

Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PC-3M Silver / PC-5M Silver
(uni POSCA POSTER COLOUR MARKERS)

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
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Creation Date : JULY 12, 2001
 File No. : 010117A

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation: Preparation

Chemical nature:

<Component parts>	<Chemical or generic name>	<CAS No.>	<Concentration range (wt%)>
Ink	Water	7732-18-5	67-70
	Aluminum paste	7429-90-5	10-13
	Resin	Registered	9-12
	Solvent naphtha	Registered	2- 5
	Ethylene glycol	107-21-1	2- 5
	Polyoxyethylene	9016-45-9	2- 5
	nonylphenyl ether		

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available
 Specific hazards : Not available

4. FIRST-AID MEASURES

Inhalation:

Not applicable. • (Due to its low vapor pressure. Inhalation is unlikely at room temperature.)

Skin contact:

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye contact:

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:

If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of product: PC-3M; about 3.6g, PC-5M; about 6.8g]

5. FIRE-FIGHTING MEASURES

Fire and explosion measures : Slight fire hazard.

Extinguishing media:

Suitable : regular dry chemical, carbon dioxide, water, regular foam.
Large fires : Use regular foam or flood with fine water spray.

Fire fighting : The Product is no flammable.

Move container from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Not available

Environmental precautions : Do not wash away into shower or water way.

Methods for cleaning up : Wipe off by dry cloth and wash with water.
: In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards.
Keep separated from incompatible substances.

Handling:

Technical measures : Don't swallow ink.
: Recap after use.
: Keep out of the reach of children.
: Avoid contact with skin and eyes.
Precautions : Not available
Safe handling advice : Not available

Storage:

Technical measures : Keep away from oxidizing materials, ignition sources and high temperature.
Storage condition : Avoid direct sunlight.
: Do not leave the products in high temperature space
: Recommended temperature• 0-30 C

Incompatible products : (Information of components.)

acids, alcohols, ammonium nitrate, ammonium peroxodisulfate, antimony, antimony trichloride, arsenic, barium peroxide, bases, bismuth, bismuth trioxide, bromine, bromine pentafluoride, carbon dioxide, carbon dioxide+aluminum halides, carbon disulfide, carbon tetrachloride
<Aluminum paste>

oxidizing materials; strong oxidizers <Solvent naphtha, Polyoxyethylene nonylphenyl ether>
strong oxidizers; phosphorus(V) sulfide; sodium hydroxide; chromium trioxide; dimethyl terephthalate + titanium butoxide; potassium permanganate; silvered copper wire;
sodium peroxide; perchloric acid; strong bases; chlorosulfonic acid; oleum
<Ethylene glycol>

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required

Control parameters • • Information of components • •

OSHA	: 5mg/m ³ (Respirable fraction), 15mg/m ³ (Total dust) <Aluminum paste> : 500ppm, 29000mg/m ³ <Solvent naphtha> : 50ppm(125mg/m ³)ceiling <Ethylene glycol>
ACGIH	: 5mg/m ³ (pyro poeders), 10mg/m ³ (metal dust) <Aluminum paste> : 100ppm <Solvent naphtha> : 100mg/m ³ ceiling (particulate) <Ethylene glycol>
DFG	: 6mg/m ³ (fine dust) <Aluminum paste> : 26mg/m ³ • 10ml/m ³ • DFG MAK 1 times/shift <Ethylene glycol>
UK	: 10mg/m ³ TWA(particulate) • 60mg/m ³ TWA(vapour) • • 125mg/m ³ STEL(vapour) <Ethylene glycol>
EC	: 20ppm, 52mg/m ³ (8 hours), 40ppm, 104mg/m ³ (short-term) <Ethylene glycol>

Personal protective equipment : Not required

9. PHYSICAL AND CHEMICAL PROPERTIES

[• • •] • Information of components.

Physical state and form	: Low viscous liquid.
Colour	: Silver.
Odour	: Faint odour.
pH	: 8.6±1.0
Boiling point	: Not available. [Water / 100 C]
Melting point	: < -10 C
Flashpoint	: Not applicable. [Ethylene glycol / 111 C]
Autoignition temperature	: Not applicable. [Ethylene glycol / 398 C]
Explosion limits (vol %)	: Not applicable. [Lower flammable limit / 3.2 , Upper flammable limit / 15.3 <Ethylene glycol>]
Vapour density (air=1)	: Not available. [Ethylene glycol / 2.14]
Density	: 1.07±0.05
Solubility in water	: Soluble.
Evaporation rate (Butyl acetate =1)	: Not available.
Volatile (%)	: 76-79%

10. STABILITY AND REACTIVITY

Stability : Stability.
 Hazardous reactions : Will not occur.
 Conditions to avoid : May burn dose not ignite ready. Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials

Materials to avoid : (Information of components.)

acids, alcohols, ammonium nitrate, ammonium peroxodisulfate, antimony, antimony trichloride, arsenic, barium peroxide, bases, bismuth, bismuth trioxide, bromine, bromine pentafluoride, carbon dioxide, carbon dioxide+aluminum halides, carbon disulfide, carbon tetrachlorid
 <Aluminum paste>

oxidizing materials; strong oxidizers <Solvent naphtha, Polyoxyethylene nonylphenyl ether>
 strong oxidizers; phosphorus(V) sulfide; sodium hydroxide; chromium trioxide; dimethyl terephthalate + titanium butoxide; potassium permanganate; silvered copper wire; sodium peroxide; perchloric acid; strong bases; chlorosulfonic acid; oleum
 <Ethylene glycol>

Hazardous decomposition products : (Information of components.)

oxides of carbon, water. < common decomposition products.>
 Acrid smoke and irritating fume. <Aluminum paste>
 miscellaneous decomposition products.
 <Solvent naphtha, Polyoxyethylene nonylphenyl ether>

11. TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50 : >5000mg/kg-Rat <Aluminum paste>
 : >2150mg/kg-Quail, 8400mg/kg-Rat <Solvent naphtha>
 : 1650mg/kg-Cat, 7500mg/kg-Mouse <Ethylene glycol>
 : 1310mg/kg-Rat <Polyoxyethylene nonylphenyl ether>
 Inhalation LC50 : 10876mg/kg-Rat <Ethylene glycol>
 Skin LD50 : 9530uL/kg-Rabbit <Ethylene glycol>

Local effects

: Irritant; inhalation, skin, eye <Aluminum paste, Ethylene glycol>
 : Irritant; eye <Polyoxyethylene nonylphenyl ether>

Chronic toxicity and long term toxicity

: Asthma and kidney disorders. <Aluminum paste>
 : Central nervous system depressant. <Ethylene glycol, Solvent naphtha>

Signs and Symptos of overexposure and aggravated by exposure

Inhalation : irritation, coughing, metallic taste, chills <Aluminum paste>
 : irritation, nausea <Solvent naphtha>
 : irritation, headache <Ethylene glycol>
 : irritation <Polyoxyethylene nonylphenyl ether>

Skin contact	: irritation, itching <Aluminum paste> : irritation <Solvent naphtha, Polyoxyethylene nonylphenyl ether> : irritation, redness <Ethylene glycol>
Eye contact	: irritation, eye damage <Aluminum paste, Polyoxyethylene nonylphenyl ether> : irritation, tearing <Solvent naphtha> : irritation, redness <Ethylene glycol>
Ingestion	: stomach irritation, digestive disorders <Aluminum paste> : irritation, nausea <Solvent naphtha> : nausea, vomiting <Ethylene glycol> : digestive disorders, diarrhea <Polyoxyethylene nonylphenyl ether>
Specific effects	: Not available.

12. ECOLOGICAL INFORMATION

Not available.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

International regulations : Not restricted
UN classification number : Not applicable

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS)
: <Aluminum paste, Ethylene glycol>

EU rabeling : F;R15-17 <Aluminum paste>
: 25%<=Xn;R22 <Ethylene glycol>
: 10%<=T;R65 <Polyoxyethylene nonylphenyl ether>

R15: Contact with water liberates extremely flammable gases.
R17: Spontaneously flammable in air.
R22: Harmful if swallowed.
R65: Harmful: may cause lung damage if swallowed.

CANADA Hazardous Products Act - Ingredient Disclosure List
: 1% over <Aluminum paste, Ethylene glycol>

Hazard and safety information

Products are manufactured in accordance with European regulation EN71 part 3

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 : (JULY 12, 2001). 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.