

10/7/2024: File reviewed, more current MSDS/SDS not available. CAS

Product name : GOLD MARKER-EF

SDS No.: #I-014

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## SAFETY DATA SHEET

Date of Issue : November 17, 2016  
 SDS No. : #I-014  
 Version : 001



### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

This product is a writing instrument to be recognized as Article.

#### 1.1. Identification of the substance or mixture

Product name : GOLD MARKER-EF  
 Product code : SC-G-EFE(A)  
 Mixture name : SC-PE-GD

#### 1.2. Use of the mixture : Ink for writing instrument

#### 1.3. Company identification e-mail address

Name of manufacture : PILOT Corporation  
 /supplier  
 Address : 6-21, Kyobashi 2-chome, Chuo-ku, Tokyo, 104-8304, Japan  
 Telephone number : 03-3538-3700  
 Working hours (from 09.00am to 05.30pm)  
 Facsimile number : 03-3538-3909  
 E-mail address : international@pilot.co.jp

### 2. HAZARDS IDENTIFICATION

#### 2.1. GHS Classification of the substance or mixture

##### Physical hazards

Flammable liquids : Category 2

##### Health hazards

Acute toxicity(Oral) : Category 5

Skin corrosion/irritation : Category 3

Eye damage/irritation : Category 2

Germ cell mutagenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity : Category 2 (lung)

(single exposure) : Category 3 (respiratory tract irritation / narcotic effects)

Specific target organ toxicity : Category 1 (liver, lung, skin)

(repeated exposure)

Aspiration hazard : Category 1

##### Environmental hazards

Hazardous to the aquatic environment, short-term (acute) : Category 2

Hazardous to the aquatic environment, long-term (chronic) : Category 2

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## 2.2. GHS label elements

## Hazard pictograms



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## Signal word

: Danger

## Hazard statements

H225	: Highly flammable liquid and vapor
H303	: May be harmful if swallowed
H316	: Causes mild skin irritation
H319	: Causes serious eye irritation
H341	: Suspected of causing genetic defects
H361	: Suspected of damaging fertility or unborn child
H371	: May cause damage to organs (lung/liver)
H335	: May cause respiratory irritation
H336	: May cause drowsiness or dizziness
H372	: Causes damage to organs (lung/liver/skin) through prolonged or repeated exposure
H304	: May be fatal if swallowed and enters airways
H401	: Toxic to aquatic life
H411	: Toxic to aquatic life with long lasting effects

## Precautionary statements

## Prevention

P210	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	: Keep container tightly closed.
P240	: Ground and bond container and receiving equipment.
P241	: Use explosion-proof equipment.
P242	: Use non-sparking tools.
P243	: Take action to prevent static discharges.
P280	: Wear protective gloves/protective clothing/eye protection/face protection.
P260	: Do not breathe dust/fume/gas/mist/vapors/spray.
P261	: Avoid breathing dust/fume/gas/mist/vapor/spray.
P271	: Use only outdoors or in a well-ventilated area.
P264	: Wash hands thoroughly after handling.
P201	: Obtain special instructions before use.
P202	: Do not handle until all safety precautions have been read and understood.
P270	: Do not eat, drink or smoke when using this product.
P273	: Avoid release to the environment.

## Response

P301+P310	: IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P312	: Call a POISON CENTER/doctor if you feel unwell.
P304+P340	: IF INHALED: Remove person to fresh air and keep

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	comfortable for breathing.
P308+P311	: IF exposed or concerned: Call a POISON CENTER/doctor.
P308+P313	: IF exposed or concerned: Get medical advice/attention.
P332+P313	: If skin irritation occurs: Get medical advice/attention.
P337+P313	: If eye irritation persists: Get medical advice/attention.
P370+P378	: In case of fire: Use foam, dry, chemical powder or carbon dioxide to extinguish.
P303+P361+P353	: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	: Get medical advice/attention if you feel unwell.
P331	: Do NOT induce vomiting.
P391	: Collect spillage.
Storage	
P403+P235+P233	: Store in a well-ventilated place. Keep cool. Keep container tightly closed.
P405	: Store locked up.
Disposal	
P501	: Dispose of contents/container in accordance with local/regional/national/international regulations.
2.3. Other hazards	: None

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance or mixture : Mixture  
 Ingredients and composition

Ingredients	CAS Number	Weight %
Methyl cyclohexane	108-87-2	34 %
Styrene polymer	9003-53-6	28 %
Copper	7440-50-8	19 %
Ethyl cyclohexane	1678-91-7	10 %
Solvent naphtha	Non Public	1.9 %

### 4. FIRST AID MEASURES

#### 4.1. Description of first aid measures

Inhalation	: Remove subject to ventilated fresh air. Consult physician if necessary.
Ingestion	: Refer for medical attention.
Skin contact	: Wash the affected area under tepid running water using a mild soap. And refer for medical attention if irritation continues.
Eye contact	: Gently rinse the affected eyes with clean water for at least 15 minutes. And refer for medical attention if irritation continues.
First aid facilities	: Ensure eyewash and water service are available.

#### 4.2. Most important symptoms and effects, both acute and delayed

Ink contact with skin may cause irritation, swelling or redness.

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- 4.3. Indication of any immediate medical attention and special treatment needed  
In case of skin or eye contamination treat as under First Aid Measures.

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## 5. FIRE-FIGHTING MEASURES

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- 5.1. Suitable extinguishing media  
: In case of fire, use foam, dry, chemical powder or carbon dioxide.
- 5.2. Specific hazards arising from the substance or mixture  
: CO<sub>2</sub>, CO, NO<sub>x</sub>, and SO<sub>x</sub>, is produced after combustion.
- 5.3. Special protective equipment and precautions for fire-fighters  
: None

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## 6. ACCIDENTAL RELEASE MEASURES

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- 6.1. Personal precautions, protective equipment and emergency procedures  
: Use proper ventilation. Use eye and skin protection.
- 6.2. Environmental precautions  
: Do not dispose of waste to the sewer.
- 6.3. Methods and material for containment and cleaning up  
: Absorb spill with material (cloth or paper), then place in a chemical waste containers.

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## 7. HANDLING AND STORAGE

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- 7.1. Precautions for safe handling  
: Use proper ventilation. Avoid rough handling or dropping.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Keep out of reach of children and do not drink ink.
- 7.2. Conditions for safe storage, including any incompatibilities  
: Store in a dry, cool, well-ventilated location, away from possible all source of ignition.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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- 8.1. Control parameters  
Occupational exposure limits

Component	Standard control concentration	Threshold limit values	
		Japan Society for Occupational Health	ACGIH
Methyl cyclohexane	None	400 ppm	TLV-TWA 400 ppm
Styrene polymer	None	2 mg/m <sup>3</sup>	-
Copper	None	-	TLV 1 mg/m <sup>3</sup> (Powder)
Ethyl cyclohexane	None	None	None
Solvent naphtha	None	2 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>

- 8.2. Appropriate engineering controls  
: In the case of the handling of the room to install a closed reduction or local exhaust sources.  
Electrical equipment to be used in handling the location could be explosion-proof structure, equipment is static electricity measures.
- 8.3. Individual protection measures, such as personal protective equipment  
: Wear protective gloves/protective clothing/eye protection/face protection.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

(a) Appearance	: Liquid [Color] Gold
(b) Odor	: Organic solvent odor
(c) Odor threshold	: No data
(d) pH	: Not applicable
(e) Melting point/freezing point	: -126.9 degrees Celsius (Methyl cyclohexane)
(f) Initial boiling point/boiling range	: 100.9 degrees Celsius (Methyl cyclohexane)
(g) Flash point	: -3.9 degrees Celsius (Methyl cyclohexane)
(h) Evaporation rate	: No data
(i) Flammability (solid, gas)	: Flammable
(j) Upper/lower flammability or explosive limits	: LEL 1.1 vol%, UEL 6.7 vol% (Methyl cyclohexane)
(k) Vapor pressure	: 6200 Pa (at 25 degrees Celsius) (Methyl cyclohexane )
(l) Vapor density	: 3.4 (Methyl cyclohexane)
(m) Relative density	: 1.10 (at 20 degrees Celsius)
(n) Solubility	: Insoluble in water
(o) Partition coefficient: n-octanol/water	: log Pow=4.13 (Methyl cyclohexane)
(p) Auto-ignition temperature	: No data
(q) Decomposition temperature	: No data
(r) Viscosity	: 18 mPa·s (at 20 degrees Celsius)

9.2. Other information : None

**10. STABILITY AND REACTIVITY**

10.1. Reactivity	: This material is stable.
10.2. Chemical stability	: This material is stable.
10.3. Possibility of hazardous reactions	: This material is stable.
10.4. Conditions to avoid	: Direct sunshine, the high temperature and source of ignition.
10.5. Incompatible materials	: Strong oxidizing agents and reducing agents.
10.6. Hazardous decomposition products	: Heating can release vapors which can be ignited. : Burning produces obnoxious and toxic fumes, carbon oxides.

**11. TOXICOLOGICAL INFORMATION**

There is no data available on the mixture itself.

**11.1. Information on toxicological effects**

Acute toxicity(Oral)	: Methyl cyclohexane	: Category 4
	: Styrene polymer	: Category 5
Skin corrosion/irritation	: Methyl cyclohexane	: Category 3
Eye damage/irritation	: Methyl cyclohexane	: Category 2
	: Ethyl cyclohexane	: Category 2
Reproductive toxicity	: Methyl cyclohexane	: Category 2

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Germ cell mutagenicity	: Solvent naphtha	: Category 2
Specific target organ toxicity (single exposure)	: Solvent naphtha	: Category 2a(lung)
	: Methyl cyclohexane	: Category 3(narcotic effects)
	: Ethyl cyclohexane	: Category 3(narcotic effects)
	: Copper	: Category 3(respiratory tract irritation)
Specific target organ toxicity (repeated exposure)	: Copper	: Category 1(liver)
	: Solvent naphtha	: Category 1(lung, skin)
Aspiration hazard	: Methyl cyclohexane	: Category 1
	: Ethyl cyclohexane	: Category 1

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## 12. ECOLOGICAL INFORMATION

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There is no data available on the mixture itself.

### 12.1. Ecotoxicity

12.1.1. Hazardous to the aquatic environment, short-term (acute)	: Methyl cyclohexane	: Category 2
	: Ethyl cyclohexane	: Category 1
12.1.2. Hazardous to the aquatic environment, long-term (chronic)	: Methyl cyclohexane	: Category 2
	: Ethyl cyclohexane	: Category 1
12.2. Persistence and degradability	: No data available	
12.3. Bioaccumulative potential	: No data available	
12.4. Mobility in soil	: No data available	
12.5. Other adverse effects	: None	

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## 13. DISPOSAL CONSIDERATIONS

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### 13.1. Waste treatment methods

- Follow all regulations in your country.

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## 14. TRANSPORT INFORMATION

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14.1. UN number	: 1993
14.2. UN proper shipping name	: Flammable liquids, N.O.S.(Methyl cyclohexane)
14.3. Transport hazard class(es)	: 3
14.4. Packing group	: II
14.5. Environmental hazards	: Not applicable
14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	: Not applicable
14.7. Special precautions for user	: Not applicable

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## 15. REGULATORY INFORMATION

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Safety, health and environmental regulations/legislation specific for the substance or mixture

- Follow all regulations in your country.

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## 16. OTHER INFORMATION

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International GHS conformity.

The information here is given in good faith, but no warranty, express or implied, is made.

Final determination of suitability of any material is the sole responsibility of the user.