



Sino Path Enterprises Ltd.

Material Safety Data Sheet: Dry Erase Markers (All Colors Ink)

2. COMPOSITION INFORMATION

INGREDIENT	% OF FORMULA	CAS NO.
Denatured Ethanol	40 - 60 %	64 - 17 - 5
Iso-Propanol	20 - 40 %	67-63-0
Pigments, Resins, Release Agents, Surfactants	15 - 30%	Blend

3. HAZARDS IDENTIFICATION

Highly Flammable Irritating to eyes Vapours may cause drowsiness and dizziness.

The product contains volatile alcohol solvent fractions that may be narcotic in high concentrations and degreasant to the skin.

4. HEALTH EFFECTS & FIRST AID

ROUTE	EFFECT	FIRST AID
Oral	Harmful	Give plenty to drink if ingestion is suspected. DO NOT induce vomiting and consult a physician.
Skin Contact	Will degrease skin - can cause irritation	Remove any contaminated clothing. Wash with soap & flowing water for 15 minutes. If irritation continues consult a physician.
Eye Contact	May cause damage	Irrigate with a suitable eye solution or water for ten minutes - obtain medical attention.
Inhalation	Narcotic - avoid inhalation	Remove from exposure - in severe cases obtain medical attention.

5. FIRE FIGHTING

Flash point: 13 Deg. C

Flammable limits: upper 12 %, lower 1.5%

Hazard:- Low flash point, requires attention to equipment used in transport and use so as to avoid sparks and other sources of ignition. Fire fighters should wear proper protective equipment and self-contained breathing apparatus with full face-piece. Move exposed containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool. Vapours may flow along surfaces to distant ignition sources and flash back. Closed containers exposed to heat may explode.

Extinguisher Type: Foam, Dry Powder, Carbon Dioxide. Water may be ineffective.

6. ACCIDENTAL RELEASE

Remove all possible sources of ignition. Ventilate area. Absorb where possible and containerise.

Absorbent materials containing this product must be disposed of as Special Waste. They are dangerous for transport purposes and must be transported under the description UN1325, Waste Flammable Solid, Organic n.o.s. (Ethanol, Propanol), Class 4.2, Packing group II.

Solvent fraction fully miscible with water. Avoid release to sewer, waterway or ground and inform local authorities if large amounts are involved.

7. HANDLING AND STORAGE

Handling:- Product is not intended nor should be allowed to maintain prolonged skin contact. Multichem advise that their Cap-Off range of inks be stored for at least 24 hours at around 25°C and then agitated prior to assembly into markers or pen products.

Storage:- Keep away from heat and oxidising agents- store at normal room temperature (Between 10° - 25°C). Assembled markers should be stored horizontally.

Check with fire dept. for need of fire certificate. Check with HSE or equivalent body for need of door sills, special electrical equipment and any other relevant precautions.

Shelf Life: - 1 year minimum.

8. PERSONAL PROTECTION

Avoid inhalation of the vapours when the product is being used. Keep away from eyes and skin - use latex gloves and safety goggles if handling. Do not permit smoking whilst product is used. **Keep away from children.**

9. PHYSICOCHEMICAL DATA

The product is an alcohol based ink. The flammable vapour will be heavier than air.

Volatility: Approx. 80%
Specific Gravity: 0.82 - 0.86 g/cm³
Appearance: Coloured liquid
Colour: According to product specification
Odour: Characteristic odour of alcohol solvent
Boiling point: 78 deg. C.
Flash point: 13 deg. C.
Autoflammability: 422 deg. C
Explosive properties: Product is not explosive. However, formation of explosive air/steam mixtures is possible.
Water miscibility: Alcohol fraction is miscible with water.
Solvent content: 70-85%
Non volatile matter: 15-30%
Viscosity: 5-11 cps.

10. STABILITY AND REACTIVITY

Normally a stable product. Decomposition products (oxides of carbon) generated at high temperatures. Reacts strongly with oxidisers.

11. TOXICOLOGICAL INFORMATION

The alcohol and other content may cause liver and kidney damage if abused. LD 50 of the prime solvent is 1000 mg/Kg. (Rat).

12. ECOLOGICAL INFORMATION

Biodegradable alcohol solvent fraction. No adverse effects upon ecosystems. Avoid contact with sewer, water system or ground. This product is poorly absorbed into soils or sediments.

13. DISPOSAL CONSIDERATIONS

Burn or bury, in accordance with local regulations. -"Special" waste. Empty containers are to be treated as hazardous and not to be reused.

14. TRANSPORT INFORMATION

UN. No.: 1993
Proper Shipping Name: Flammable Liquid n.o.s. (Ethanol and Propanol)
ADR, IATA, IMDG Hazard Class: 3
Packing Group: II

15. REGULATORY INFORMATION

Label for supply: F-Flammable, I-Irritant

Safety Phrase: R11-Highly Flammable, R36-Irritating to eyes, R67-Vapours may cause drowsiness and dizziness
S7-Keep container tightly closed, S16-Keep away from sources of ignition-No Smoking

The product conforms to the requirements of the Pencils & Graphics (Safety) Regulations in respect of toxic heavy metals.

The product conforms to the requirements of the EN71 Standard in respect of migration of certain elements.

The product conforms to the requirements of ASTM D-4236 in respect of toxicity.