Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 White [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030101A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.
Specific hazards : Information of components.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:
Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes) Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.9g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : White.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 43-46%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Yellow [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030102A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.9g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Yellow.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 44-47%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Red [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030103A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.8g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Red.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 46-49%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Blue [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030104A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.8g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Blue.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 46-49%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
oxides of nitrogen, sulfur, copper.	Coloring agent

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	525mg/kg-Rat	Coloring agent
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-
	>2000mg/kg	Coloring agent

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Green [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030105A Rev. 2.5.24.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.8g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Green.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 46-49%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	>5000mg/kg-Rat	Coloring agent
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye — Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development.	Xylene
The liquid defats the skin. The substance may have	Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Pink [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030106A Rev. 2.5.22.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.9g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Pink.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 42-45%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Orange [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030107A Rev. 2.5.22.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.9g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Orange.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 42-45%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Light blue [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030108A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.9g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Light blue.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 45-48%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	525mg/kg-Rat,	Coloring agent
	>5000mg/kg-Rat	
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-
	>2000mg/kg	Coloring agent

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Light green [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030109A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.9g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	: Take/Soak up with absorbent.
	: 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.
	: Keep out of the reach of children.
	: Avoid contact with skin and eyes.
Precautions	: Use only in well-ventilated areas.
	: Don't breathe the vapor.
Safe handling advice	: Not available.

Storage:

Technical measures	: Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	: Avoid direct sunlight.
	: Keep away from heat sources.
	: Recommended temperature: 0-30 C.
Incompatible products	: (Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Packaging materials : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Light green.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 44-47%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	>5000mg/kg-Rat	Coloring agent
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Violet [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030110A Rev .2.5.22.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.8g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Violet.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 45-48%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	525mg/kg-Rat	Coloring agent
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-
	>2000mg/kg	Coloring agent

Local effects	Irritant;inhalation, skin, eye	Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development.	Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Brown [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030111A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.8g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Brown.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 44-47%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	>2000mg/kg	Coloring agent
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-
	>2000mg/kg	Coloring agent

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Grey [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030112A Rev. 2.5.23.05

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%)
Titanium dioxide	13463-67-7	Registered	2366755	30- 50
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes) Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.

[Ink quantity of product : about 3.8g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	10mg/m3 TWA	Titanium dioxide
	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Grey.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.3 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 45-48%

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.)

metals	Titanium dioxide
oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>24000mg/kg-Rat	Titanium dioxide
	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	>2000mg/kg	Coloring agent
Inhalation LC50	>6820mg/m3-4H-Rat	Titanium dioxide
	5000ppm-4H-Rat	Xylene
Skin LD50	>10000mg/m3-Rabbit	Titanium dioxide
	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-
	>2000mg/kg	Coloring agent

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,cough	Titanium dioxide / Resin
	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation	Titanium dioxide / Resin / Coloring agent
	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation	Titanium dioxide / Coloring agent
	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Titanium dioxide / Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene

25%<=Xn;R20, F;R11 : Benzene, ethyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Black [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030113A Rev. 2.5.03.05

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%)
Xylenes	1330-20-7	Registered	2155357	50- 80
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resins	Registered	Registered	Polymer	10- 30
1-Propanol, 2-methyl-	78-83-1	Registered	2011480	< 10
Coloring agents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

<1-Propanol, 2-methyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes) Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 2.8g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
metals, oxidizing materials, combustible materials, metal salts	1-Propanol, 2-methyl-
strong oxidizers	Coloring agent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA 100ppm(300mg/m3) TWA	Xylene / Benzene, ethyl- 1-Propanol, 2-methyl-
ACGIH	100ppm TWA, 150ppm STEL 100ppm TWA, 125ppm STEL 50ppm TWA	Xylene Benzene, ethyl- 1-Propanol, 2-methyl-
EC	50ppm TWA, 100ppm STEL 100ppm TWA, 200ppm STEL	Xylene Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Black.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [1-Propanol, 2-methyl-/ 108 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [1-Propanol, 2-methyl-/ 415 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 0.9 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 70-73%

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.)

oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
metals, oxidizing materials, combustible materials, metal salts	1-Propanol, 2-methyl-
strong oxidizers	Coloring agent

Hazardous decomposition products : (Information of components.)

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

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	2460mg/kg-Rat	1-Propanol, 2-methyl-
	>2000mg/kg	Coloring agent
Inhalation LC50	5000ppm-4H-Rat	Xylene
Skin LD50	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-
	3400mg/kg-Rabbit	1-Propanol, 2-methyl-
	>2000mg/kg	Coloring agent

Local effects	Irritant;inhalation, skin, eye	Xylene / Benzene, ethyl- / 1-Propanol, 2-methyl- / Resin

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. — Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,nausea	Xylene / 1-Propanol, 2-methyl- / Resin
	irritation,cough	Resin
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
	irritation	Resin / Coloring agent
	irritation,redness	1-Propanol, 2-methyl-
Eye contact	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,redness	Resin / 1-Propanol, 2-methyl-
	irritation	Coloring agent
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-
	abdominal pain,headache	1-Propanol, 2-methyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging : Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

14. TRANSPORT INFORMATION

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Xylene / Benzene, ethyl- / 1-Propanol, 2-methyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10	: Xylene
25%<=Xn;R20, F;R11	: Benzene, ethyl-
Xi;R37/38-41, R67, R10	: 1-Propanol, 2-methyl-

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over	: Benzene, ethyl-
1%over	: 1-Propanol, 2-methyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Gold [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030114A Rev. 2.5.04.05

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%)
Xylenes	1330-20-7	Registered	2155357	30- 50
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Bronze powder	7440-66-6	Registered	2311753	10- 30
	7440-50-8	Registered	2311596	
Resin	Registered	Registered	Polymer	10- 30

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.
Specific hazards : Information of components.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

<1-Propanol, 2-methyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 3.7g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.
Incompatible products	:	(Information of components.)

oxidizing materials, combustible materials, acids, amines,	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
strong acids, oxidizing agents	Bronze powder
oxidizing materials	Resin

Packaging materials	:	Not applicable.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
ACGIH	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
	10mg/m3(Nuisance partuculate)	Resin
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Gold.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.2 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 47-50%

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.)

oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
strong acids, oxidizing agents	Bronze powder
oxidizing materials	Resin

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
Toxic fumes of zinc oxide.	Bronze powder
miscellaneous decomposition products.	

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
Inhalation LC50	5000ppm-4H-Rat	Xylene
Skin LD50	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects Irritant;inhalation, skin, eye Xylene / Benzene, ethyl-

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development. Xylene

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,nausea	Xylene
	irritation,difficulty breathing	Benzene, ethyl-
Skin contact	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
Eye contact	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
Ingestion	irritation,nausea	Xylene
	nausea,vomiting	Benzene, ethyl-

Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

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

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS) : Xylene / Benzene, ethyl-

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene
25%<=Xn;R20, F;R11 : Benzene, ethyl-
R10 : Bronze powder

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over : Benzene, ethyl-

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 : (January 5, 2007). They are given quite sincerely.
Moreover the attention of the users is drawn on the risks possibly taken, when a product is used for other utilization than these which it is intended.

Creation Date : May 14, 2001
Revision Date : Jan. 5, 2007

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-21 Silver [PAINT MARKER]

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 : May 14, 2001
Revision Date : Jan. 5, 2007
File No. : 030115A Rev. 2.5.02.05

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%)
Xylenes	1330-20-7	Registered	2155357	50- 80
(Benzene, ethyl-)	100-41-4	Registered	2028494	
Resin	Registered	Registered	Polymer	10- 30
Aluminum paste	7429-90-5	Registered	2310723	10- 30
Petroleum solvents	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.

<Xylene><Benzene, ethyl->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

<Aluminum paste>
MAJOR HEALTH HAZARDS: Causes respiratory tract irritation. May be iritating to skin and eyes. May cause convulsions.
PHYSICAL HAZARDS: Extremely flammable. May catch fire if exposed to air. May form flammable or explosive dust-air mixtures. May react with water.

4. FIRST-AID MEASURES

Inhalation:
Remove from exposure area to fresh air immediately. Give artificial respiration if not breathing. Treat symptomatically and supportively. Get medical attention immediately.

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:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. (at least 15-20 minutes)
Get medical attention immediately.

Ingestion:

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately, and show the MSDS to the physician then.
[Ink quantity of product : about 2.9g]

5. FIRE-FIGHTING MEASURES

Exitinguishing media:

Suitable	: regular dry chemical, carbon dioxide, water, regular foam
Large fires	: Use regular foam or flood with fine water spray.
Fire fighting	: 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	:	Take/Soak up with absorbent.
	:	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.
	:	Keep out of the reach of children.
	:	Avoid contact with skin and eyes.
Precautions	:	Use only in well-ventilated areas.
	:	Don't breathe the vapor.
Safe handling advice	:	Not available.

Storage:

Technical measures	:	Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition	:	Avoid direct sunlight.
	:	Keep away from heat sources.
	:	Recommended temperature: 0-30 C.

Incompatible products : (Information of components.)

oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
acids, bases, oxidizing materials	Petroleum solvent

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Local exhaust ventilation system are not required, but recommended.

Control parameters (Information of components.)

OSHA	100ppm(435mg/m3) TWA	Xylene / Benzene, ethyl-
	15mg/m3(total dust), 5mg/m3(respirable fraction), 5mg/m3 (pyro powders)	Aluminum paste
	5mg/m3	Petroleum solvent
ACGIH	100ppm TWA, 150ppm STEL	Xylene
	100ppm TWA, 125ppm STEL	Benzene, ethyl-
	10mg/m3(Nuisance partuculate)	Resin
	10mg/m3 TWA(metal perticulate), 5mg/m3 TWA(pyro powders)	Aluminum paste
	5mg/m3 TWA, 10mg/m3 STEL	Petroleum solvent
EC	50ppm TWA, 100ppm STEL	Xylene
	100ppm TWA, 200ppm STEL	Benzene, ethyl-

Personal protective equipment : General persons are not required, but alcohol allergy persons recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Colour : Silver.
Odour : Aromatic odour.
pH : Not applicable.
Boiling point : Not available. [Benzene, ethyl-/ 136 C]
Melting point : Not available.
Flash point : Not available. [Benzene, ethyl-/ 15 C(CC)]
Autoignition temperature : Not available. [Benzene, ethyl-/ 432 C]
Explosion limits : Not applicable.
[Lower flammable limit / 0.8% , Upper flammable limit / 6.7% <Benzene, ethyl->]
Density : about 1.0 / 25 C
Vapour density (air=1) : Not available. [Benzene, ethyl-/ 3.7]
Solubility in water : Not available. [Benzene, ethyl-/ 0.015%]
Evaporation rate : Not available. [Xylene/ 0.6]
Volatile : 66-69%

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.)

oxidizing materials, combustible materials, acids, amines, bases	Xylene
acids, bases, oxidizing materials, combustible materials	Benzene, ethyl-
oxidizing materials	Resin
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
acids, bases, oxidizing materials	Petroleum solvent

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
hydrocarbon gases, oxides of aluminum.	Aluminum paste
aldehyde.	Petroleum solvent

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	2119mg/kg-Mouse	Xylene
	3500mg/kg-Rat	Benzene, ethyl-
	>5000mg/kg-Rat	Aluminum paste
	>=5000mg/kg-Rat	Petroleum solvent
Inhalation LC50	5000ppm-4H-Rat	Xylene
Skin LD50	>1700mg/kg-Rabbit	Xylene
	17800uL/kg-Rabbit	Benzene, ethyl-

Local effects	Irritant;inhalation, skin, eye	Xylene / Benzene, ethyl- / Petroleum solvent
	Irritant;inhalation	Aluminum paste

Chronic toxicity and long term toxicity

The liquid defats the skin. The substance may have effects on the central nervous system. Exposure to the substance may enhance hearing damage caused by exposure to noise. Animal tests show that this substance possibly causes toxicity to human reproduction or development.	Xylene
Lungs may be affected by repeated or prolonged exposure to dust particules. The substance may have effects on the nervous system, resulting in impaired functions.	Aluminum paste

Signs and Symptos of overexposure and aggravated by exposure

Inhalation	irritation,nausea	Xylene / Petroleum solvent
	irritation,difficulty breathing	Benzene, ethyl-
	irritation,cough	Aluminum paste
Skin contact	irritation,blisters	Xylene
	irritation,absorption	Benzene, ethyl-
	irritation,itching	Aluminum paste
	irritation,skin disorder	Petroleum solvent

Eye contact	irritation,burn	Xylene
	irritation,tearing	Benzene, ethyl-
	irritation,eye damage	Aluminum paste
	irritation	Petroleum solvent
Ingestion	irritation,nausea	Xylene / Petroleum solvent
	nausea,vomiting	Benzene, ethyl-
	irritation,digestive disorders	Aluminum paste
Specific effects	IARC Group 3	Xylene
	IARC Group 2B	Benzene, ethyl-

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) : Xylene / Benzene, ethyl- / Aluminum paste / Petroleum solvent

EU labeling

12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10	: Xylene
25%<=Xn;R20, F;R11	: Benzene, ethyl-
F;R15-17	: Aluminum paste
10%<=Xn;R65	: Petroleum solvent

CANADA Hazardous Products Act - Ingredient Disclosure List

0.1%over	: Benzene, ethyl-
1%over	: Aluminum paste / Petroleum solvent

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 : (January 5, 2007). 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.