

# Safety data sheet for chemical products

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: UM-153S Black [ 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 : October 4, 2002  
 Revision Date : December 6, 2011  
 File No. : 067371A      Rev. 2.5.05.04

## 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
2,4-Pentanediol, 2-methyl-	107-41-5	Registered	2034890	< 10
Ethylene glycol	107-21-1	Registered	2034733	< 10
Additives	Registered	Registered	Registered	< 10
Resin	Registered	Registered	Registered	< 10
Carbon Black	1333-86-4	Registered	2156099	< 10

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

## 3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<2,4-Pentanediol, 2-methyl->

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression

<Ethylene glycol>

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression, nerve damage, kidney damage

<Resin >

PHYSICAL HAZARDS: Dust/air mixtures may ignite or explode.

<Carbon Black>

MAJOR HEALTH HAZARDS: suspect cancer hazard (in animals)

## 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 product : 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, combustible materials, 2,4-Pentanediol, 2-methyl-

oxidizing materials, reducing agents

oxidizing materials, bases, acids, Ethylene glycol

reducing agents, metals

strong oxidizers Additive

oxidizing materials Resin

oxidizing materials, halogens Carbon Black

Packaging materials : Not applicable.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	25ppm(121mg/m <sup>3</sup> ) 3.5mg/m <sup>3</sup> TWA	2,4-Pentanediol, 2-methyl- Carbon Black
ACGIH	ceiling 25ppm STEL ceiling 100mg/m <sup>3</sup> (particulate)(aerosol) 3.5mg/m <sup>3</sup> TWA	2,4-Pentanediol, 2-methyl- Ethylene glycol Carbon Black
EC	52mg/m <sup>3</sup> (20ppm) EC MAK TWA(skin), 104mg/m <sup>3</sup> (40ppm) EC MAK STEL(skin) 3.5mg/m <sup>3</sup> TWA	Ethylene glycol  Carbon Black

Personal protective equipment : Not required.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state	: Liquid.
Color	: Black.
Odor	: None odor.
pH	: 8.1
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-10 C
Flash point	: Not applicable. [2,4-Pentanediol, 2-methyl-/ 97 C]
Autoignition temperature	: Not applicable. [2,4-Pentanediol, 2-methyl-/ 306 C]
Explosion limits	: Not applicable. [ Lower flammable limit / 1.3% , Upper flammable limit / 7.4% <2,4-Pentanediol, 2-methyl-> ]
Density	: about 1.1 / 25 C
Vapor density (air=1)	: Not available. [2,4-Pentanediol, 2-methyl-/ 4.0]
Solubility in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 86-89%

## 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, combustible materials,	2,4-Pentanediol, 2-methyl-
oxidizing materials, reducing agents	
oxidizing materials, bases, acids,	Ethylene glycol
reducing agents, metals	
strong oxidizers	Additive
oxidizing materials	Resin
oxidizing materials, halogens	Carbon Black
Hazardous decomposition products	: (Information of components.)
oxides of carbon, water	common decomposition products
corrosive acrolein.	Additive
sulfur compounds	Carbon Black

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## 11. TOXICOLOGICAL INFORMATION

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(Information of components)

### Acute toxicity

Ingestion LD50	3700mg/kg-Rat	2,4-Pentanediol, 2-methyl- Ethylene glycol Carbon Black
	4700mg/kg-Rat	
	>10000mg/kg-Rat	
Inhalation LC50	>310mg/m <sup>3</sup> -Rat	2,4-Pentanediol, 2-methyl-
Skin LD50	8560uL/kg-Rabbit	2,4-Pentanediol, 2-methyl- Ethylene glycol Carbon Black
	9530uL/kg-Rabbit	
	>3000mg/kg-Rabbit	

Local effects	Irritant;inhalation, skin, eye	2,4-Pentanediol, 2-methyl- Ethylene glycol Additive Carbon Black
	Irritant;inhalation, skin, eye dehydration	
	Irritant;inhalation, skin	

### Chronic toxicity and long term toxicity

The substance may have effects on the central nervous system, resulting in abnormal eye movements (nystagmus).	Ethylene glycol
Lungs may be affected by repeated or prolonged exposure at very high concentrations. Respiratory disorders.	Carbon Black

### Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	irritation,headache	2,4-Pentanediol, 2-methyl- Ethylene glycol Resin / Carbon Black
	irritation,cough	
	irritation	
Skin contact	irritation,headache	2,4-Pentanediol, 2-methyl- Ethylene glycol Additive Resin / Carbon Black
	irritation,dry	
	sensitization	
	irritation	
Eye contact	irritation,redness	2,4-Pentanediol, 2-methyl- Ethylene glycol Resin Carbon Black
	irritation	
	mechanical irritation, discoloration of lids	
Ingestion	irritation,headache	2,4-Pentanediol, 2-methyl- Ethylene glycol
	nausea,vomiting	

Specific effects	IARC Group 2B	Carbon Black
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## 12. ECOLOGICAL INFORMATION

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Not available.

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## 13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

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## 14. TRANSPORT INFORMATION

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HS Code : 960810

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## 15. REGULATORY INFORMATION

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### Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : 2,4-Pentanediol, 2-methyl- / Ethylene glycol  
Carbon Black

### EU labeling

10%<=Xi;R36/38

2,4-Pentanediol, 2-methyl-

25%<=Xn;R22

Ethylene glycol

### CANADA Hazardous Products Act - Ingredient Disclosure List

1%over

2,4-Pentanediol, 2-methyl- / Ethylene glycol  
Carbon Black

### Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - Part 3"

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## 16. OTHER INFORMATION

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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 : (December 6, 2011). 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 : October 4, 2002  
Revision Date : December 6, 2011  
File No. : 067372A      Rev. 2.5.05.04

## 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
1,2-Propanediol	57-55-6	Registered	2003380	< 10
2,4-Pentanediol, 2-methyl-	107-41-5	Registered	2034890	< 10
Ethylene glycol	107-21-1	Registered	2034733	< 10
Additives	Registered	Registered	Registered	< 10
Resin	Registered	Registered	Registered	< 10
Coloring agent	Registered	Registered	Registered	< 10

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

## 3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<2,4-Pentanediol, 2-methyl->

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression

<Ethylene glycol>

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression, nerve damage, kidney damage

<Resin / Coloring agent >

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 product : 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, 1,2-Propanediol

halo carbons, metals, metal salts,  
oxidizing materials, reducing agents

acids, combustible materials, 2,4-Pentanediol, 2-methyl-

oxidizing materials, reducing agents

oxidizing materials, bases, acids, Ethylene glycol

reducing agents, metals

strong oxidizers Additive

oxidizing materials Resin / Coloring agent

Packaging materials : Not applicable.

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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

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Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	25ppm(121mg/m <sup>3</sup> ) 5mg/m <sup>3</sup> (Respirable fraction) 15mg/m <sup>3</sup> (Total dust) [Nuisance Dust]	2,4-Pentanediol, 2-methyl- Coloring agent
ACGIH	ceiling 25ppm STEL ceiling 100mg/m <sup>3</sup> (particulate)(aerosol) 10mg/m <sup>3</sup> TWA	2,4-Pentanediol, 2-methyl- Ethylene glycol Coloring agent
EC	52mg/m <sup>3</sup> (20ppm) EC MAK TWA(skin), 104mg/m <sup>3</sup> (40ppm) EC MAK STEL(skin)	Ethylene glycol

Personal protective equipment : Not required.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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[ ] : Information of components.

Physical state	: Liquid.
Color	: Blue.
Odor	: None odor.
pH	: 8.1
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-10 C
Flash point	: Not applicable. [2,4-Pentanediol, 2-methyl-/ 97 C]
Autoignition temperature	: Not applicable. [2,4-Pentanediol, 2-methyl-/ 306 C]
Explosion limits	: Not applicable. [ Lower flammable limit / 1.3% , Upper flammable limit / 7.4% <2,4-Pentanediol, 2-methyl-> ]
Density	: about 1.1 / 25 C
Vapor density (air=1)	: Not available. [2,4-Pentanediol, 2-methyl-/ 4.0]
Solubility in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 83-86%

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## 10. STABILITY AND REACTIVITY

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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,	1,2-Propanediol
halo carbons, metals, metal salts,	
oxidizing materials, reducing agents	
acids, combustible materials,	2,4-Pentanediol, 2-methyl-
oxidizing materials, reducing agents	
oxidizing materials, bases, acids,	Ethylene glycol
reducing agents, metals	
strong oxidizers	Additive
oxidizing materials	Resin / Coloring agent



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

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## 11. TOXICOLOGICAL INFORMATION

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(Information of components)

### Acute toxicity

Ingestion LD50	20000mg/kg-Rat	1,2-Propanediol
	3700mg/kg-Rat	2,4-Pentanediol, 2-methyl-
	4700mg/kg-Rat	Ethylene glycol
	≥ 5000mg/kg-Rat	Coloring agent
Inhalation LC50	>310mg/m <sup>3</sup> -Rat	2,4-Pentanediol, 2-methyl-
Skin LD50	20800mg/kg-Rabbit	1,2-Propanediol
	8560uL/kg-Rabbit	2,4-Pentanediol, 2-methyl-
	9530uL/kg-Rabbit	Ethylene glycol

Local effects	Irritant;inhalation, skin, eye	2,4-Pentanediol, 2-methyl-
	Irritant;inhalation, skin, eye	Ethylene glycol
	dehydration	Additive

### Chronic toxicity and long term toxicity

Repeated or prolonged contact may cause skin sensitization / Mutagenic; positive	1,2-Propanediol
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The substance may have effects on the central nervous system, resulting in abnormal eye movements (nystagmus).	Ethylene glycol
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### Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	nausea,headache	1,2-Propanediol
	irritation,headache	2,4-Pentanediol, 2-methyl-
	irritation,cough	Ethylene glycol
	irritation	Resin / Coloring agent
Skin contact	irritation,allergic reaction	1,2-Propanediol
	irritation,headache	2,4-Pentanediol, 2-methyl-
	irritation,dry	Ethylene glycol
	sensitization	Additive
	irritation	Resin
Eye contact	irritation,pain	1,2-Propanediol
	irritation,redness	2,4-Pentanediol, 2-methyl-
	irritation	Ethylene glycol
Ingestion	allergic reaction,vomiting	Resin / Coloring agent
	irritation,headache	1,2-Propanediol
	nausea,vomiting	2,4-Pentanediol, 2-methyl-
	gastric disturbances	Ethylene glycol
		Coloring agent

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## 12. ECOLOGICAL INFORMATION

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Not available.

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### 13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

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### 14. TRANSPORT INFORMATION

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HS Code : 960810

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### 15. REGULATORY INFORMATION

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Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : 2,4-Pentanediol, 2-methyl- / Ethylene glycol

EU labeling

10%≤Xi;R36/38

2,4-Pentanediol, 2-methyl-

25%≤Xn;R22

Ethylene glycol

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over

1,2-Propanediol / 2,4-Pentanediol, 2-methyl-

Ethylene glycol

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - Part 3"

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### 16. OTHER INFORMATION

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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 : (December 6, 2011). 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 : October 4, 2002  
Revision Date : December 6, 2011  
File No. : 067373A Rev. 2.5.04.04

## 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
1,2-Propanediol	57-55-6	Registered	2003380	< 10
2,4-Pentanediol, 2-methyl-	107-41-5	Registered	2034890	< 10
Ethylene glycol	107-21-1	Registered	2034733	< 10
Triethanolamine	102-71-6	Registered	2030498	< 10
Additives	Registered	Registered	Registered	< 10
Resin	Registered	Registered	Registered	< 10
Coloring agent	Registered	Registered	Registered	< 10

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

## 3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<2,4-Pentanediol, 2-methyl->

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression

<Ethylene glycol>

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression, nerve damage, kidney damage

<Triethanolamine>

MAJOR HEALTH HAZARDS: skin irritation, eye irritation

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: kidney disorders, liver disorders

<Resin / Coloring agent>

PHYSICAL HAZARDS: Dust/air mixtures may ignite or explode.

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## 4. FIRST-AID MEASURES

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**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 product : about 1.1g]

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## 5. FIRE-FIGHTING MEASURES

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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.

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## 6. ACCIDENTAL RELEASE MEASURES

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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.

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## 7. HANDLING AND STORAGE

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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, 1,2-Propanediol  
halo carbons, metals, metal salts,  
oxidizing materials, reducing agents

acids, combustible materials, 2,4-Pentanediol, 2-methyl-  
oxidizing materials, reducing agents

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

acids, metals, oxidizing materials Triethanolamine  
strong oxidizers Additive

oxidizing materials Resin / Coloring agent

Packaging materials : Not applicable.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	25ppm(121mg/m <sup>3</sup> )	2,4-Pentanediol, 2-methyl-
ACGIH	ceiling 25ppm STEL ceiling 100mg/m <sup>3</sup> (particulate)(aerosol) 5mg/m <sup>3</sup> TWA	2,4-Pentanediol, 2-methyl- Ethylene glycol Triethanolamine
EC	52mg/m <sup>3</sup> (20ppm) EC MAK TWA(skin), 104mg/m <sup>3</sup> (40ppm) EC MAK STEL(skin)	Ethylene glycol

Personal protective equipment : Not required.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state : Liquid.

Color : Red.

Odor : None odor.

pH : 8.1

Boiling point : Not available. [Water/ 100 C]

Melting point : <-10 C

Flash point : Not applicable. [2,4-Pentanediol, 2-methyl-/ 97 C]

Autoignition temperature : Not applicable. [2,4-Pentanediol, 2-methyl-/ 306 C]

Explosion limits : Not applicable.

[ Lower flammable limit / 1.3% , Upper flammable limit / 7.4% <2,4-Pentanediol, 2-methyl-> ]

Density : about 1.1 / 25 C

Vapor density (air=1) : Not available. [2,4-Pentanediol, 2-methyl-/ 4.0]

Solubility in water : Soluble.

Evaporation rate : Not available.

Volatile : 83-86%

## 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,	1,2-Propanediol
halo carbons, metals, metal salts,	
oxidizing materials, reducing agents	
acids, combustible materials,	2,4-Pentanediol, 2-methyl-
oxidizing materials, reducing agents	
oxidizing materials, bases, acids,	Ethylene glycol
reducing agents, metals	
acids, metals, oxidizing materials	Triethanolamine
strong oxidizers	Additive
oxidizing materials	Resin / Coloring agent

**Hazardous decomposition products** : (Information of components.)

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

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**11. TOXICOLOGICAL INFORMATION**

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## (Information of components)

## Acute toxicity

Ingestion LD50	20000mg/kg-Rat	1,2-Propanediol
	3700mg/kg-Rat	2,4-Pentanediol, 2-methyl-
	4700mg/kg-Rat	Ethylene glycol
	2200mg/kg-Rabbit	Triethanolamine
	5846mg/kg-Mouse ≥ 5000mg/kg-Rat	Coloring agent
Inhalation LC50	>310mg/m <sup>3</sup> -Rat	2,4-Pentanediol, 2-methyl-
Skin LD50	20800mg/kg-Rabbit	1,2-Propanediol
	8560uL/kg-Rabbit	2,4-Pentanediol, 2-methyl-
	9530uL/kg-Rabbit	Ethylene glycol
	>16mL/kg-Rat	Triethanolamine

## Local effects

Irritant;inhalation, skin, eye	2,4-Pentanediol, 2-methyl-
Irritant;inhalation, skin, eye	Ethylene glycol
Irritant;skin, eye	Triethanolamine
dehydration	Additive

## Chronic toxicity and long term toxicity

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

## Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	nausea,headache	1,2-Propanediol
	irritation,headache	2,4-Pentanediol, 2-methyl-
	irritation,cough	Ethylene glycol
	sore throat,difficulty breathing	Triethanolamine
	irritation	Resin / Coloring agent
Skin contact	irritation,allergic reaction	1,2-Propanediol
	irritation,headache	2,4-Pentanediol, 2-methyl-
	irritation,dry	Ethylene glycol
	irritation,redness	Triethanolamine
	sensitization	Additive
	irritation	Resin
	redness,swelling	Coloring agent

Eye contact	irritation,pain irritation,redness  irritation,corneal swelling irritation	1,2-Propanediol 2,4-Pentanediol, 2-methyl- Ethylene glycol Triethanolamine Resin
Ingestion	allergic reaction,vomiting irritation,headache nausea,vomiting burns,gastrointestinal irritation	1,2-Propanediol 2,4-Pentanediol, 2-methyl- Ethylene glycol / Coloring agent Triethanolamine
Specific effects	IARC Group 3	Triethanolamine

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## 12. ECOLOGICAL INFORMATION

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Not available.

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## 13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

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## 14. TRANSPORT INFORMATION

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HS Code : 960810

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## 15. REGULATORY INFORMATION

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Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : 2,4-Pentanediol, 2-methyl- / Ethylene glycol  
/ Triethanolamine

EU labeling

10%<=Xi;R36/38

2,4-Pentanediol, 2-methyl-

25%<=Xn;R22

Ethylene glycol

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over

1,2-Propanediol / 2,4-Pentanediol, 2-methyl-  
/ Ethylene glycol / Triethanolamine

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - Part 3"

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## 16. OTHER INFORMATION

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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 : (December 6, 2011). 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.