Safety data sheet for chemical products

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PC-5M Metallic green [uni POSCA]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : October 20, 2009
Revision Date :
File No. : 010369A Rev.2.5.01.01

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Resin	Registered	Registered	Registered	< 10
Aluminum paste	7429-90-5	Registered	2310723	< 10
Additives	Registered	Registered	Registered Polymer	< 10
2-Propanol, 1-methoxy-	107-98-2	Registered	2035391	< 10
Glycerine	56-81-5	Registered	2002895	< 10
Coloring agents	Registered	Registered	Registered	< 10
Polyoxyethylene nonylphenyl ether	9016-45-9	Registered	Registered	< 1

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<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.

<2-Propanol, 1-methoxy->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May form peroxides during prolonged storage.

<Polyoxyethylene nonylphenyl ether>
MAJOR HEALTH HAZARDS; eye irritation

4. FIRST-AID MEASURES

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

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

Eye contact:
Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:
If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of product : about 6.8g]

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	: The Products is no flammable. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Not available.
Environmental precautions	:	Do not wash away into shower or water way.
Methods for cleaning up	:	Wipe off by dry cloth and wash with water.
	:	In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

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

Handling:

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

Storage:

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

Incompatible products : (Information of components.)

acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3(respirable fraction), 15mg/m3(total dust)	Aluminum paste / Additive / Glycerine / Coloring agent
ACGIH	1mg/m3 TWA	Aluminum paste
	10mg/m3	Additive / Glycerine / Coloring agent
	100ppm TWA, 150ppm STEL	2-Propanol, 1-methoxy-
EC	100ppm, 375mg/m3	2-Propanol, 1-methoxy-

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form	: Low viscous liquid.
Color	: Metallic green.
Odor	: None odor.
pH	: about 8.3
Boiling point	: Not available. [Water/ 100 C]
Melting point	: < -10 C
Flash point	: Not available. [2-Propanol, 1-methoxy-/ 32 C]
Autoignition temperature	: Not available. [2-Propanol, 1-methoxy-/ 270 C]
Explosion limits	: Not applicable.
	[Lower flammable limit / 1.6% , Upper flammable limit / 13.8% <2-Propanol, 1-methoxy->]
Density	: about 1.1 / 25 C
Vapor density (air=1)	: Not available. [2-Propanol, 1-methoxy-/ 3.1]
Solubility in water	: Not available.
Evaporation rate	: Not available. [2-Propanol, 1-methoxy-/ 0.7]
Volatile	: 68-71%

10. STABILITY AND REACTIVITY

Stability : Stability.

Hazardous reactions : Will not occur.

Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition.
Avoid contact with incompatible materials.

Materials to avoid : (Information of components.)

acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
hydrocarbon gases, oxides of aluminum.	Aluminum paste
corrosive acrolein.	Additive / Glycerine
oxides of nitrogen, miscellaneous decomposition	Coloring agent

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>5000mg/kg-Rat	Aluminum paste / Coloring agent
	11300mg/kg-Guinea pig	Additive
	5000mg/kg-Dog, 11700mg/kg-Mouse	2-Propanol, 1-methoxy-
	4090mg/kg-Mouse	Glycerine
	1310mg/kg-Rat	Polyoxyethylene nonylphenyl ether
Inhalation LC50	10000ppm-5H-Rat	2-Propanol, 1-methoxy-
	>570mg/m3-1H-Rat	Glycerine
Skin LD50	13000mg/kg-Rabbit	2-Propanol, 1-methoxy-
	>10000mg/kg-Rabbit	Glycerine
	2ml/kg-Rabbit	Polyoxyethylene nonylphenyl ether

Local effects	Irritant; inhalation dehydration	Aluminum paste / Additive
	Irritant; inhalation, skin, eye	2-Propanol, 1-methoxy-
	Irritant; eye	Polyoxyethylene nonylphenyl ether

Chronic toxicity and long term toxicity

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.	Aluminum paste
The liquid defats the skin.	2-Propanol, 1-methoxy-

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	irritation, cough	Aluminum paste
	irritation, nausea	2-Propanol, 1-methoxy-
	irritation, difficulty breathing	Glycerine
	irritation	Coloring agent
	irritation,	Polyoxyethylene nonylphenyl ether
Skin contact	irritation, itching	Aluminum paste
	sensitization	Additive
	irritation, dry	2-Propanol, 1-methoxy-
	irritation, redness	Glycerine
	redness, swelling	Coloring agent
	irritation	Polyoxyethylene nonylphenyl ether
Eye contact	irritation, eye damage	Aluminum paste
	irritation	Additive / Coloring agent
	irritation, tearing	2-Propanol, 1-methoxy-
	tearing, stinging	Glycerine
	irritation, eye damage	Polyoxyethylene nonylphenyl ether
Ingestion	irritation, digestive disorders	Aluminum paste
	diarrhea	Additive
	difficulty breathing, nausea	2-Propanol, 1-methoxy-
	nausea, vomiting	Glycerine / Coloring agent
	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

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS)

: Aluminum paste / Additive / 2-Propanol, 1-methoxy- / Glycerine

EU labeling

F;R15-17	Aluminum paste
R10	2-Propanol, 1-methoxy-

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over	Aluminum paste / 2-Propanol, 1-methoxy-

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - 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 : (September 11, 2009). 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: PC-5M Metallic violet [uni POSCA]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : October 20, 2009
Revision Date :
File No. : 010370A Rev.2.5.01.01

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Resins	Registered	Registered	Registered Polymer	10- 30
Additives	Registered	Registered	Registered Polymer	< 10
Aluminum paste	7429-90-5	Registered	2310723	< 10
2-Propanol, 1-methoxy-	107-98-2	Registered	2035391	< 10
Glycerine	56-81-5	Registered	2002895	< 10
Coloring agent	Registered	Registered	Registered	< 10
Polyoxyethylene nonylphenyl ether	9016-45-9	Registered	Registered	< 1

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<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.

<2-Propanol, 1-methoxy->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May form peroxides during prolonged storage.

<Polyoxyethylene nonylphenyl ether>
MAJOR HEALTH HAZARDS; eye irritation

4. FIRST-AID MEASURES

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

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

Eye contact:
Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:
If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of product : about 6.8g]

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	: The Products is no flammable. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Not available.
Environmental precautions	:	Do not wash away into shower or water way.
Methods for cleaning up	:	Wipe off by dry cloth and wash with water.
	:	In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

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

Handling:

Technical measures	:	Don't swallow ink.
	:	Recap after use.
	:	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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3(respirable fraction), 15mg/m3(total dust)	Additive / Aluminum paste / Glycerine
ACGIH	10mg/m3	Resin / Additive / Glycerine / Coloring agent
	1mg/m3 TWA	Aluminum paste
	100ppm TWA, 150ppm STEL	2-Propanol, 1-methoxy-
EC	100ppm, 375mg/m3	2-Propanol, 1-methoxy-

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Color : Metallic violet.
Odor : None odor.
pH : about 8.3
Boiling point : Not available. [Water/ 100 C]
Melting point : < -10 C
Flash point : Not available. [2-Propanol, 1-methoxy-/ 32 C]
Autoignition temperature : Not available. [2-Propanol, 1-methoxy-/ 270 C]
Explosion limits : Not applicable.
[Lower flammable limit / 1.6% , Upper flammable limit / 13.8% <2-Propanol, 1-methoxy->]
Density : about 1.1 / 25 C
Vapor density (air=1) : Not available. [2-Propanol, 1-methoxy-/ 3.1]
Solubility in water : Not available.
Evaporation rate : Not available. [2-Propanol, 1-methoxy-/ 0.7]
Volatile : 69-72%

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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
acrolein, aldehydes.	Resin
corrosive acrolein.	Additive / Glycerine
hydrocarbon gases, oxides of aluminum.	Aluminum paste
miscellaneous decomposition products.	Coloring agent

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>3000mg/kg-Rat	Resin
	11300mg/kg-Guinea pig	Additive
	>5000mg/kg-Rat	Aluminum paste
	5000mg/kg-Dog, 11700mg/kg-Mouse	2-Propanol, 1-methoxy-
	4090mg/kg-Mouse	Glycerine
	>10000mg/kg-Rat	Coloring agent
	1310mg/kg-Rat	Polyoxyethylene nonylphenyl ether
Inhalation LC50	12g/kg-Mouse	Resin
	10000ppm-5H-Rat	2-Propanol, 1-methoxy-
	>570mg/m3-1H-Rat	Glycerine
Skin LD50	13000mg/kg-Rabbit	2-Propanol, 1-methoxy-
	>10000mg/kg-Rabbit	Glycerine
	2ml/kg-Rabbit	Polyoxyethylene nonylphenyl ether
Local effects	dehydration	Additive
	Irritant; inhalation	Aluminum paste
	Irritant; inhalation, skin, eye	2-Propanol, 1-methoxy-
	Irritant; eye	Polyoxyethylene nonylphenyl ether

Chronic toxicity and long term toxicity

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.	Aluminum paste
The liquid defats the skin.	2-Propanol, 1-methoxy-

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	irritation	Resin / Coloring agent
	irritation, cough	Aluminum paste
	irritation, nausea	2-Propanol, 1-methoxy-
	irritation, difficulty breathing	Glycerine
	irritation,	Polyoxyethylene nonylphenyl ether
Skin contact	irritation	Resin / Polyoxyethylene nonylphenyl ether
	sensitization	Additive
	irritation, itching	Aluminum paste
	irritation, dry	2-Propanol, 1-methoxy-
	irritation, redness	Glycerine
Eye contact	irritation	Resin / Additive
	irritation, eye damage	Aluminum paste
	irritation, tearing	2-Propanol, 1-methoxy-
	tearing, stinging	Glycerine
	irritation, eye damage	Polyoxyethylene nonylphenyl ether
Ingestion	diarrhea	Additive
	irritation, digestive disorders	Aluminum paste
	difficulty breathing, nausea	2-Propanol, 1-methoxy-
	nausea, vomiting	Glycerine
	digestive disorders, diarrhea	Polyoxyethylene nonylphenyl ether
Specific effects	IARC Group 3	Resin

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)

: Additive / Aluminum paste / 2-Propanol, 1-methoxy- / Glycerine

EU labeling

F;R15-17	Aluminum paste
R10	2-Propanol, 1-methoxy-

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over	Aluminum paste / 2-Propanol, 1-methoxy-

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - 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 : (September 11, 2009). 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: PC-5M Metallic pink [uni POSCA]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : October 20, 2009
Revision Date
File No. : 010371A Rev.2.5.01.01

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Resins	Registered	Registered	Registered Polymer	10- 30
Aluminum paste	7429-90-5	Registered	2310723	< 10
Additives	Registered	Registered	Registered Polymer	< 10
2-Propanol, 1-methoxy-	107-98-2	Registered	2035391	< 10
Glycerine	56-81-5	Registered	2002895	< 10
Coloring agents	Registered	Registered	Registered	< 10
Polyoxyethylene nonylphenyl ether	9016-45-9	Registered	Registered	< 1

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<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.

<2-Propanol, 1-methoxy->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May form peroxides during prolonged storage.

<Polyoxyethylene nonylphenyl ether>
MAJOR HEALTH HAZARDS; eye irritation

4. FIRST-AID MEASURES

Inhalation:

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

Skin contact:

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

Eye contact:

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:

If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of product : about 6.8g]

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	: The Products is no flammable. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Not available.
Environmental precautions	:	Do not wash away into shower or water way.
Methods for cleaning up	:	Wipe off by dry cloth and wash with water.
	:	In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

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

Handling:

Technical measures	:	Don't swallow ink.
	:	Recap after use.
	:	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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3(respirable fraction), 15mg/m3(total dust)	Aluminum paste / Additive / Glycerine / Coloring agent
ACGIH	10mg/m3	Resin / Additive / Glycerine / Coloring agent
	1mg/m3 TWA	Aluminum paste
	100ppm TWA, 150ppm STEL	2-Propanol, 1-methoxy-
EC	100ppm, 375mg/m3	2-Propanol, 1-methoxy-

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Color : Metallic pink.
Odor : None odor.
pH : about 8.3
Boiling point : Not available. [Water/ 100 C]
Melting point : < -10 C
Flash point : Not available. [2-Propanol, 1-methoxy-/ 32 C]
Autoignition temperature : Not available. [2-Propanol, 1-methoxy-/ 270 C]
Explosion limits : Not applicable.
[Lower flammable limit / 1.6% , Upper flammable limit / 13.8% <2-Propanol, 1-methoxy->]
Density : about 1.1 / 25 C
Vapor density (air=1) : Not available. [2-Propanol, 1-methoxy-/ 3.1]
Solubility in water : Not available.
Evaporation rate : Not available. [2-Propanol, 1-methoxy-/ 0.7]
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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
acrolein, aldehydes.	Resin
hydrocarbon gases, oxides of aluminum.	Aluminum paste
corrosive acrolein.	Additive / Glycerine
oxides of nitrogen.	Coloring agent

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>3000mg/kg-Rat	Resin
	>5000mg/kg-Rat	Aluminum paste
	11300mg/kg-Guinea pig	Additive
	5000mg/kg-Dog, 11700mg/kg-Mouse	2-Propanol, 1-methoxy-
	4090mg/kg-Mouse	Glycerine
	≧5000mg/kg-Rat	Coloring agent
	1310mg/kg-Rat	Polyoxyethylene nonylphenyl ether
Inhalation LC50	12g/kg-Mouse	Resin
	10000ppm-5H-Rat	2-Propanol, 1-methoxy-
	>570mg/m3-1H-Rat	Glycerine
Skin LD50	13000mg/kg-Rabbit	2-Propanol, 1-methoxy-
	>10000mg/kg-Rabbit	Glycerine
	>3000mg/kg-Rabbit	Coloring agent
	2ml/kg-Rabbit	Polyoxyethylene nonylphenyl ether
Local effects	Irritant; inhalation	Aluminum paste
	dehydration	Additive
	Irritant; inhalation, skin, eye	2-Propanol, 1-methoxy-
	Irritant; eye	Polyoxyethylene nonylphenyl ether

Chronic toxicity and long term toxicity

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.	Aluminum paste
The liquid defats the skin.	2-Propanol, 1-methoxy-

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	irritation	Resin / Coloring agent
	irritation, cough	Aluminum paste
	irritation, nausea	2-Propanol, 1-methoxy-
	irritation, difficulty breathing	Glycerine
	irritation,	Polyoxyethylene nonylphenyl ether
Skin contact	irritation	Resin / Polyoxyethylene nonylphenyl ether
	irritation, itching	Aluminum paste
	sensitization	Additive
	irritation, dry	2-Propanol, 1-methoxy-
	irritation, redness	Glycerine
	redness, swelling of skin	Coloring agent
Eye contact	irritation	Resin / Additive
	irritation, eye damage	Aluminum paste
	irritation, tearing	2-Propanol, 1-methoxy-
	tearing, stinging	Glycerine
	irritation, eye damage	Polyoxyethylene nonylphenyl ether
Ingestion	irritation, digestive disorders	Aluminum paste
	diarrhea	Additive
	difficulty breathing, nausea	2-Propanol, 1-methoxy-
	nausea, vomiting	Glycerine / Coloring agent
	digestive disorders, diarrhea	Polyoxyethylene nonylphenyl ether
Specific effects	IARC Group 3	Resin

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)

: Aluminum paste / Additive / 2-Propanol, 1-methoxy- / Glycerine

EU labeling

F;R15-17	Aluminum paste
R10	2-Propanol, 1-methoxy-

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over	Aluminum paste / 2-Propanol, 1-methoxy-

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - 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 : (September 11, 2009). 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: PC-5M Metallic red [uni POSCA]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : October 20, 2009
Revision Date :
File No. : 010372A Rev.2.5.01.01

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Resins	Registered	Registered	Registered Polymer	10- 30
Aluminum paste	7429-90-5	Registered	2310723	< 10
Additives	Registered	Registered	Registered Polymer	< 10
2-Propanol, 1-methoxy-	107-98-2	Registered	2035391	< 10
Glycerine	56-81-5	Registered	2002895	< 10
Coloring agents	Registered	Registered	Registered	< 10
Polyoxyethylene nonylphenyl ether	9016-45-9	Registered	Registered	< 1

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<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.

<2-Propanol, 1-methoxy->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May form peroxides during prolonged storage.

<Polyoxyethylene nonylphenyl ether>
MAJOR HEALTH HAZARDS; eye irritation

4. FIRST-AID MEASURES

Inhalation:

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

Skin contact:

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

Eye contact:

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:

If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of product : about 6.9g]

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	: The Products is no flammable. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Not available.
Environmental precautions	:	Do not wash away into shower or water way.
Methods for cleaning up	:	Wipe off by dry cloth and wash with water.
	:	In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

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

Handling:

Technical measures	:	Don't swallow ink.
	:	Recap after use.
	:	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.)

oxidizing materials	Resin / 2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3(respirable fraction), 15mg/m3(total dust)	Aluminum paste / Additive / Glycerine / Coloring agent
ACGIH	1mg/m3 TWA	Aluminum paste
	10mg/m3 TWA	Additive / Glycerine / Coloring agent
	100ppm TWA, 150ppm STEL	2-Propanol, 1-methoxy-
EC	100ppm, 375mg/m3	2-Propanol, 1-methoxy-

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form : Low viscous liquid.
Color : Metallic red.
Odor : None odor.
pH : about 8.3
Boiling point : Not available. [Water/ 100 C]
Melting point : ＜-10 C
Flash point : Not available. [2-Propanol, 1-methoxy-/ 32 C]
Autoignition temperature : Not available. [2-Propanol, 1-methoxy-/ 270 C]
Explosion limits : Not applicable.
[Lower flammable limit / 1.6% , Upper flammable limit / 13.8% <2-Propanol, 1-methoxy->]
Density : about 1.1 / 25 C
Vapor density (air=1) : Not available. [2-Propanol, 1-methoxy-/ 3.1]
Solubility in water : Not available.
Evaporation rate : Not available. [2-Propanol, 1-methoxy-/ 0.7]
Volatile : 69-72%

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	Resin / 2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
hydrocarbon gases, oxides of aluminum.	Aluminum paste
corrosive acrolein.	Additive / Glycerine
oxides of nitrogen.	Coloring agent

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>5000mg/kg-Rat	Aluminum paste
	11300mg/kg-Guinea pig	Additive
	5000mg/kg-Dog, 11700mg/kg-Mouse	2-Propanol, 1-methoxy-
	4090mg/kg-Mouse	Glycerine
	≧5000mg/kg-Rat	Coloring agent
	1310mg/kg-Rat	Polyoxyethylene nonylphenyl ether
Inhalation LC50	10000ppm-5H-Rat	2-Propanol, 1-methoxy-
	>570mg/m3-1H-Rat	Glycerine
Skin LD50	13000mg/kg-Rabbit	2-Propanol, 1-methoxy-
	>10000mg/kg-Rabbit	Glycerine
	2ml/kg-Rabbit	Polyoxyethylene nonylphenyl ether

Local effects	Irritant; inhalation	Aluminum paste
	dehydration	Additive
	Irritant; inhalation, skin, eye	2-Propanol, 1-methoxy-
	Irritant; eye	Polyoxyethylene nonylphenyl ether

Chronic toxicity and long term toxicity

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.	Aluminum paste
The liquid defats the skin.	2-Propanol, 1-methoxy-

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	irritation	Resin / Coloring agent
	irritation, cough	Aluminum paste
	irritation, nausea	2-Propanol, 1-methoxy-
	irritation, difficulty breathing	Glycerine
	irritation,	Polyoxyethylene nonylphenyl ether
Skin contact	irritation	Resin / Polyoxyethylene nonylphenyl ether
	irritation, itching	Aluminum paste
	sensitization	Additive
	irritation, dry	2-Propanol, 1-methoxy-
	irritation, redness	Glycerine
	redness, swelling of skin	Coloring agent
Eye contact	irritation	Resin / Additive
	irritation, eye damage	Aluminum paste
	irritation, tearing	2-Propanol, 1-methoxy-
	tearing, stinging	Glycerine
	irritation, eye damage	Polyoxyethylene nonylphenyl ether
Ingestion	irritation, digestive disorders	Aluminum paste
	diarrhea	Additive
	difficulty breathing, nausea	2-Propanol, 1-methoxy-
	nausea, vomiting	Glycerine / Coloring agent
	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

HS Code : 960820

15. REGULATORY INFORMATION

Regulations (Information of components)

Hazardous chemicals (OSHA HCS)

: Aluminum paste / Additive / 2-Propanol, 1-methoxy- / Glycerine

EU labeling

F;R15-17	Aluminum paste
R10	2-Propanol, 1-methoxy-

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over	Aluminum paste / 2-Propanol, 1-methoxy-

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - 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 : (September 11, 2009). 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: PC-5M Metallic blue [uni POSCA]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : October 20, 2009
Revision Date
File No. : 010373A Rev.2.5.01.01

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Resins	Registered	Registered	Registered Polymer	10- 30
Aluminum paste	7429-90-5	Registered	2310723	< 10
Additives	Registered	Registered	Registered Polymer	< 10
2-Propanol, 1-methoxy-	107-98-2	Registered	2035391	< 10
Glycerine	56-81-5	Registered	2002895	< 10
Coloring agent	Registered	Registered	Registered	< 10
Polyoxyethylene nonylphenyl ether	9016-45-9	Registered	Registered	< 1

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<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.

<2-Propanol, 1-methoxy->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May form peroxides during prolonged storage.

<Polyoxyethylene nonylphenyl ether>
MAJOR HEALTH HAZARDS; eye irritation

4. FIRST-AID MEASURES

Inhalation:

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

Skin contact:

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

Eye contact:

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:

If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of product : about 6.9g]

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	: The Products is no flammable. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Not available.
Environmental precautions	:	Do not wash away into shower or water way.
Methods for cleaning up	:	Wipe off by dry cloth and wash with water.
	:	In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

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

Handling:

Technical measures	:	Don't swallow ink.
	:	Recap after use.
	:	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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3(respirable fraction), 15mg/m3(total dust)	Aluminum paste / Additive / Glycerine / Coloring agent
ACGIH	10mg/m3	Resin / Additive / Glycerine / Coloring agent
	1mg/m3 TWA	Aluminum paste
	100ppm TWA, 150ppm STEL	2-Propanol, 1-methoxy-
EC	100ppm, 375mg/m3	2-Propanol, 1-methoxy-

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form	: Low viscous liquid.
Color	: Metallic blue.
Odor	: None odor.
pH	: about 8.3
Boiling point	: Not available. [Water/ 100 C]
Melting point	: < -10 C
Flash point	: Not available. [2-Propanol, 1-methoxy-/ 32 C]
Autoignition temperature	: Not available. [2-Propanol, 1-methoxy-/ 270 C]
Explosion limits	: Not applicable.
[Lower flammable limit / 1.6% , Upper flammable limit / 13.8% <2-Propanol, 1-methoxy->]	
Density	: about 1.1 / 25 C
Vapor density (air=1)	: Not available. [2-Propanol, 1-methoxy-/ 3.1]
Solubility in water	: Not available.
Evaporation rate	: Not available. [2-Propanol, 1-methoxy-/ 0.7]
Volatile	: 73-76%

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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal	Aluminum paste
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
acrolein, aldehydes.	Resin
hydrocarbon gases, oxides of aluminum.	Aluminum paste
corrosive acrolein.	Additive / Glycerine
oxides of nitrogen.	Coloring agent

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>3000mg/kg-Rat	Resin
	>5000mg/kg-Rat	Aluminum paste / Coloring agent
	11300mg/kg-Guinea pig	Additive
	5000mg/kg-Dog, 11700mg/kg-Mouse	2-Propanol, 1-methoxy-
	4090mg/kg-Mouse	Glycerine
	1310mg/kg-Rat	Polyoxyethylene nonylphenyl ether
Inhalation LC50	12g/kg-Mouse	Resin
	10000ppm-5H-Rat	2-Propanol, 1-methoxy-
	>570mg/m3-1H-Rat	Glycerine
Skin LD50	13000mg/kg-Rabbit	2-Propanol, 1-methoxy-
	>10000mg/kg-Rabbit	Glycerine
	2ml/kg-Rabbit	Polyoxyethylene nonylphenyl ether
Local effects	Irritant; inhalation dehydration	Aluminum paste / Additive
	Irritant; inhalation, skin, eye	2-Propanol, 1-methoxy-
	Irritant; eye	Polyoxyethylene nonylphenyl ether

Chronic toxicity and long term toxicity

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.	Aluminum paste
The liquid defats the skin.	2-Propanol, 1-methoxy-

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	irritation	Resin / Coloring agent
	irritation, cough	Aluminum paste
	irritation, nausea	2-Propanol, 1-methoxy-
	irritation, difficulty breathing	Glycerine
	irritation,	Polyoxyethylene nonylphenyl ether
Skin contact	irritation	Resin / Polyoxyethylene nonylphenyl ether
	irritation, itching	Aluminum paste
	sensitization	Additive
	irritation, dry	2-Propanol, 1-methoxy-
	irritation, redness	Glycerine
Eye contact	irritation	Resin / Additive / Coloring agent
	irritation, eye damage	Aluminum paste
	irritation, tearing	2-Propanol, 1-methoxy-
	tearing, stinging	Glycerine
	irritation, eye damage	Polyoxyethylene nonylphenyl ether
Ingestion	irritation, digestive disorders	Aluminum paste
	diarrhea	Additive
	difficulty breathing, nausea	2-Propanol, 1-methoxy-
	nausea, vomiting	Glycerine
	gastric disturbances	Coloring agent
	digestive disorders, diarrhea	Polyoxyethylene nonylphenyl ether
Specific effects	IARC Group 3	Resin

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)

: Aluminum paste / Additive / 2-Propanol, 1-methoxy- / Glycerine

EU labeling

F;R15-17	Aluminum paste
R10	2-Propanol, 1-methoxy-

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over	Aluminum paste / 2-Propanol, 1-methoxy-

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - 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 : (September 11, 2009). 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: PC-5M Bronze [uni POSCA]

Manufacture's name : MITSUBISHI PENCIL CO.,LTD.
Address : 5-23-37, HIGASHIOHI, SHINAGAWA, TOKYO, JAPAN
Telephone number : 03-3458-6281 Telefax number : 03-3450-0363
Telex number : 2422337 MBPENC J.

Creation Date : October 20, 2009
Revision Date :
File No. : 010374A Rev.2.5.01.01

2. COMPOSITION/INFORMATION ON INGREDIENTS

The chemical product is a substance or a preparation : Preparation

Chemical nature: Component parts : Ink

Chemical or generic name	CAS No.	TSCA	EINECSNo.	Concentration range (wt%)
Water	7732-18-5	Registered	2317912	50- 80
Resins	Registered	Registered	Registered Polymer	10- 30
Additives	Registered	Registered	Registered Polymer	< 10
Aluminum paste	7429-90-5	Registered	2310723	< 10
2-Propanol, 1-methoxy-	107-98-2	Registered	2035391	< 10
Glycerine	56-81-5	Registered	2002895	< 10
Coloring agent	Registered	Registered	Registered	< 10
Polyoxyethylene nonylphenyl ether	9016-45-9	Registered	Registered	< 1

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

3. HAZARDS IDENTIFICATION

Most important hazards : Not available.

Specific hazards : Information of components.

<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.

<2-Propanol, 1-methoxy->
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation
PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May form peroxides during prolonged storage.

<Polyoxyethylene nonylphenyl ether>
MAJOR HEALTH HAZARDS; eye irritation

4. FIRST-AID MEASURES

Inhalation:

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

Skin contact:

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

Eye contact:

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion:

If swallowed, seek medical advice, and show the MSDS to the physician then.
[Ink quantity of product : about 6.8g]

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	: The Products is no flammable. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Not available.
Environmental precautions	:	Do not wash away into shower or water way.
Methods for cleaning up	:	Wipe off by dry cloth and wash with water.
	:	In accordance with national, state and local regulations.

7. HANDLING AND STORAGE

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

Handling:

Technical measures	:	Don't swallow ink.
	:	Recap after use.
	:	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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Packaging materials : Not applicable.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Not required.

Control parameters (Information of components.)

OSHA	5mg/m3(respirable fraction), 15mg/m3(total dust)	Additive / Glycerine / Aluminum paste
	15mg/m3 PEL (Nuisance Dust)	Coloring agent
ACGIH	10mg/m3	Resin / Additive / Glycerine / Coloring agent
	1mg/m3 TWA	Aluminum paste
	100ppm TWA, 150ppm STEL	2-Propanol, 1-methoxy-
EC	100ppm, 375mg/m3	2-Propanol, 1-methoxy-

Personal protective equipment : Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

[ ] : Information of components.

Physical state and form	: Low viscous liquid.
Color	: Bronze.
Odor	: None odor.
pH	: about 8.2
Boiling point	: Not available. [Water/ 100 C]
Melting point	: < -10 C
Flash point	: Not available. [2-Propanol, 1-methoxy-/ 32 C]
Autoignition temperature	: Not available. [2-Propanol, 1-methoxy-/ 270 C]
Explosion limits	: Not applicable.
	[Lower flammable limit / 1.6% , Upper flammable limit / 13.8% <2-Propanol, 1-methoxy->]
Density	: about 1.1 / 25 C
Vapor density (air=1)	: Not available. [2-Propanol, 1-methoxy-/ 3.1]
Solubility in water	: Not available.
Evaporation rate	: Not available. [2-Propanol, 1-methoxy-/ 0.7]
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.)

combustible materials, halo carbons, halogens, oxidizing materials, acids	Resin
acids, oxidizing materials, strong oxidizers, combustible materials, metal salts	Additive
acids, combustible materials, oxidizing materials, metals, metal salts, bases, metal oxides, halogens, reducing agents, halo carbons, peroxides, metal carbides	Aluminum paste
oxidizing materials	2-Propanol, 1-methoxy- / Coloring agent / Polyoxyethylene nonylphenyl ether
acids, bases, oxidizing materials, metal oxides, peroxides, reducing agents	Glycerine

Hazardous decomposition products : (Information of components.)

oxides of carbon, water	common decomposition products
acrolein, aldehydes.	Resin
corrosive acrolein.	Additive / Glycerine
hydrocarbon gases, oxides of aluminum.	Aluminum paste

11.TOXICOLOGICAL INFORMATION

(Information of components)

Acute toxicity

Ingestion LD50	>3000mg/kg-Rat	Resin
	11300mg/kg-Guinea pig	Additive
	>5000mg/kg-Rat	Aluminum paste / Coloring agent
	5000mg/kg-Dog, 11700mg/kg-Mouse	2-Propanol, 1-methoxy-
	4090mg/kg-Mouse	Glycerine
	1310mg/kg-Rat	Polyoxyethylene nonylphenyl ether
Inhalation LC50	12g/kg-Mouse	Resin
	10000ppm-5H-Rat	2-Propanol, 1-methoxy-
	>570mg/m3-1H-Rat	Glycerine
Skin LD50	13000mg/kg-Rabbit	2-Propanol, 1-methoxy-
	>10000mg/kg-Rabbit	Glycerine
	2ml/kg-Rabbit	Polyoxyethylene nonylphenyl ether

Local effects	dehydration	Additive
	Irritant; inhalation	Aluminum paste
	Irritant; inhalation, skin, eye	2-Propanol, 1-methoxy-
	Irritant; eye	Polyoxyethylene nonylphenyl ether

Chronic toxicity and long term toxicity

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.	Aluminum paste
The liquid defats the skin.	2-Propanol, 1-methoxy-

Signs and Symptoms of overexposure and aggravated by exposure

Inhalation	irritation	Resin / Coloring agent
	irritation, cough	Aluminum paste
	irritation, nausea	2-Propanol, 1-methoxy-
	irritation, difficulty breathing	Glycerine
	irritation,	Polyoxyethylene nonylphenyl ether
Skin contact	irritation	Resin / Polyoxyethylene nonylphenyl ether
	sensitization	Additive
	irritation, itching	Aluminum paste
	irritation, dry	2-Propanol, 1-methoxy-
	irritation, redness	Glycerine
	allergic contact dermatitis	Coloring agent
Eye contact	irritation	Resin / Additive
	irritation, eye damage	Aluminum paste
	irritation, tearing	2-Propanol, 1-methoxy-
	tearing, stinging	Glycerine
	irritation, eye damage	Polyoxyethylene nonylphenyl ether
Ingestion	diarrhea	Additive
	irritation, digestive disorders	Aluminum paste
	difficulty breathing, nausea	2-Propanol, 1-methoxy-
	nausea, vomiting	Glycerine / Coloring agent
	digestive disorders, diarrhea	Polyoxyethylene nonylphenyl ether
Specific effects	IARC Group 3	Resin

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)

: Additive / Aluminum paste / 2-Propanol, 1-methoxy- / Glycerine

EU labeling

F;R15-17	Aluminum paste
R10	2-Propanol, 1-methoxy-

CANADA Hazardous Products Act - Ingredient Disclosure List

1%over	Aluminum paste / 2-Propanol, 1-methoxy-

Hazard and safety information

Products are manufactured in accordance with ISO 8124-3 " Safety of Toys - 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 : (September 11, 2009). 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.