# Safety data sheet for chemical products

#### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Product name: PM-122 Black [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011111A Rev. 2.5.04.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Carbon Black	1333-86-4	Registered	2156099	10- 30
Resins	Registered	Registered	Polymer	10- 30
Ethylene glycol	107-21-1	Registered	2034733	< 10

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

### **3. HAZARDS IDENTIFICATION**

Most important hazards

Specific hazards

: Not available.

c hazards

: Information of components.

<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 product : about 6.0g]

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#### 5. FIRE-FIGHTING MEASURES

Fire and explosion			
Exitinguishing me	dia:		
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.		
	Move container from fire area if it can be done without risk.		
	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:

i lununng.		
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 materia	ls, ignition sources and
	high temperature.	-
Storage condition	: Avoid direct sunlight.	
	: Do not leave the products in high t	temperature space.
	: Recommended temperature: 0-30 (	C.
Incompatible products	: (Information of components.)	
Incompatible products	: (Information of components.)	
oxidizing materials, hal	ogens	Carbon Black
oxidizing materials		Resin
oxidizing materials, bas	ses, 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	3.5mg/m3(total dust) TWA	Carbon Black
	100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
EC	3.5mg/m3	Carbon Black
	52mg/m3(20ppm) TWA,	Ethylene glycol
	104mg/m3(40ppm) STEL(skin)	

Personal protective equipment : Not required.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### [ ]: Information of components.

Physical state and form	: Low viscous liquid.
Colour	: Black.
Odour	: None odour.
pH	: 8.8±0.7
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-5 C
Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Explosion limits	: Not applicable.
[ Lower flammable li	mit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]</ethylene>
Density	: 1.07±0.03 / 25 C
Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
Solubulity in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 77-80%

### **10. STABILITY AND REACTIVITY**

Stability	: Stability.	
Hazardous reactions	: Will not occur.	
Conditions to avoid	: Avoid heat, flames, spar Avoid contact with incom	ks and other sources of ignition. npatible materials.
Materials to avoid	: (Information of componer	nts.)
oxidizing materials, h	alogens	Carbon Black
oxidizing materials		Resin
oxidizing materials, ba	ases, acids,	Ethylene glycol
reducing agents, meta	ls	
Hazardous decomposit	ion products : (Info	rmation of components.)
oxides of carbon, wate	r	common decomposition products
oxides of sulfur.		Carbon Black
miscellaneous decomp	osition products.	Resin

### **11.TOXICOLOGICAL INFORMATION**

(Information of comp	onents)		
Acute toxicity			
Ingestion LD50	>10000mg/kg-Rat	Carbon Black	
	>=5000mg/kg-Rat	Resin	
	1650mg/kg-Cat,	Ethylene glycol	
	4700mg/kg-Rat		
Inhalation LC50	Not available.		
Skin LD50	>3000mg/kg-Rabbit	Carbon Black	
	9530uL/kg-Rabbit	Ethylene glycol	
Local effects	Irritant;inhalation, skin	Carbon Black	
	Irritant;inhalation, skin, eye	Ethylene glycol	
Chronic toxicity and	ong term toxicity		
Respiratory disorders.	0	Carbon Black	
-	ve effects on the central nervous normal eye movements (nystagmus).	Ethylene glycol	
Signs and Symptos of overexposure and aggravated by exposure			
Inhalation	irritation	Carbon Black	

Resin

Resin

Resin

Ethylene glycol

Ethylene glycol

Ethylene glycol

Ethylene glycol

**Carbon Black** 

Carbon Black

Carbon Black / Resin

### 12. ECOLOGICAL INFORMATION

headache,nausea

mechanical irritation,

discoloration of lids

irritation, redness

nausea, vomiting

IARC Group 2B

digestive discomfort

irritation,cough

irritation,dry

irritation

irritation

Not available.

Skin contact

Eye contact

Ingestion

Specific effects

### 13. DISPOSAL CONSIDERATIONS

Waste from residues : Disposal in accordance with all current regulations and standards. Contaminated packaging : Not applicable.

#### 14. TRANSPORT INFORMATION

HS Code : 960820

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### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Carbon Black / Ethylene glycol		
EU labeling 25%<=Xn;R22 R22 : Harmful if swallowed.	: Ethylene glycol		
CANADA Hazardous Products Act - In 1%over	gredient Disclosure List : 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 : (February 20, 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: PM-122 Blue [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011112A Rev. 2.5.03.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Coloring agent	Registered	Registered	Registered	10- 30
Resins	Registered	Registered	Polymer	10- 30
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 : 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 product : about 5.9g]

### 5. FIRE-FIGHTING MEASURES

#### 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:

: Don't swallow ink.
: Recap after use.
: Don't shake.
: Keep out of the reach of children.
: Avoid contact with skin and eyes.
: Not available.
: Not available.
: Keep away from oxidizing materials, ignition sources and
high temperature.
: Avoid direct sunlight.
: Do not leave the products in high temperature space.
: Recommended temperature: 0-30 C.
: (Information of components.)
Coloring agent / Resin
s, acids, reducing agents, metals Ethylene glycol
: 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
	100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
EC	52mg/m3(20ppm) TWA,	Ethylene glycol
	104mg/m3(40ppm) STEL(skin)	

Personal protective equipment : Not required.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### [ ]: Information of components.

Physical state and form	: Low viscous liquid.
Colour	: Blue.
Odour	: None odour.
рН	$: 8.8 \pm 0.7$
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-5 C
Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Explosion limits	: Not applicable.
[ Lower flammable li	mit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]</ethylene>
Density	: 1.05±0.03 / 25 C
Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
Solubulity in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 77-80%

## **10. STABILITY AND REACTIVITY**

Stability Hazardous reactions Conditions to avoid		ks and other sources of ignition. npatible materials.
Materials to avoid oxidizing materials oxidizing materials, reducing agents, me	: (Information of component bases, acids,	1
Hazardous decompos oxides of carbon, wa oxides of nitrogen. miscellaneous decom	ter	rmation of components.) common decomposition products Coloring agent Resin

### 11.TOXICOLOGICAL INFORMATION

#### (Information of components)

Acute toxicity				
Ingestion LD50	>5000mg/kg-Rat	Coloring agent		
>=5000mg/kg-Rat Resin		Resin		
	1650mg/kg-Cat,	Ethylene glycol		
	4700mg/kg-Rat			
Inhalation LC50	Not available.			
Skin LD50	9530uL/kg-Rabbit	Ethylene glycol		
Local effects Irritant;inhalation, skin, eye Ethylene glycol				
Chronic toxicity and long term toxicity				
The substance may have effects on the central nervous Ethylene glycol				
system, resulting in abnormal eye movements (nystagmus).				

#### Inhalation irritation Coloring agent headache.nausea Resin irritation, cough Ethylene glycol Skin contact irritation Resin Ethylene glycol irritation,dry Eye contact Coloring agent / Resin irritation irritation, redness Ethylene glycol Ingestion gastric disturbances Coloring agent digestive discomfort Resin Ethylene glycol nausea, vomiting Specific effects Not available.

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

### **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 : 960820

### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Ethylene glycol	
EU labeling 25%<=Xn;R22 R22 : Harmful if swallowed.	: Ethylene glycol	
CANADA Hazardous Products Act - In 1%over	gredient Disclosure List : Ethylene glycol	
Hazard and safety information		
Products are manufactured in accordance with	ith 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 : (February 20, 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: PM-122 Red [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011113A Rev. 2.5.04.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Coloring agent	Registered	Registered	Registered	10- 30
Resins	Registered	Registered	Polymer	< 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 : 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 product : about 5.8g]

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### 5. FIRE-FIGHTING MEASURES

Fire and explosion	8
Exitinguishing me	dia:
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.
	Move container from fire area if it can be done without risk.
	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	: Keep out of the reach of children.		
	: Avoid contact with skin and eye	S.		
Precautions	: Not available.			
Safe handling advice	: Not available.			
Storage:				
Technical measures	: Keep away from oxidizing materials, ignition sources and			
	high temperature.	2		
Storage condition	: Avoid direct sunlight.			
C	: Do not leave the products in high temperature space.			
	: Recommended temperature: 0-3	0 C.		
Incompatible products	: (Information of components.)			
oxidizing materials		Coloring agent / Resin		
oxidizing materials, bas	ses, acids, reducing agents, metals	Ethylene glycol		
Packaging materials	: Not applicable.			

### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Not available.	
100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin)	Ethylene glycol
2mg/m3(Respirable fraction), 8mg/m3(Total dust)	Coloring agent
	100mg/m3 ceiling (particulate)(aerosol) 52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin) 2mg/m3(Respirable fraction),

Personal protective equipment : Not required.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### [ ]: Information of components.

Physical state and form	: Low viscous liquid.
Colour	: Red.
Odour	: None odour.
pН	: 8.8±0.7
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-5 C
Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Explosion limits	: Not applicable.
[ Lower flammable li	mit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]</ethylene>
Density	: 1.04±0.03 / 25 C
Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
Solubulity in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 80-83%

### **10. STABILITY AND REACTIVITY**

Hazardous reactions		ks and other sources of ignition. npatible materials.
Materials to avoid oxidizing materials oxidizing materials, ba reducing agents, meta		nts.) Coloring agent / Resin Ethylene glycol
Hazardous decomposit oxides of carbon, wate oxides of nitrogen. miscellaneous decomp	r	rmation of components.) common decomposition products Coloring agent Resin

## 11.TOXICOLOGICAL INFORMATION

#### (Information of components)

>=5000mg/kg-Rat	Coloring agent			
1650mg/kg-Cat,	Ethylene glycol			
4700mg/kg-Rat				
Not available.				
9530uL/kg-Rabbit	Ethylene glycol			
Irritant;inhalation, skin, eye	Ethylene glycol			
Chronic toxicity and long term toxicity				
e effects on the central nervous formal eye movements (nystagmus).	Ethylene glycol			
	1650mg/kg-Cat, 4700mg/kg-Rat Not available. 9530uL/kg-Rabbit Irritant;inhalation, skin, eye ong term toxicity e effects on the central nervous	1650mg/kg-Cat, 4700mg/kg-RatEthylene glycol4700mg/kg-Rat		

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

	or over emposare and aggrava	ted by enpositio
Inhalation	irritation	Coloring agent
	headache,nausea	Resin
	irritation,cough	Ethylene glycol
Skin contact	redness,swelling	Coloring agent
	irritation	Resin
	irritation,dry	Ethylene glycol
Eye contact	irritation	Resin
-	irritation, redness	Ethylene glycol
Ingestion	nausea,vomiting	Coloring agent / Ethylene glycol
	digestive discomfort	Resin
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 : 960820

#### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Ethylene glycol
EU labeling 25%<=Xn;R22 R22: Harmful if swallowed.	: Ethylene glycol
CANADA Hazardous Products Act - In 1%over	gredient Disclosure List : 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 : (February 20, 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: PM-122 Green [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011114A Rev. 2.5.04.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50-80
Coloring agents	Registered	Registered	Registered	< 10
Resins	Registered	Registered	Polymer	< 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 : 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 product : about 5.8g]

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### 5. FIRE-FIGHTING MEASURES

### 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:

i lananng.				
Technical measures	: Don't swallow ink.			
	: Recap	: Recap after use.		
	: Don't	shake.		
	: Keep o	Keep out of the reach of children.		
	-	: Avoid contact with skin and eyes.		
Precautions	: Not available.			
Safe handling advice	: Not av	/ailable.		
Storage:				
Technical measures	: Keep away from oxidizing materials, ignition sources and			
	high t	emperature.	C	
Storage condition	: Avoid direct sunlight.			
0	: Do not	: Do not leave the products in high temperature space.		
		mended temperature: 0-30		
Incompatible products		nation of components.)		
oxidizing materials	•	1 /	Coloring agent / Resin	
oxidizing materials, bas	es, acids, 1	reducing agents, metals	Ethylene glycol	
Packaging materials	: Not ap	oplicable.		

### 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
	100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
EC	52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin)	Ethylene glycol

Personal protective equipment : Not required.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### [ ]: Information of components.

Colour: Green.Odour: None odour. $pH$ : $8.8\pm0.7$ Boiling point: Not available. [Water/ 100 C]Melting point: $< -5 C$ Flash point: Not applicable. [Ethylene glycol/ 111 C(CC)]Autoignition temperature: Not applicable. [Ethylene glycol/ 398 C]Explosion limits: Not applicable.[Lower flammable limit / $3.2\%$ , Upper flammable limit / $15.3\%$ <ethylene glycol="">]Density: <math>1.04\pm0.03/25</math> CVapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.Volatile: <math>80-83\%</math></ethylene>	Physical state and form	: Low viscous liquid.
pH: 8.8±0.7Boiling point: Not available. [Water/ 100 C]Melting point: < -5 C	Colour	: Green.
Boiling point: Not available. [Water/ 100 C]Melting point: < -5 C	Odour	: None odour.
Melting point: < -5 CFlash point: Not applicable. [Ethylene glycol/ 111 C(CC)]Autoignition temperature: Not applicable. [Ethylene glycol/ 398 C]Explosion limits: Not applicable.[ Lower flammable limit / $3.2\%$ , Upper flammable limit / $15.3\%$ <ethylene glycol=""> ]Density: <math>1.04\pm0.03/25</math> CVapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.</ethylene>	рН	$: 8.8 \pm 0.7$
Flash point: Not applicable. [Ethylene glycol/ 111 C(CC)]Autoignition temperature: Not applicable. [Ethylene glycol/ 398 C]Explosion limits: Not applicable.[ Lower flammable limit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]Density: 1.04±0.03 / 25 CVapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.</ethylene>	Boiling point	: Not available. [Water/ 100 C]
Autoignition temperature Explosion limits: Not applicable. [Ethylene glycol/ 398 C] : Not applicable. [Lower flammable limit / 3.2%, Upper flammable limit / 15.3% <ethylene glycol="">]Density: 1.04±0.03 / 25 CVapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.</ethylene>	Melting point	: <-5 C
Explosion limits: Not applicable.[ Lower flammable limit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]Density: 1.04±0.03 / 25 CVapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.</ethylene>	Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
[ Lower flammable limit / 3.2%, Upper flammable limit / 15.3% <ethylene glycol=""> ]Density: 1.04±0.03 / 25 CVapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.</ethylene>	Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Density: 1.04±0.03 / 25 CVapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.	Explosion limits	: Not applicable.
Vapour density (air=1): Not available. [Ethylene glycol/ 2.1]Solubulity in water: Soluble.Evaporation rate: Not available.	[ Lower flammable li	mit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]</ethylene>
Solubulity in water: Soluble.Evaporation rate: Not available.	Density	: 1.04±0.03 / 25 C
Evaporation rate : Not available.	Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
	Solubulity in water	: Soluble.
Volatile : 80-83%	Evaporation rate	: Not available.
	Volatile	: 80-83%

### **10. STABILITY AND REACTIVITY**

Stability Hazardous reactions	: Stability. : Will not occur.	
Conditions to avoid	: Avoid heat, flames, sp Avoid contact with in	barks and other sources of ignition. compatible materials.
Materials to avoid oxidizing materials oxidizing materials, l reducing agents, met		nents.) Coloring agent / Resin Ethylene glycol
Hazardous decomposi oxides of carbon, wat oxides of nitrogen, ac halogenated compour miscellaneous decom	er id halides, nds.	nformation of components.) common decomposition products Coloring agent Resin

#### 11.TOXICOLOGICAL INFORMATION

#### (Information of components)

Acute toxicity			
Ingestion LD50	>5000mg/kg-Rat	Coloring agent	
-	1650mg/kg-Cat,	Ethylene glycol	
	4700mg/kg-Rat		
Inhalation LC50	Not available.		
Skin LD50	9530uL/kg-Rabbit	Ethylene glycol	
Local effects	Irritant;inhalation, skin, eye	Ethylene glycol	
Chronic toxicity and lo	ng term toxicity		
The substance may have effects on the central nervous system, resulting in abnormal eye movements (nystagmus).		Ethylene glycol	
-j, - obuiting in ubi	(injotaginab)		

#### Inhalation irritation Coloring agent headache,nausea Resin Ethylene glycol irritation, cough Skin contact irritation Resin irritation,dry Ethylene glycol Eye contact irritation Coloring agent / Resin Ethylene glycol irritation, redness Ingestion Coloring agent / Ethylene glycol nausea, vomiting digestive discomfort Resin Specific effects Not available.

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

### **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 : 960820

#### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Ethylene glycol
EU labeling 25%<=Xn;R22 R22: Harmful if swallowed.	: Ethylene glycol
CANADA Hazardous Products Act - In 1%over	gredient Disclosure List : 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 : (February 20, 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: PM-122 Brown [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011115A Rev. 2.5.04.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Coloring agents	Registered	Registered	Registered	< 10
Carbon Black	1333-86-4	Registered	2156099	< 10
Resins	Registered	Registered	Polymer	< 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.

<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 product : about 5.8g]

#### -PM-122 Brown-

#### ..... 5. FIRE-FIGHTING MEASURES

Fire and explosior	n 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.	
	Move container from fire area if it can be done without risk.	
	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	5.
Precautions	: Not available.	
Safe handling advice	: Not available.	
Storage:		
Technical measures	: Keep away from oxidizing mater	ials, ignition sources and
	high temperature.	
Storage condition	: Avoid direct sunlight.	
_	: Do not leave the products in high	n temperature space.
	: Recommended temperature: 0-30	) C.
Incompatible products	: (Information of components.)	
oxidizing materials		Coloring agent / Resin
oxidizing materials, bas	ses, acids, reducing agents, metals	Ethylene glycol
oxidizing materials, hal	logens	Carbon Black
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	100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
	3.5mg/m3(total dust) TWA	Carbon Black
EC	52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin)	Ethylene glycol
	3.5mg/m3	Carbon Black
JAIH	2mg/m3(Respirable fraction), 8mg/m3(Total dust)	Coloring agent

Personal protective equipment : Not required.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

nponents.	]: Information o	[
nponents.	]: Information o	[

Physical state and form	: Low viscous liquid.
Colour	: Brown.
Odour	: None odour.
pH	: 8.8±0.7
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-5 C
Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Explosion limits	: Not applicable.
[ Lower flammable li	mit / 3.2%, Upper flammable limit / 15.3% <ethylene glycol="">]</ethylene>
Density	: 1.04±0.03 / 25 C
Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
Solubulity in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 81-84%

#### **10. STABILITY AND REACTIVITY**

Stability : Stability.					
Hazardous reactions : Will not occur.					
	Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.				
Materials to avoid : (Information of	components.)				
oxidizing materials	Coloring agent / Resin				
oxidizing materials, bases, acids,	Ethylene glycol				
reducing agents, metals					
oxidizing materials, halogens	Carbon Black				
Hazardous decomposition products	: (Information of components.)				
oxides of carbon, water	common decomposition products				
oxides of nitrogen, acid halides,	Coloring agent				
halogenated compounds.					
miscellaneous decomposition products.	Resin				
oxides of sulfur.	Carbon Black				

### 11.TOXICOLOGICAL INFORMATION

(	)	
Acute toxicity		
Ingestion LD50	>=5000mg/kg-Rat	Coloring agent
	1650mg/kg-Cat,	Ethylene glycol
	4700mg/kg-Rat	
	>10000mg/kg-Rat	Carbon Black
Inhalation LC50	Not available.	
Skin LD50	9530uL/kg-Rabbit	Ethylene glycol
	>3000mg/kg-Rabbit	Carbon Black
Local effects	Irritant;inhalation, skin, eye	Ethylene glycol
	Irritant;inhalation, skin	Carbon Black
Chronic toxicity and		
5	ave effects on the central nervous bnormal eye movements (nystagmus).	Ethylene glycol
Respiratory disorders		Carbon Black
Signs and Symptos	of overexposure and aggravated by	y exposure
Inhalation	irritation	Coloring agent / Carbon Black
	headache,nausea	Resin
	irritation,cough	Ethylene glycol
Skin contact	redness,swelling	Coloring agent
	irritation	Resin / Carbon Black
	irritation,dry	Ethylene glycol
Eye contact	irritation	Resin
-	irritation,redness	Ethylene glycol
	mechanical irritation,	Carbon Black
	discoloration of lids	
Ingestion	nausea,vomiting	Coloring agent / Ethylene glycol
	digestive discomfort	Resin
Specific effects	IARC Group 2B	Carbon Black

#### (Information of components)

## **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 : 960820

### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Ethylene glycol / Carbon Black		
EU labeling 25%<=Xn;R22 R22: Harmful if swallowed.	: Ethylene glycol		
CANADA Hazardous Products Act - In 1%over	gredient Disclosure List : Ethylene glycol / Carbon Black		
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.			
6 ΟΤΉΕΡ ΙΝΕΟΡΜΑΤΙΟΝ			

## 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 : (February 20, 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.

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# Safety data sheet for chemical products

#### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Product name: PM-122 Yellow [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011116A Rev. 2.5.04.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Coloring agents	Registered	Registered	Registered	< 10
Resins	Registered	Registered	Polymer	< 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 : 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 product : about 5.8g]

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### **5. FIRE-FIGHTING MEASURES**

Fire and explosion Exitinguishing me	n measures 🛛 : Slight fire hazard. edia:			
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.			
	Move container from fire area if it can be done without risk.			
	Use extinguishing agents appropriate for surrounding fire.			
	Avoid inhalation of material or combustion by-products.			
Stay upwind and keep out of low areas.				
Suitable Large fires	<ul> <li>Regular dry chemical, carbon dioxide, water, regular foam.</li> <li>Use regular foam or flood with fine water spray.</li> <li>The Products is no flammable. Move container from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.</li> </ul>			

### 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:

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Technical measures	: Don't swallow ink.		
	: Recap after use.		
	: Don't shake.		
	: Keep out of the reach of children	1.	
	: Avoid contact with skin and eyes	S.	
Precautions	: Not available.		
Safe handling advice	: Not available.		
Storage:			
Technical measures	: Keep away from oxidizing mater	rials, ignition sources and	
	high temperature.	-	
Storage condition	: Avoid direct sunlight.		
3	: Do not leave the products in high	h temperature space.	
	: Recommended temperature: 0-3	0 C.	
Incompatible products	: (Information of components.)		
oxidizing materials	-	Coloring agent / Resin	
oxidizing materials, bas	ses, 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	Not available.	
ACGIH	100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
EC	52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin)	Ethylene glycol
JAIH	2mg/m3(Respirable fraction),	Coloring agent
JAIII	8mg/m3(Total dust)	

Personal protective equipment : Not required.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### [ ]: Information of components.

	-
Physical state and form	: Low viscous liquid.
Colour	: Yellow.
Odour	: None odour.
pH	$: 8.8 \pm 0.7$
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-5 C
Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Explosion limits	: Not applicable.
[ Lower flammable li	mit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]</ethylene>
Density	: 1.04±0.03 / 25 C
Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
Solubulity 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 compone	ents.)		
oxidizing materials		Coloring agent / Resin		
oxidizing materials, reducing agents, met		Ethylene glycol		
Hazardous decomposi	tion products : (Inf	ormation of components.)		
oxides of carbon, wat	er	common decomposition products		
oxides of nitrogen, ac	cid halides.	Coloring agent		
halogenated compour	nds.			
miscellaneous decom	position products.	Resin		

### **11.TOXICOLOGICAL INFORMATION**

#### (Information of components)

Acute toxicity			
Ingestion LD50	>5000mg/kg-Rat	Coloring agent	
_	1650mg/kg-Cat,	Ethylene glycol	
	4700mg/kg-Rat		
Inhalation LC50	Not available.		
Skin LD50	9530uL/kg-Rabbit	Ethylene glycol	
Local effects	Irritant;inhalation, skin, eye	Ethylene glycol	
Chronic toxicity and lo	ng term toxicity		
The substance may have	e effects on the central nervous	Ethylene glycol	
system, resulting in abnormal eye movements (nystagmus).			

#### Inhalation irritation Coloring agent headache,nausea Resin irritation, cough Ethylene glycol Skin contact irritation Resin irritation,dry Ethylene glycol Eye contact irritation Resin irritation, redness Ethylene glycol Ingestion Coloring agent / Ethylene glycol nausea, vomiting digestive discomfort Resin Specific effects Not available.

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

### **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 : 960820

#### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Ethylene glycol
EU labeling 25%<=Xn;R22 R22: Harmful if swallowed.	: Ethylene glycol
CANADA Hazardous Products Act - Ir 1%over	ngredient Disclosure List : 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 : (February 20, 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: PM-122 Violet [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011117A Rev. 2.5.04.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50-80
Resins	Registered	Registered	Polymer	10- 30
Coloring agent	Registered	Registered	Registered	< 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 : 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 product : about 5.8g]

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### 5. FIRE-FIGHTING MEASURES

# 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:

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Technical measures : Don't swallow ink.		
	: Recap after use.	
	: Don't shake.	
	: Keep out of the reach of children	n.
	: Avoid contact with skin and eye	s.
Precautions	: Not available.	
Safe handling advice	: Not available.	
Storage:		
Technical measures	: Keep away from oxidizing mate	rials, ignition sources and
	high temperature.	0
Storage condition	: Avoid direct sunlight.	
0	: Do not leave the products in hig	h temperature space.
	: Recommended temperature: 0-3	
Incompatible products	: (Information of components.)	
oxidizing materials	· ()	Resin / Coloring agent
e	ses, 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	Not available.	
ACGIH	100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
EC	52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin)	Ethylene glycol
JAIH	2mg/m3(Respirable fraction), 8mg/m3(Total dust)	Coloring agent

Personal protective equipment : Not required.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### [ ]: Information of components.

Physical state and form	: Low viscous liquid.
Colour	: Violet.
Odour	: None odour.
pН	: 8.8±0.7
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-5 C
Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Explosion limits	: Not applicable.
[ Lower flammable li	mit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]</ethylene>
Density	: 1.04±0.03 / 25 C
Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
Solubulity in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 78-81%

### **10. STABILITY AND REACTIVITY**

Stability	: Stability.	
Hazardous reactions	: Will not occur.	
Conditions to avoid	: Avoid heat, flames, spar Avoid contact with incon	ks and other sources of ignition. Ipatible materials.
Materials to avoid	: (Information of component	nts.)
oxidizing materials		Resin / Coloring agent
oxidizing materials,	bases, acids,	Ethylene glycol
reducing agents, met	tals	
Hazardous decomposi	ition products : (Info	rmation of components.)
oxides of carbon, wat	ter	common decomposition products
miscellaneous decom	position products.	Resin / Coloring agent

## 11.TOXICOLOGICAL INFORMATION

#### (Information of components)

Acute toxicity			
Ingestion LD50	>=5000mg/kg-Rat	Coloring agent	
-	1650mg/kg-Cat,	Ethylene glycol	
	4700mg/kg-Rat		
Inhalation LC50	Not available.		
Skin LD50	9530uL/kg-Rabbit	Ethylene glycol	
Local effects	Irritant;inhalation, skin, eye	Ethylene glycol	
Chronic toxicity and lo	ong term toxicity		
The substance may have	e effects on the central nervous	Ethylene glycol	
system, resulting in abnormal eye movements (nystagmus).			

#### Inhalation headache,nausea Resin irritation Coloring agent Ethylene glycol irritation, cough Skin contact Resin irritation irritation,dry Ethylene glycol Eye contact irritation Resin irritation, redness Ethylene glycol Ingestion digestive discomfort Resin nausea, vomiting Ethylene glycol Specific effects Not available.

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

### **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 : 960820

#### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Ethylene glycol
EU labeling 25%<=Xn;R22 R22: Harmful if swallowed.	: Ethylene glycol
CANADA Hazardous Products Act - In 1%over	gredient Disclosure List : 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 : (February 20, 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: PM-122 Orange [PROCKEY]

Address	: MITSUBISHI PENCIL CO.,LTD. : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN : 03-3458-6281 Telefax number : 03-3450-0363 : 2422337 MBPENC J.
Creation Date	: July 2, 2001
Revision Date	: February 20, 2006
File No.	: 011118A Rev. 2.5.04.02

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature:	Component pa	arts : Ink		
Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50-80
Coloring agents	Registered	Registered	Registered	< 10
Resins	Registered	Registered	Polymer	< 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 : 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 product : about 5.8g]

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### 5. FIRE-FIGHTING MEASURES

Fire and explosion Exitinguishing mee	measures : Slight fire hazard. dia:
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.
	Move container from fire area if it can be done without risk.
	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:

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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	5.	
Precautions	:	Not available.		
Safe handling advice	:	Not available.		
Storage:				
Technical measures : Keep away from oxidizing materia		ials, ignition sources and		
		high temperature.	-	
Storage condition		Avoid direct sunlight.		
<u> </u>	:	Do not leave the products in high	n temperature space.	
	:	Recommended temperature: 0-30	) C.	
Incompatible products	:	(Information of components.)		
oxidizing materials			Coloring agent / Resin	
oxidizing materials, bas	ses,	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	Not available.	
ACGIH	100mg/m3 ceiling (particulate)(aerosol)	Ethylene glycol
EC	52mg/m3(20ppm) TWA, 104mg/m3(40ppm) STEL(skin)	Ethylene glycol
JAIH	2mg/m3(Respirable fraction), 8mg/m3(Total dust)	Coloring agent

Personal protective equipment : Not required.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### [ ]: Information of components.

Physical state and form	: Low viscous liquid.
Colour	: Orange.
Odour	: None odour.
pH	: 8.8±0.7
Boiling point	: Not available. [Water/ 100 C]
Melting point	: <-5 C
Flash point	: Not applicable. [Ethylene glycol/ 111 C(CC)]
Autoignition temperature	: Not applicable. [Ethylene glycol/ 398 C]
Explosion limits	: Not applicable.
[ Lower flammable lin	mit / 3.2% , Upper flammable limit / 15.3% <ethylene glycol=""> ]</ethylene>
Density	: 1.04±0.03 / 25 C
Vapour density (air=1)	: Not available. [Ethylene glycol/ 2.1]
Solubulity in water	: Soluble.
Evaporation rate	: Not available.
Volatile	: 82-85%

### **10. STABILITY AND REACTIVITY**

Stability : Stability. Hazardous reactions : Will not occur	r.
	ames, sparks and other sources of ignition. with incompatible materials.
Materials to avoid : (Information of oxidizing materials oxidizing materials, bases, acids, reducing agents, metals	of components.) Coloring agent / Resin Ethylene glycol
Hazardous decomposition products oxides of carbon, water oxides of nitrogen, acid halides, halogenated compounds. miscellaneous decomposition products	: (Information of components.) common decomposition products Coloring agent s. Resin

## 11.TOXICOLOGICAL INFORMATION

#### (Information of components)

Acute toxicity				
Ingestion LD50	>=5000mg/kg-Rat	Coloring agent		
_	1650mg/kg-Cat,	Ethylene glycol		
	4700mg/kg-Rat			
Inhalation LC50	Not available.			
Skin LD50	9530uL/kg-Rabbit	Ethylene glycol		
Local effects Irritant;inhalation, skin, eye Ethylene glycol				
Chronic toxicity and long term toxicity				
The substance may have	e effects on the central nervous	Ethylene glycol		
system, resulting in abnormal eye movements (nystagmus).				

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

Inhalation	irritation	Coloring agent
	headache,nausea	Resin
	irritation,cough	Ethylene glycol
Skin contact	redness,swelling	Coloring agent
	irritation	Resin
	irritation,dry	Ethylene glycol
Eye contact	irritation	Resin
·	irritation,redness	Ethylene glycol
Ingestion	nausea,vomiting	Coloring agent / Ethylene glycol
	digestive discomfort	Resin
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 : 960820

### **15. REGULATORY INFORMATION**

Regulations (Information of components) Hazardous chemicals (OSHA HCS)	: Ethylene glycol	
EU labeling 25%<=Xn;R22 R22: Harmful if swallowed.	: Ethylene glycol	
CANADA Hazardous Products Act - In 1%over	gredient Disclosure List : 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 : (February 20, 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.