

SAFETY DATA SHEET

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Version: 005



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 : Twin Marker
Product code : SCA-TM-B/R/L/G/LG/LB/V/P/Y/O/LBN/BN
SCA-TM-B/R/L-BG
Mixture name : SC-EU-B(C)/R(C)/L(C)/G(C)/LG(C)/LB(C)/V(C)
/P(C)/Y(C)/O(C)/LBN(C)/BN(C)

1.2. Use of the mixture : Ink for writing instrument

1.3. Company identification e-mail address

Name of manufacture : PILOT CORPORATION OF EUROPE
/ supplier
Address : PAE de la Caille 74350 ALLONZIER-LA-CAILLE (France)
Telephone number : +33 (0)4 50 08 33 00
Working hours (from 8.30am to 12.30pm and from 01.30pm to 05.30pm
:04.00pm on Friday-French time)
Facsimile number : +33 (0)4 50 46 43 59
E-mail address : pilotfrance@piloteurope.com

1.4. Emergency telephone number : +33 (0)1 45 42 59 59

Association /Organization :ORFILA /INRS <http://www.centres-antipoison.net>

2. HAZARDS IDENTIFICATION

Based on the law and regulation in Japan

Physical /Chemical hazards : Flammable liquid
Environmental hazards : Not applicable
Effect of exposure : Not applicable
Symptom of exposure
Inhalation : Intentional exposure to ink vapors may cause respiratory irritation.
Ingestion : May cause upset stomach.
Skin contact : Ink contact with skin may cause irritation, swelling, or redness.
It is not expected to cause an allergic skin reaction.
Eye contact : Ink contact with eye may be mildly irritating.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Based on the law and regulation in Japan

For ink unless otherwise specified

Ingredients	CAS Number	EINECS Number	Weight %	Component
Ethanol	64-17-5	200-578-6	20-40	Red, Violet
1-Methoxypropan-2-ol	107-98-2	203-539-1	30-80	Exclude Black
1-Ethoxypropan-2-ol	1569-02-4	216-374-5	70-80	Black
Triethanolamine	102-71-6	203-049-8	1.0	Violet
Copper compound	Non Public	Non Public	0.2-7.0	G/LG/LB/V/LBN/BN
Chromium(III) compound	Non Public	Non Public	13	Black

4. 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.

Medical attention

Local contamination

: In case of skin or eye contamination treat as under First Aid Measures.

Systemic poisoning

: There is no specific antidote. Treat symptoms.

5. FIRE-FIGHTING MEASURES

5.1. Suitable extinguishing media : In case of fire, use water spray, foam, dry, chemical powder or carbon dioxide.

5.2. Extinguishing media which shall not be used for safety : None

5.3. Special exposure hazards arising from the substance or mixture itself, combustion products : CO₂, CO, NO_x, and SO_x, are produced after combustion.

5.4. Special protective equipment for fire-fighters : Not required

5.5. Additional information : None

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions : Use proper ventilation. Use eye and skin protection.

6.2. Environmental precautions : Do not dispose of waste to the sewer.

6.3. Methods for cleaning up : Absorb spill with material (cloth or paper), then place in a chemical waste containers.

6.4. Additional information : None

7. HANDLING AND STORAGE

- 7.1. Handling : Avoid rough handling or dropping.
- 7.1.1. Protective measures : Not required in normal use.
- 7.1.2. Measures to prevent aerosol and dust generation : Not required in normal use.
- 7.1.3. Measures required to protect the environment : Not required in normal use.
- 7.1.4. Specific requirements or handling rules : None.
- 7.1.5. Precautions against fire and explosion : Not required in normal use.
- 7.2. Storage : Store in a dry, cool, well-ventilated location , away from possible all source of ignition.
- 7.3. Specific use(s) : Not use it except the ink for writing instruments.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1. Exposure limit values : Not available
- 8.1.1. Occupational exposure controls : Not available
- 8.1.2. Biological limit values : Not available
- 8.1.3. DNEL and PNEC-value(s) as applicable : No data
- 8.2. Exposure controls
- 8.2.1. Occupational exposure controls
- a) Respiratory protection : Not required in normal use.
- b) Hand protection : Not required in normal use.
- c) Eye protection : Not required in normal use.
- d) Skin protection : Not required in normal use.
- 8.2.2. Environmental exposure controls
- | | | |
|-----------------|------------------------|------------------------|
| : ACGIH TLV-TWA | Ethanol | : 1000ppm |
| | 1-Methoxypropan-2-ol | : 100ppm |
| | Triethanolamine | : 5mg/m ³ |
| | Chromium(III) compound | : 0.5mg/m ³ |

9. PHYSICAL AND CHEMICAL PROPERTIES

For ink unless otherwise specified

9.1. General information

- Appearance : Liquid
[Color] Black, Red, Blue, Green, Light green, Light blue, Violet, Pink,
Yellow, Orange, Light brown, Brown
- Odor : Organic solvent odor
: Alcohol odor (SC-EU-R(C)/V(C))

9.2. Important health, safety and environmental information

- pH : Not applicable
- Boiling point / boiling range : 120 degrees Celsius (1-Methoxypropan-2-ol)
: 78.3 degrees Celsius (Ethanol)
: 132 degrees Celsius (1-Ethoxypropan-2-ol)
- Flash point : 32 degrees Celsius (1-Methoxypropan-2-ol)
: 13 degrees Celsius (Ethanol)
: 35 degrees Celsius (1-Ethoxypropan-2-ol)
- Flammability (solid, gas) : Flammable

Explosive properties	: LEL 1.9 vol%, UEL 13.1vol%(1-Methoxypropan-2-ol) : LEL 3.3 vol%, UEL 19.0 vol% (Ethanol) : LEL 1.3 vol%, UEL 12.0 vol% (1-Ethoxypropan-2-ol)
Oxidizing properties	: None
Vapor pressure	: 1.2 kPa (at 20 degree Celsius,1-Methoxypropan-2-ol) : 5.88 kPa (at 20 degree Celsius,Ethanol) : 1.33 kPa (at 20 degree Celsius, 1-Ethoxypropan-2-ol)
Relative density	: 0.90-0.97 (at 20 degrees Celsius)
Solubility	: Not applicable
Water solubility	: Insoluble
Partition coefficient: n-octanol / water	: -0.30 (lowPow, Ethanol)
Viscosity	: 2.9-6.9 mPa · s (at 20 degrees Celsius)
Vapor density	: 1.59 (Ethanol)
Evaporation rate	: 0.44 (1-Ethoxypropan-2-ol)

9.3. Other information : None

10. STABILITY AND REACTIVITY

10.1. Conditions to avoid	: Fire or intense heat may cause violent rupture of packages. : Take precautionary measures against static discharges.
10.2. Materials to avoid	: Strong oxidizing agents and reducing agents.
10.3. Hazardous decomposition products	: Heating can release vapours which can be ignited. : Burning produces obnoxious and toxic fumes, carbon oxides.

11. TOXICOLOGICAL INFORMATION

For ink unless otherwise specified

11.1. Toxicokinetics, metabolism and distribution	: No data
11.2. Acute effects (acute toxicity, irritation and corrosivity)	:
: Acute toxicity Ethanol	: LD ₅₀ 7,060mg/kg (rat oral) : LDL ₀ 1,400mg/kg (human oral)
1-Methoxypropan-2-ol	: LD ₅₀ 6,600mg/kg (rat oral) : LD ₅₀ 13,000mg/kg (rabbit skin)
1-Ethoxypropan-2-ol	: LD ₅₀ >5g/kg (rat inhalation) : LD ₅₀ 9ml/kg (rabbit skin)
Triethanolamine	: LD ₅₀ 4.92ml/kg (rat oral)
Copper Compound	: LD ₅₀ >2,000mg/kg (rat oral)
: Irritation Ethanol	: 400mg open ; Mild (rabbit skin) : 100mg/24h ; Mild (rabbit eye)
1-Methoxypropan-2-ol	: 500mg/hr ; Slight (rabbit skin) : 500mg/24hr ; Slight (rabbit eye)
11.3. Sensitization	: No data
11.4. Repeated dose toxicity	: No data
11.5. CMR (carcinogenicity, mutagenicity, and toxicity for reproduction)	: No data

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity	: No data
12.2. Mobility	: No data
12.3. Persistence and degradability	: No data
12.4. Bioaccumulative potential	: No data
12.5. Results of PBT assessment	: No data
12.6. Other adverse effects	: None

13. DISPOSAL CONSIDERATIONS

- Follow all regulations in your country.

14. TRANSPORT INFORMATION

For ink unless otherwise specified

14.1.1. UN number	: 1993
14.1.2. Class	: 3
14.2.1. Proper shipping name	: Flammable Liquid N.O.S.(Ethanol, Red, Violet) Flammable Liquid N.O.S.(1-Ethoxy propan-2-ol , Black) Flammable Liquid N.O.S.(1-Methoxy propan-2-ol, Exclude Black, Red, Violet)
14.3.1. Packing group	: II(Red, Violet),III(Exclude Red, Violet)
14.4.1. Marine pollutant	: Not applicable
14.5.1. Other applicable information	: None

The above mentioned information is for ink.

Finished marker pen itself is not regarded as hazardous goods.

Ink below 10 ml per pen is absorbed in polyester filter reservoir inside of the pen.

15. REGULATORY INFORMATION

- Follow all regulations in your country.

16. OTHER INFORMATION

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.

End of SDS