanediol/ 2.60-2.62]
Solubility in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 87-90%

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, combustible materials, halo carbons, metals,	1,2-Propanediol
acids, bases, oxidizing materials, metal oxides, peroxides,	Glycerine
oxidizing materials, bases, acids, reducing agents, metals oxidizing materials	Ethylene glycol Coloring agent

Hazardous decomposition products : (Information of components.)
 oxides of carbon, water common decomposition products
 corrosive acrolein. Glycerine
 oxides of nitrogen. Coloring agent

11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	20000mg/kg-Rat 4090mg/kg-Mouse 1650mg/kg-Cat, 4700mg/kg-Rat ≥5000mg/kg-Rat >5000mg/kg-Rat	1,2-Propanediol Glycerine Ethylene glycol Resin Coloring agent
Inhalation LC50	>570mg/m ³ -1H-Rat	Glycerine
Skin LD50	20800mg/kg-Rabbit >10000mg/kg-Rabbit 9530uL/kg-Rabbit	1,2-Propanediol Glycerine Ethylene glycol

Local effects Irritant;inhalation, skin, eye Ethylene glycol

Chronic toxicity and long term toxicity

Repeated or prolonged contact may cause skin sensitization. 1,2-Propanediol
 The substance may have effects on the central nervous Ethylene glycol
 system, resulting in abnormal eye movements (nystagmus).

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	nausea,headache irritation,difficulty breathing irritation,cough irritation	1,2-Propanediol Glycerine Ethylene glycol Coloring agent
Skin contact	irritation,allergic reaction irritation,redness irritation,dry irritation	1,2-Propanediol Glycerine Ethylene glycol Resin
Eye contact	irritation,pain tearing,stinging irritation,redness irritation	1,2-Propanediol Glycerine Ethylene glycol Resin / Coloring agent
Ingestion	allergic reaction,vomiting nausea,vomiting gastric disturbances	1,2-Propanediol Glycerine / Ethylene 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) : Glycerine / Ethylene glycol

EU labeling

25%≤Xn;R22 : Ethylene glycol

R22 : Harmful if swallowed.

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over : 1,2-Propanediol / 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 : (June 19, 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.

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: UM-153S Red [uni-ball GEL IMPACT]

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 : Oct. 4, 2002
Revision Date : Jun. 19, 2006
File No. : 067373A Rev. 2.5.02.03

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
1,2-Propanediol	57-55-6	Registered	2003380	10- 30
Resin	Registered	Registered	Polymer	< 10
Coloring agent	Registered	Registered	Registered	< 10
Additive	Registered	Registered	Registered	< 10
Triethanolamine	102-71-6	Registered	2030498	< 10

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Not available.

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-10) : about 1.1g]

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.

Extinguishing 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.

: Recap after use.

: 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, combustible materials, halo carbons, metals, 1,2-Propanediol

metal salts, oxidizing materials, reducing agents

oxidizing materials

Coloring agent

acids, metals, oxidizing materials

Triethanolamine

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	Not available.	
ACGIH	5mg/m3 TWA	Triethanolamine
EC	Not available.	
UK	150ppm(474mg/m3) TWA(total(vapor and pariclutates)), 10mg/m3 TWA(particulates)	1,2-Propanediol
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 : Middle viscous liquid.
 Colour : Red.
 Odour : None odour.
 pH : about 8.7
 Boiling point : Not available. [Water/ 100 C]
 Melting point : <-10 C
 Flash point : Not applicable. [1,2-Propanediol/ 99 C(CC)]
 Autoignition temperature : Not applicable. [Triethanolamine/ 315.5 C]
 Explosion limits : Not applicable.
 [Lower flammable limit / 2.6% , Upper flammable limit / 12.5% <1,2-Propanediol>]
 Density : 1.0-1.1 / 25 C
 Vapour density (air=1) : Not available. [1,2-Propanediol/ 2.60-2.62]
 Solubility in water : Soluble.
 Evaporation rate : Not available.
 Volatile : 87-90%

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, combustibile materials, halo carbons, metals, 1,2-Propanediol
 metal salts, oxidizing materials, reducing agents
 oxidizing materials Coloring agent
 acids, metals, oxidizing materials Triethanolamine

Hazardous decomposition products : (Information of components.)

oxides of carbon, water common decomposition products
 oxides of nitrogen. Coloring agent / Triethanolamine

11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	20000mg/kg-Rat ≥5000mg/kg-Rat 2200mg/kg-Rabbit, 5846mg/kg-Mouse	1,2-Propanediol Resin / Coloring agent Triethanolamine
Inhalation LC50	Not available.	
Skin LD50	20800mg/kg-Rabbit >16mL/kg-Rat	1,2-Propanediol Triethanolamine

Local effects Irritant;skin, eye Triethanolamine

Chronic toxicity and long term toxicity

Repeated or prolonged contact may cause skin sensitization. 1,2-Propanediol / Triethanolamine

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	nausea,headache irritation sore throat,difficulty breathing	1,2-Propanediol Coloring agent Triethanolamine
Skin contact	irritation,allergic reaction irritation redness,swelling irritation,redness	1,2-Propanediol Resin Coloring agent Triethanolamine
Eye contact	irritation,pain irritation irritation,corneal swelling	1,2-Propanediol Resin Triethanolamine
Ingestion	allergic reaction,vomiting nausea,vomiting burns,gastrointestinal irritation	1,2-Propanediol Coloring agent Triethanolamine

Specific effects IARC Group 3 Triethanolamine

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) : Triethanolamine

EU labeling : Not restricted.

CANADA Hazardous Products Act - Ingredient Disclosure List
1%over : 1,2-Propanediol / Triethanolamine

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 : (June 19, 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.