

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	50~60	All colors
1-Methoxypropan-2-ol	107-98-2	203-539-1	20	All colors
Copper compound	Non public	Non public	6	Green
Diphenylamine	122-39-4	204-539-4	< 0.25	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

9. PHYSICAL AND CHEMICAL PROPERTIES

For ink unless otherwise specified

9.1. General information

- Appearance : liquid
[Color] Black, Red, Blue, Green, Violet, Brown, Yellow, Orange
- Odor : alcohol odor

9.2. Important health, safety and environmental information

- pH : Not applicable
- Boiling point / boiling range : 78.3 degrees Celsius (ethanol)
- Flash point : 14.0 degrees Celsius (ethanol)
- Flammability (solid, gas) : Flammable
- Explosive properties : None
- Oxidizing properties : None
- Vapor pressure : 44 mmHg (at 20 degrees Celsius, ethanol)
- Relative density : 0.87-0.90 (at 20 degrees Celsius)
- Solubility : Not applicable
- Water solubility : Insoluble
- Partition coefficient: n-octanol / water : No data
- Viscosity : 4-6 mPa · s (at 20 degrees Celsius)
- Vapor density : 1.6 (at 20 degrees Celsius, ethanol)
- Evaporation rate : No data

- 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

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- 11.1. Toxicokinetics, metabolism and distribution : No data
- 11.2. Acute effects (acute toxicity, irritation and corrosivity)
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|------------------|----------------------|--|
| : Acute toxicity | Ethanol | :LD ₅₀ 7060mg/kg (rat oral) |
| | | :LDL ₀ 1400mg/kg (human oral) |
| | 1-Methoxypropan-2-ol | :LD ₅₀ 6600mg/kg (rat oral) |
| | | :LD ₅₀ 13000mg/kg (rabbit skin) |
| : 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

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- 14.1. UN number : 1993
- 14.2. Class : 3
- 14.3. Proper shipping name : Not applicable
- 14.4. Packing group : Not applicable
- 14.5. Marine pollutant : Not applicable
- 14.6. Other applicable information : None

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