Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 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.: 030184A

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation
Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes (Benzene, ethyl-)</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>Resins</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
</tbody>
</table>

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.
5. FIRE-FIGHTING MEASURES

Extinguishing 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:
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.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>ACGIH</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>100ppm(435mg/m3) TWA</td>
<td>10mg/m3 TWA</td>
<td>50ppm TWA, 100ppm STEL</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>100ppm TWA, 200ppm STEL</td>
</tr>
</tbody>
</table>

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.)
                    Titanium dioxide
                    Xylene
                    Benzene, ethyl-
                    Resin

Hazardous decomposition products: (Information of components.)
                    oxides of carbon, water
                    common decomposition products

-PX-20 White-
11. TOXICOLOGICAL INFORMATION

(IInformation of components)

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>LD50</th>
<th></th>
<th>Inhalation</th>
<th>LC50</th>
<th></th>
<th>Skin</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
<td>LC50</td>
<td></td>
<td></td>
<td>LD50</td>
<td></td>
</tr>
<tr>
<td>&gt;24000mg/kg-Rat</td>
<td></td>
<td></td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td></td>
<td></td>
<td>&gt;10000mg/m3-Rabbit</td>
<td></td>
</tr>
<tr>
<td>2119mg/kg-Mouse</td>
<td></td>
<td></td>
<td>5000ppm-4H-Rat</td>
<td></td>
<td></td>
<td>&gt;1700mg/kg-Rabbit</td>
<td></td>
</tr>
<tr>
<td>3500mg/kg-Rat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17800uL/kg-Rabbit</td>
<td></td>
</tr>
</tbody>
</table>

Local effects

Irritant; inhalation, skin, eye

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.

Signs and Symptoms of overexposure and aggravated by exposure

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Irritation, cough</th>
<th>Irritation, absorption</th>
<th>Irritation, difficulty breathing</th>
<th>Irritation, nausea</th>
<th>Irritation, redness</th>
<th>Irritation, burning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin contact</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye contact</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific effects

IARC Group 3
IARC Group 2B

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging: Not applicable.

-PX-20 White-
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.

-PX-20 White-
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Yellow [PAINT MARKER]
Manufacturers name: MITSUBISHI PENCIL CO., LTD.
Address: 5-23-37, HIGASHIOHJI, SHINAGAWA, TOKYO, JAPAN
Telephone number: 03-3458-6281
Telex number: 2422337 MBPENCJ
Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030185

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation
Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
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<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td>Registered</td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agent</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
<td>10</td>
</tr>
</tbody>
</table>

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 8.5g]

5. FIRE-FIGHTING MEASURES

Extinquishing 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:
metals : (Information of components.)
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
oxidizing materials
Packaging materials : Not applicable.

-PX-20 Yellow-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>100ppm(435mg/m3) TWA</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>10mg/m3 TWA</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
<tr>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
<tr>
<td>100ppm TWA, 125ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EC</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
<tr>
<td>100ppm TWA, 200ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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 applicable. [Benzene, ethyl-/ 136 C]
Melting point: Not applicable. [Benzene, ethyl-/ 15 C(CC)]
Flash point: Not applicable. [Benzene, ethyl-/ 432 C]
Autoignition temperature: Not applicable. [Benzene, ethyl-/ 15 C(CC)]
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.)

<table>
<thead>
<tr>
<th>Metals</th>
<th>Oxidizing materials, combustible materials, acids, amines, bases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>Resin</td>
<td></td>
</tr>
</tbody>
</table>

Hazardous decomposition products: (Information of components.)

<table>
<thead>
<tr>
<th>Oxides of carbon, water</th>
<th>Common decomposition products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxides of nitrogen</td>
<td>Coloring agent</td>
</tr>
</tbody>
</table>

-PX-20 Yellow-
11. TOXICOLOGICAL INFORMATION

(I Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th></th>
<th>Ingestion LD50</th>
<th>Inhalation LC50</th>
<th>Skin LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>24000mg/kg-Rat</td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td>&gt;10000mg/m3-Rabbit</td>
</tr>
<tr>
<td></td>
<td>2119mg/kg-Mouse</td>
<td>5000ppm-4H-Rat</td>
<td>&gt;1700mg/kg-Rabbit</td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

Local effects

Irritant; inhalation, skin, eye

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.

Signs and Symptoms of overexposure and aggravated by exposure

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Eye contact</th>
<th>Ingestion</th>
<th>Specific effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>irritation,cough</td>
<td>irritation</td>
<td>irritation,blisters</td>
<td>irritation,nausea</td>
<td>IARC Group 3</td>
</tr>
<tr>
<td></td>
<td>irritation,nausea</td>
<td>irritation,absorption</td>
<td>irritation,burn</td>
<td>nausea,vomiting</td>
<td>IARC Group 2B</td>
</tr>
<tr>
<td></td>
<td>irritation,difficulty breathing</td>
<td>Xylene / Benzene, ethyl-</td>
<td>irritation,tearing</td>
<td>Xylene</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>Titanium dioxide / Resin</td>
<td>Xylene</td>
<td>Titanium dioxide / Coloring agent</td>
<td>Xylene, ethyl-</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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) : 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

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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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Red [PAINT MARKER]

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

Creation Date: May 14, 2001
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<th>EINECSNo.</th>
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<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td></td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agents</td>
<td></td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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

3. HAZARDS IDENTIFICATION

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

<Xylenes><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.

-PX-20 Red-
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 8.2g]

5. FIRE-FIGHTING MEASURES

Extinguishing 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
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
oxidizing materials
strong oxidizers
Titanium dioxide
Xylene
Benzene, ethyl-
Resin
Coloring agent
Packaging materials : Not applicable.

-PX-20 Red-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>100ppm(435mg/m3) TWA</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>10mg/m3 TWA</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
<tr>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
<tr>
<td>100ppm TWA, 125ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EC</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
<tr>
<td>100ppm TWA, 200ppm STEL</td>
<td>Xylene / Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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

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

-PX-20 Red-
11. TOXICOLOGICAL INFORMATION

(I Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion LD50</th>
<th>&gt;24000mg/kg-Rat</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>2119mg/kg-Mouse</td>
<td>3500mg/kg-Rat</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation LC50</th>
<th>&gt;6820mg/m3-4H-Rat</th>
<th>Titanium dioxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000ppm-4H-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin LD50</th>
<th>&gt;10000mg/m3-Rabbit</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>1700mg/kg-Rabbit</td>
<td>17800uL/kg-Rabbit</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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.

Signs and Symptoms of overexposure and aggravated by exposure

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Irritation, cough</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irritation, nausea</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>Irritation, difficulty breathing</td>
<td>Xylene</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>Irritation</th>
<th>Resin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irritation, blisters</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td></td>
<td>Irritation, absorption</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Irritation</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irritation, burn</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td></td>
<td>Irritation, tearing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irritation, redness</td>
<td>Resin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>Irritation, nausea</th>
<th>Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nausea, vomiting</td>
<td></td>
</tr>
</tbody>
</table>

Specific effects | IARC Group 3 | Xylene |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC Group 2B</td>
<td>Benzene, ethyl-</td>
<td></td>
</tr>
</tbody>
</table>

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) : 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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Blue [PAINT MARKER]

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

Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030186A

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td></td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agents</td>
<td></td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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

3. HAZARDS IDENTIFICATION

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

<Xylenes><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.

-PX-20 Blue-
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 8.2g]

5. FIRE-FIGHTING MEASURES

Exiting extinguishing 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
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
strong oxidizers
: Not applicable.
Titanium dioxide
Xylene
Benzene, ethyl-
Resin
Coloring agent

-PX-20 Blue-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
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<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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

-PX-20 Blue-
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.

Signs and Symptoms 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.
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

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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.

-PX-20 Blue-
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Green [PAINT MARKER]

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

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<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
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</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes (Benzene, ethyl-)</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>Resins</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Coloring agents</td>
<td></td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
</tbody>
</table>

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 8.2g)

5. FIRE-FIGHTING MEASURES

Extinguishing 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:
- Metals: Titanium dioxide
- Oxidizing materials: Xylene
- Combustible materials: Benzene, ethyl-
- Acids, bases, oxidizing materials: Resin
- Combustible materials: Oxidizing materials

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.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
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<tbody>
<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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

-PX-20 Green-
11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>LD50</th>
<th>Inhalation</th>
<th>LC50</th>
<th>Skin</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt;24000mg/kg-Rat</td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td>&gt;10000mg/m3-3-Rabbit</td>
<td>&gt;1700mg/kg-Rabbit</td>
<td>&gt;5000mg/kg-Rat</td>
</tr>
<tr>
<td></td>
<td>2119mg/kg-Mouse</td>
<td>5000ppm-4H-Rat</td>
<td>&gt;1700mg/kg-Rabbit</td>
<td>3500mg/kg-Rat</td>
<td>&gt;5000mg/kg-Rat</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
<td>Xylene</td>
<td>Xylene</td>
<td>Xylene</td>
<td>Xylene</td>
</tr>
</tbody>
</table>

Local effects

Irritant; inhalation, skin, eye

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.
- The liquid defats the skin. The substance may have

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>Sign and Symptos of overexposure and aggravated by exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irritation, cough, irritation, nausea, difficulty breathing</td>
</tr>
<tr>
<td></td>
<td>Irritation, blisters, irritation, absorption</td>
</tr>
<tr>
<td></td>
<td>Irritation, burn, irritation, tearing, irritation, redness</td>
</tr>
<tr>
<td></td>
<td>Irritation, nausea, vomiting, nausea, vomiting</td>
</tr>
<tr>
<td></td>
<td>Irritation, absorption</td>
</tr>
</tbody>
</table>

Specific effects

- IARC Group 3
- IARC Group 2B

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging: Not applicable.

-PX-20 Green-
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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Pink [PAINT MARKER]

Manufacture's name: MITSUBISHI PENCIL CO., LTD.
Address: 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number: 03-3458-6281
Telex number: 2422337 MBPENC J.
Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030189

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td>30-50</td>
</tr>
<tr>
<td>Resins</td>
<td></td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agent</td>
<td></td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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 8.5g]

5. FIRE-FIGHTING MEASURES

Extinguishing 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
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
oxidizing materials
strong oxidizers

Packaging materials : Not applicable.

-Titanium dioxide
-Xylene
-Benzene, ethyl-
-Resin
-Coloring agent
-PX-20 Pink-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

| 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.
PHT: 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

-PX-20 Pink-
11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>LD50</th>
<th>Inhalation</th>
<th>LC50</th>
<th>Skin</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt;24000mg/kg-Rat</td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td>&gt;10000mg/m3-Rabbit</td>
<td>&gt;10000mg/m3-Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2119mg/kg-Mouse</td>
<td>5000ppm-4H-Rat</td>
<td>&gt;10000mg/m3-Rabbit</td>
<td>&gt;10000mg/m3-Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3500mg/kg-Rat</td>
<td>4H-Rat</td>
<td>&gt;10000mg/m3-Rabbit</td>
<td>&gt;10000mg/m3-Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
<td>Xylene</td>
<td>Xylene</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Benzene, ethyl-</td>
<td>Xylene</td>
<td>Xylene</td>
<td>Xylene</td>
<td></td>
</tr>
</tbody>
</table>

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.

Signs and Symptoms of overexposure and aggravated by exposure

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Irritation, cough</th>
<th>Irritation, nausea</th>
<th>Irritation, difficulty breathing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin contact</td>
<td>Irritation</td>
<td>Irritation, blisters</td>
<td>Irritation, absorption</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Irritation</td>
<td>Irritation, burn</td>
<td>Irritation, tearing</td>
</tr>
<tr>
<td></td>
<td>Irritation</td>
<td>Irritation, redness</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>Irritation, nausea</td>
<td>Nausea, vomiting</td>
<td></td>
</tr>
<tr>
<td>Specific effects</td>
<td>IARC Group 3</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IARC Group 2B</td>
<td>Benzene, ethyl-</td>
<td></td>
</tr>
</tbody>
</table>

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) : 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.
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Orange [PAINT MARKER]

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

Creation Date: May 14, 2001  Revision Date: Jan. 5, 2007  File No.: 030190

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
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<td>Xylenes</td>
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<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td>Registered</td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agents</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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.

-PX-20 Orange-
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.

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
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
oxidizing materials
Packaging materials : Not applicable.

Titanium dioxide
Xylene
Benzene, ethyl-
Resin

-PX-20 Orange-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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.)

<table>
<thead>
<tr>
<th>Metals</th>
<th>(Information of components.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td>Oxidizing materials, combustible materials, acids, amines, bases</td>
<td>Xylene</td>
</tr>
<tr>
<td>Acids, bases, oxidizing materials, combustible materials</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>Oxidizing materials</td>
<td>Resin</td>
</tr>
</tbody>
</table>

Hazardous decomposition products: (Information of components.)

<table>
<thead>
<tr>
<th>Oxides of carbon, water</th>
<th>Common decomposition products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxides of nitrogen</td>
<td>Coloring agent</td>
</tr>
</tbody>
</table>

-PX-20 Orange-
## 11. TOXICOLOGICAL INFORMATION

### (Information of components)

**Acute toxicity**

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th>LC50</th>
<th>Toxicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>&gt;24000mg/kg-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2119mg/kg-Mouse</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3500mg/kg-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5000ppm-4H-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>&gt;10000mg/m3-Rabbit</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;1700mg/kg-Rabbit</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17800uL/kg-Rabbit</td>
<td>Xylene</td>
<td></td>
</tr>
</tbody>
</table>

**Local effects**

- Irritant; inhalation, skin, eye

**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.

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

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
<th>Toxicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>irritation, cough</td>
<td>Titanium dioxide / Resin</td>
</tr>
<tr>
<td></td>
<td>irritation, nausea</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>irritation, difficulty breathing</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>Skin</td>
<td>irritation</td>
<td>Titanium dioxide / Resin / Coloring agent</td>
</tr>
<tr>
<td></td>
<td>irritation, blisters</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>irritation, absorption</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>Eye</td>
<td>irritation</td>
<td>Titanium dioxide / Coloring agent</td>
</tr>
<tr>
<td></td>
<td>irritation, burn</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>irritation, tearing</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td></td>
<td>irritation, redness</td>
<td>Resin</td>
</tr>
<tr>
<td>Ingestion</td>
<td>irritation, nausea</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>nausea, vomiting</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

**Specific effects**

- IARC Group 3
- IARC Group 2B

---

## 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) : 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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Light blue [PAINT MARKER]

Manufacture’s name: MITSUBISHI PENCIL CO., LTD.
Address: 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number: 03-3458-6281
Telex number: 2422337 MBPENCJ.

Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030191

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2026494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td>Registered</td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agents</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

Other parts: Other parts are excluded from ‘chemical substances’.

3. HAZARDS IDENTIFICATION

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

<Xylenes><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.
5. FIRE-FIGHTING MEASURES

Exiting extinguishing 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.
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:
metals: (Information of components.)
oxidizing materials: Xylene
combustible materials: Benzene, ethyl-
acids, amines, bases: Resin
strong oxidizers: Coloring agent

Packaging materials: Not applicable.

-PX-20 Light blue-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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.)
TD: Titanium dioxide
Xylene
Benzene, ethyl-
Resin
Coloring agent

Strong oxidizers
Acids, bases, oxidizing materials, combustible materials
Oxidizing materials

Hazardous decomposition products: (Information of components.)
TD: common decomposition products
Coloring agent

Xylenes of carbon, water
Xylenes of nitrogen.

-PX-20 Light blue-
### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

<table>
<thead>
<tr>
<th></th>
<th>Ingestion LD50</th>
<th>Inhalation LC50</th>
<th>Skin LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt;24000mg/kg-Rat</td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td>&gt;10000mg/m3-Rabbit</td>
</tr>
<tr>
<td></td>
<td>2119mg/kg-Mouse</td>
<td>5000ppm-4H-Rat</td>
<td>&gt;1700mg/kg-Rabbit</td>
</tr>
<tr>
<td></td>
<td>3500mg/kg-Rat</td>
<td>17800uL/kg-Rabbit</td>
<td>&gt;2000mg/kg</td>
</tr>
<tr>
<td></td>
<td>525mg/kg-Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;5000mg/kg-Rat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Local effects** Irritant; inhalation, skin, eye

**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.

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

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>irritation, cough</td>
</tr>
<tr>
<td></td>
<td>irritation, nausea</td>
</tr>
<tr>
<td></td>
<td>irritation, difficulty breathing</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Skin contact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>irritation</td>
</tr>
<tr>
<td></td>
<td>irritation, blisters</td>
</tr>
<tr>
<td></td>
<td>irritation, absorption</td>
</tr>
<tr>
<td></td>
<td>Titanium dioxide / Resin / Coloring agent</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Eye contact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>irritation</td>
</tr>
<tr>
<td></td>
<td>irritation, burn</td>
</tr>
<tr>
<td></td>
<td>irritation, tearing</td>
</tr>
<tr>
<td></td>
<td>irritation, redness</td>
</tr>
<tr>
<td></td>
<td>Titanium dioxide / Coloring agent</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td></td>
<td>Resin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>irritation, nausea</td>
</tr>
<tr>
<td></td>
<td>nausea, vomiting</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

**Specific effects**

IARC Group 3

IARC Group 2B

### 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) : 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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Light green [PAINT MARKER]

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

Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030192

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
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<td>Registered</td>
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<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td></td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agents</td>
<td></td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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.

-PX-20 Light green-
5. FIRE-FIGHTING MEASURES

Exiting extinguishing 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
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
oxidizing materials

Packaging materials: Not applicable.

Titanium dioxide
Xylene
Benzene, ethyl-
Resin

-PX-20 Light green-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
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</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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
- Oxidizing materials: Benzene, ethyl-
- Resin

Hazardous decomposition products: (Information of components.)

- Oxides of carbon, water: common decomposition products
- Oxides of nitrogen: Coloring agent

-PX-20 Light green-
11. TOXICOLOGICAL INFORMATION

(I Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>LD50</th>
<th>Inhalation LC50</th>
<th>Skin LD50</th>
</tr>
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<tbody>
<tr>
<td></td>
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Local effects Irritant; inhalation, skin, eye

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.

Signs and Symptoms of overexposure and aggravated by exposure

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<tr>
<td>Eye contact</td>
<td>irritation</td>
<td>irritation, burn</td>
<td>irritation, tearing</td>
</tr>
<tr>
<td></td>
<td>irritation</td>
<td>irritation, redness</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>irritation, nausea</td>
<td>nausea, vomiting</td>
<td></td>
</tr>
</tbody>
</table>

Specific effects

- IARC Group 3
- IARC Group 2B

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging: Not applicable.

-PX-20 Light green-
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% \leq Xn; R20/21 < 20% \leq Xn; R20/21-38, R10 : Xylene
  25% \leq 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

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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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Violet [PAINT MARKER]
Manufacture's name: MITSUBISHI PENCIL CO., LTD.
Address: 5-23-37, HIGASHIOHJI, SHINAGAWA, TOKYO, JAPAN
Telephone number: 03-3458-6281
Telex number: 2422337 MBPENC J.
Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030193A Rev. 2.5.22.05

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Chemical nature: Component parts: Ink

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<td>100-41-4</td>
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<td>2028494</td>
<td>10-30</td>
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<tr>
<td>Resins</td>
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<td>Registered</td>
<td>Polymer</td>
<td>&lt;10</td>
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<tr>
<td>Coloring agents</td>
<td></td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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.

-PX-20 Violet-
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 8.3g]

5. FIRE-FIGHTING MEASURES

Extinguishing 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.
Precautions : Avoid contact with skin and eyes.
Safe handling advice : Don't breathe the vapor.

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

Incompatible products : (Information of components.)
metals
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
strong oxidizers
Packaging materials : Not applicable.

-PX-20 Violet-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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

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

-PX-20 Violet-
11. TOXICOLOGICAL INFORMATION

(I Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion LD50</th>
<th>Inhalation LC50</th>
<th>Skin LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;24000mg/kg-Rat</td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td>&gt;10000mg/m3-Rabbit</td>
</tr>
<tr>
<td>2119mg/kg-Mouse</td>
<td>5000ppm-4H-Rat</td>
<td>&gt;1700mg/kg-Rabbit</td>
</tr>
<tr>
<td>3500mg/kg-Rat</td>
<td>5000ppm-4H-Rat</td>
<td>17800uL/kg-Rabbit</td>
</tr>
<tr>
<td>525mg/kg-Rat</td>
<td>5000ppm-4H-Rat</td>
<td>&gt;2000mg/kg</td>
</tr>
</tbody>
</table>

Local effects

Irritant; inhalation, skin, eye

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.

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation

irritation, cough
irritation, nausea
irritation, difficulty breathing

Skin contact

irritation
irritation, blisters
irritation, absorption

Eye contact

irritation
irritation, burn
irritation, tearing
irritation, redness

Ingestion

irritation, nausea
nausea, vomiting

Specific effects

IARC Group 3
IARC Group 2B

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging: Not applicable.

-PX-20 Violet-
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.
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 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.: 030194A  Rev. 2.5.23.06

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECS No.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td>Registered</td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agents</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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

3. HAZARDS IDENTIFICATION

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

<Xylenes>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.

-PX-20 Brown-
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 8.3g]

5. FIRE-FIGHTING MEASURES

Extinguishing 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:
metals
: (Information of components.)
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
oxidizing materials
strong oxidizers

Packaging materials : Not applicable.

Titanium dioxide
Xylene
Benzene, ethyl-
Resin
Coloring agent

-PX-20 Brown-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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. [Benzene, ethyl- / 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

-PX-20 Brown-
11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th></th>
<th>LD50</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td></td>
<td>Titanium dioxide</td>
<td>Resin</td>
</tr>
<tr>
<td></td>
<td>&gt;24000mg/kg-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2119mg/kg-Mouse</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3500mg/kg-Rat</td>
<td>Benzene, ethyl-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;2000mg/kg</td>
<td>Coloring agent</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>LC50</td>
<td>Titanium dioxide</td>
<td>Resin</td>
</tr>
<tr>
<td></td>
<td>&gt;6820mg/m3-4H-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5000ppm-4H-Rat</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>LD50</td>
<td>Titanium dioxide</td>
<td>Resin</td>
</tr>
<tr>
<td></td>
<td>&gt;10000mg/m3-Rabbit</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;1700mg/kg-Rabbit</td>
<td>Xylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17800uL/kg-Rabbit</td>
<td>Benzene, ethyl-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;2000mg/kg</td>
<td>Coloring agent</td>
<td></td>
</tr>
</tbody>
</table>

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.

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation

irritation, cough
irritation, nausea
irritation, difficulty breathing

Titanium dioxide / Resin
Xylene
Benzene, ethyl-

Skin contact

irritation
irritation, blisters
irritation, absorption

Titanium dioxide / Resin / Coloring agent
Xylene
Benzene, ethyl-

Eye contact

irritation
irritation, burn
irritation, tearing
irritation, redness

Titanium dioxide / Coloring agent
Xylene
Benzene, ethyl-
Resin

Ingestion

irritation, nausea
nausea, vomiting

Xylene
Benzene, ethyl-

Specific effects

IARC Group 3
IARC Group 2B

Xylene
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) : 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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Grey [PAINT MARKER]
Manufacture's name: MITSUBISHI PENCIL CO., LTD.
Address: 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number: 03-3458-6281
Telex number: 2422337 MBPENC J.

Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030195A Rev. 2.5.23.06

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
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<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Registered</td>
<td>2366755</td>
<td>30-50</td>
</tr>
<tr>
<td>Xylenes (Benzene, ethyl-)</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td>Resins</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td>10-30</td>
</tr>
<tr>
<td>Coloring agents</td>
<td></td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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.

[Iink quantity of product : about 8.3g]

5. FIRE-FIGHTING MEASURES

Extinguishing 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
oxidizing materials, combustible materials, acids, amines, bases
acids, bases, oxidizing materials, combustible materials
oxidizing materials
strong oxidizers
Packaging materials : Not applicable.

-PX-20 Grey-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm(435mg/m3) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>10mg/m3 TWA</td>
<td>Titanium dioxide</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 150ppm STEL</td>
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<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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.)
                    Titanium dioxide
                    Xylene
                    Benzene, ethyl-
                    Resin
                    Coloring agent
Hazardous decomposition products: (Information of components.)
                    common decomposition products
                    Coloring agent
                    oxides of carbon, water
                    oxides of nitrogen.

-PX-20 Grey-
11. TOXICOLOGICAL INFORMATION

Information of components

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>LD50</th>
<th>Inhalation</th>
<th>LC50</th>
<th>Skin</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt;24000mg/kg-Rat</td>
<td>2119mg/kg-Mouse</td>
<td>&gt;2000mg/kg</td>
<td>&gt;10000mg/m3-4H-Rabbit</td>
<td>&gt;6820mg/m3-4H-Rat</td>
</tr>
<tr>
<td></td>
<td>2119mg/kg-Mouse</td>
<td>3500mg/kg-Rat</td>
<td>&gt;2000mg/kg</td>
<td>&gt;1700mg/kg-Rabbit</td>
<td>5000ppm-4H-Rat</td>
</tr>
</tbody>
</table>

Local effects: Irritant; inhalation, skin, eye

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.

Signs and Symptoms of overexposure and aggravated by exposure

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Irritation, cough</th>
<th>Irritation, nausea</th>
<th>Irritation, difficulty breathing</th>
<th>Irritation, absorption</th>
<th>Irritation, blisters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Titanium dioxide</td>
<td>Xylene</td>
<td>Benzene, ethyl-</td>
<td>Titanium dioxide</td>
<td>Xylene</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Irritation</td>
<td>Irritation, blisters</td>
<td>Irritation, absorption</td>
<td>Irritation, blisters</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
<td>Xylene</td>
<td>Benzene, ethyl-</td>
<td>Xylene</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Irritation</td>
<td>Irritation, burn</td>
<td>Irritation, tearing</td>
<td>Irritation, redness</td>
<td>Irritation, absorption</td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
<td>Xylene</td>
<td>Benzene, ethyl-</td>
<td>Resin</td>
<td>Xylene</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Irritation, nausea</td>
<td>Nausea, vomiting</td>
<td>Xylene</td>
<td>Benzene, ethyl-</td>
<td></td>
</tr>
<tr>
<td>Specific effects</td>
<td>IARC Group 3</td>
<td></td>
<td>Xylene</td>
<td>IARC Group 2B</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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) : 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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Black [PAINT MARKER]

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

Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030196A

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature: Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>50-80</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resins</td>
<td>Registered</td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>1-Propanol, 2-methyl-</td>
<td>78-83-1</td>
<td>Registered</td>
<td>2011480</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Coloring agents</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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

3. HAZARDS IDENTIFICATION

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

<Xylenes>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.

-PX-20 Black-
5. FIRE-FIGHTING MEASURES

Exiting / extinguishing 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
acids, bases, oxidizing materials, combustible materials
oxidizing materials
metals, oxidizing materials, combustible materials, metal salts
strong oxidizers

Packaging materials: Not applicable.

-PX-20 Black-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>ACGIH</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>100ppm(435mg/m³) TWA</td>
<td>100ppm TWA, 150ppm STEL</td>
<td>50ppm TWA</td>
</tr>
<tr>
<td>100ppm(300mg/m³) TWA</td>
<td>100ppm TWA, 125ppm STEL</td>
<td>100ppm TWA, 100ppm STEL</td>
</tr>
<tr>
<td></td>
<td>50ppm TWA</td>
<td>100ppm TWA, 200ppm STEL</td>
</tr>
</tbody>
</table>

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
- acids, bases, oxidizing materials, combustible materials
- oxidizing materials
- metals, oxidizing materials, combustible materials, metal salts
- strong oxidizers

Xylene
Benzenne, ethyl-
Resin
1-Propanol, 2-methyl-
Coloring agent

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

-PX-20 Black-
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.

Signs and Symptos of overexposure and aggravated by exposure

| Inhalation                  | irritation, nausea  | Xylene / 1-Propanol, 2-methyl- / Resin |
|                            | irritation, cough   | Resin |
|                            | irritation, difficulty breathing | Resin |
|                            | irritation, blisters | Xylene |
|                            | irritation, absorption | Benzene, ethyl- |
|                            | irritation, redness  | Resin / Coloring agent |
|                            | irritation, burn     | Xylene |
|                            | irritation, tearing  | Benzene, ethyl- |
|                            | irritation, redness  | Resin / 1-Propanol, 2-methyl- |
|                            | irritation           | Coloring agent |

| Skin contact               | irritation, burn     | Xylene |
|                           | irritation, tearing  | Benzene, ethyl- |
|                           | irritation, redness  | Resin / Coloring agent |
|                           | irritation           | Xylene |

| Eye contact                | irritation, burn     | Xylene |
|                           | irritation, tearing  | Benzene, ethyl- |
|                           | irritation, redness  | Resin / Coloring agent |
|                           | irritation           | Xylene |

| Ingestion                  | irritation, nausea  | Xylene |
|                           | nausea, vomiting    | Benzene, ethyl- |
|                           | abdominal pain, headache | 1-Propanol, 2-methyl- |

Specific effects  IARC Group 3  Xylene

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- / 1-Propanol, 2-methyl-

EU labeling
12.5%<=Xn;R20/21<20%<=Xn;R20/21-38, R10 : Xylene
25%<=Xn;R20, F;R11 Xi;R37/38-41, R67, R10 : Benzene, ethyl-
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.
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 Gold [PAINT MARKER]

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

Creation Date: May 14, 2001
Revision Date: Jan. 5, 2007
File No.: 030197A Rev. 2.5.04.06

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature:
Component parts: Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylenes (Benzene, ethyl-)</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>30-50</td>
</tr>
<tr>
<td></td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Bronze powder</td>
<td>7440-66-6</td>
<td>Registered</td>
<td>2311753</td>
<td>10-30</td>
</tr>
<tr>
<td></td>
<td>7440-50-8</td>
<td>Registered</td>
<td>2311596</td>
<td></td>
</tr>
<tr>
<td>Resin</td>
<td>Registered</td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
</tbody>
</table>

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 8.1g]

5. FIRE-FIGHTING MEASURES

Exiting extinguishing 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:
Technological 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:
- oxidizing materials, combustible materials, acids, amines, Xylene
- acids, bases, oxidizing materials, combustible materials
- strong acids, oxidizing agents Benzene, ethyl-
- oxidizing materials Bronze powder
- resin Resin
Packaging materials: Not applicable.

-PX-20 Gold-
8. EXPOSURE CONTROL / PERSONAL PROTECTION

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

Control parameters (Information of components.)

<table>
<thead>
<tr>
<th>OSHA</th>
<th>100ppm (435mg/m³) TWA</th>
<th>Xylene / Benzene, ethyl-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>100ppm TWA, 150ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 125ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td></td>
<td>10mg/m³ (Nuisance particulate)</td>
<td>Resin</td>
</tr>
<tr>
<td>EC</td>
<td>50ppm TWA, 100ppm STEL</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>100ppm TWA, 200ppm STEL</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

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.
miscellaneous decomposition products.

-PX-20 Gold-
### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50 / LC50</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>2119mg/kg-Mouse</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>3500mg/kg-Rat</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>Inhalation</td>
<td>5000ppm-4H-Rat</td>
<td>Xylene</td>
</tr>
<tr>
<td>Skin</td>
<td>&gt;1700mg/kg-Rabbit</td>
<td>Xylene</td>
</tr>
<tr>
<td></td>
<td>17800uL/kg-Rabbit</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

**Local effects**

- Irritant; inhalation, skin, eye

**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.

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

<table>
<thead>
<tr>
<th>Exposure</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>irritation, nausea</td>
</tr>
<tr>
<td></td>
<td>irritation, difficulty breathing</td>
</tr>
<tr>
<td>Skin contact</td>
<td>irritation, blisters</td>
</tr>
<tr>
<td></td>
<td>irritation, absorption</td>
</tr>
<tr>
<td>Eye contact</td>
<td>irritation, burn</td>
</tr>
<tr>
<td></td>
<td>irritation, tearing</td>
</tr>
<tr>
<td>Ingestion</td>
<td>irritation, nausea</td>
</tr>
<tr>
<td></td>
<td>nausea, vomiting</td>
</tr>
</tbody>
</table>

**Specific effects**

- IARC Group 3
- IARC Group 2B

### 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 |

-PX-20 Gold-
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.
Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PX-20 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. : 030198

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation
Chemical nature: Component parts : Ink

<table>
<thead>
<tr>
<th>Chemical or generic name</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECSNo.</th>
<th>Concentration range (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>Registered</td>
<td>2155357</td>
<td>50-80</td>
</tr>
<tr>
<td>(Benzene, ethyl-)</td>
<td>100-41-4</td>
<td>Registered</td>
<td>2028494</td>
<td></td>
</tr>
<tr>
<td>Resin</td>
<td>Registered</td>
<td>Registered</td>
<td>Polymer</td>
<td>10-30</td>
</tr>
<tr>
<td>Aluminum paste</td>
<td>7429-90-5</td>
<td>Registered</td>
<td>2310723</td>
<td>10-30</td>
</tr>
<tr>
<td>Petroleum solvents</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

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 irritating 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 8.0g]

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, halocarbons, 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 | Control parameters | Xylene / Benzene, ethyl-
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>100ppm(435mg/m3) TWA</td>
<td></td>
<td>Petroleum paste</td>
</tr>
<tr>
<td>15mg/m3(total dust), 5mg/m3(respirable fraction), 5mg/m3 (pyro powders)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5mg/m3</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Control parameters</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>100ppm TWA, 150ppm STEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100ppm TWA, 125ppm STEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10mg/m3(Nuisance particulate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10mg/m3 TWA(metal particulate), 5mg/m3 TWA(pyro powders)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5mg/m3 TWA, 10mg/m3 STEL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EC</th>
<th>Control parameters</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>50ppm TWA, 100ppm STEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100ppm TWA, 200ppm STEL</td>
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<td></td>
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</tbody>
</table>

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

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**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** (HC): 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%

-PX-20 Silver-
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
- acids, bases, oxidizing materials, combustible materials
- oxidizing materials
- acids, combustible materials, oxidizing materials, metals,
- metal salts, bases, metal oxides, halogens, reducing agents,
- halo carbons, peroxides, metal carbides
- acids, bases, oxidizing materials

Hazardous decomposition products: (Information of components.)
- oxides of carbon, water
- hydrocarbon gases, oxides of aluminum,
- aldehyde.

11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

<table>
<thead>
<tr>
<th>Ingestion LD50</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>2119mg/kg-Mouse</td>
<td></td>
</tr>
<tr>
<td>3500mg/kg-Rat</td>
<td>Benzene, ethyl-</td>
</tr>
<tr>
<td>&gt;5000mg/kg-Rat</td>
<td>Aluminum paste</td>
</tr>
<tr>
<td>&gt;=5000mg/kg-Rat</td>
<td>Petroleum solvent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation LC50</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000ppm-4H-Rat</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin LD50</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1700mg/kg-Rabbit</td>
<td></td>
</tr>
<tr>
<td>17800uL/kg-Rabbit</td>
<td>Benzene, ethyl-</td>
</tr>
</tbody>
</table>

Local effects
- Irritant; inhalation, skin, eye
- Irritant; inhalation

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.

Lungs may be affected by repeated or prolonged exposure to dust particles. The substance may have effects on the nervous system, resulting in impaired functions.

Signs and Symptoms of overexposure and aggravated by exposure

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Xylene / Petroleum solvent</th>
</tr>
</thead>
<tbody>
<tr>
<td>irritation, nausea</td>
<td></td>
</tr>
<tr>
<td>irritation, difficulty breathing</td>
<td></td>
</tr>
<tr>
<td>irritation, cough</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>Benzene, ethyl- /</th>
</tr>
</thead>
<tbody>
<tr>
<td>irritation, blisters</td>
<td></td>
</tr>
<tr>
<td>irritation, absorption</td>
<td></td>
</tr>
<tr>
<td>irritation, itching</td>
<td></td>
</tr>
<tr>
<td>irritation, skin disorder</td>
<td></td>
</tr>
</tbody>
</table>

-PX-20 Silver-
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 draw on the risks possibly taken,
when a product is used for other utilization than these which it is intended.

-PX-20 Silver-