

DY-MARK DUO PERMANENT MARKER PEN

Chemwatch Independent Material Safety Data Sheet
Issue Date: 8-Sep-2009
C9317EC

CHEMWATCH 22-1164
Version No:2.0
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

DY-MARK DUO PERMANENT MARKER PEN

PROPER SHIPPING NAME

FLAMMABLE LIQUID, N.O.S.(contains n-propanol,ethanol and 2-propoxyethanol)

PRODUCT USE

Marking on most surfaces.

Product Colours: Black, Blue, Green, Red, Violet.

Information on this MSDS refers to ink used in pens and markers, however, it applies to these inks in bulk. The inks are contained in capillary or valve reservoirs and will not spill or leak under normal conditions.

SUPPLIER

Company: Dy- Mark Pty Ltd
Address:
89 Formation Street
Wacol
QLD, 4076
AUS
Telephone: +61 7 3271 2222
Fax: +61 7 3271 2751

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK

Risk Codes

R10

R22

R41

R65

R67

Risk Phrases

■ Flammable.

■ Harmful if swallowed.

■ Risk of serious damage to eyes.

■ HARMFUL- May cause lung damage if swallowed.

■ Vapours may cause drowsiness and dizziness.

SAFETY

Safety Codes

S36

S401

S13

S46

S60

Safety Phrases

■ Wear suitable protective clothing.

■ To clean the floor and all objects contaminated by this material use water and detergent.

■ Keep away from food drink and animal feeding stuffs.

■ If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

■ This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
marker ink contains		
n- propanol	71-23-8	<45
ethanol	64-17-5	<45
2- propoxyethanol	2807-30-9	1-5

Section 4 - FIRST AID MEASURES

SWALLOWED

■ - If swallowed do NOT induce vomiting.

- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

- Avoid giving milk or oils.

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Section 4 - FIRST AID MEASURES

- Avoid giving alcohol.
- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

EYE

- If this product comes in contact with the eyes:
 - Immediately hold eyelids apart and flush the eye continuously with running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN

- If skin contact occurs:
 - Immediately remove all contaminated clothing, including footwear.
 - Flush skin and hair with running water (and soap if available).

INHALED

- - If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.

NOTES TO PHYSICIAN

- for poisons (where specific treatment regime is absent):

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
 - Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.
- For acute or short term repeated exposures to ethanol:
- Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
 - Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- - Alcohol stable foam.
- Dry chemical powder.

FIRE FIGHTING

- - Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 500 metres in all directions.

FIRE/EXPLOSION HAZARD

- - Liquid and vapour are flammable.
 - Moderate fire hazard when exposed to heat or flame.
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

FIRE INCOMPATIBILITY

- - Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM: ●3Y

PERSONAL PROTECTION

Glasses:
Chemical goggles.
Gloves:
PVC chemical resistant type.
Respirator:
Type ANO Filter of sufficient capacity

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- - Remove all ignition sources.
- Clean up all spills immediately.

MAJOR SPILLS

- - Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

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Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- - Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- DO NOT allow clothing wet with material to stay in contact with skin.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.

SUITABLE CONTAINER

- - Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C).

STORAGE INCOMPATIBILITY

- Alcohols
- are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents.
- reacts, possibly violently, with alkaline metals and alkaline earth metals to produce hydrogen.

STORAGE REQUIREMENTS

- - Store in original containers in approved flammable liquid storage area.
- Store away from incompatible materials in a cool, dry, well-ventilated area.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Notes
Australia Exposure Standards	n- propanol (Propyl alcohol)	200	492	250	614	Sk
Australia Exposure Standards	ethanol (Ethyl alcohol)	1000	1880			

The following materials had no OELs on our records

- 2- propoxyethanol: CAS:2807- 30- 9

PERSONAL PROTECTION

RESPIRATOR

Type ANO Filter of sufficient capacity

EYE

- - Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET

- - Wear chemical protective gloves, eg. PVC.
 - Wear safety footwear or safety gumboots, eg. Rubber.
- Suitability and durability of glove type is dependent on usage. Factors such as:
- frequency and duration of contact,
 - chemical resistance of glove material,

OTHER

- - Overalls.
- PVC Apron.
- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets), non sparking safety footwear.

ENGINEERING CONTROLS

- For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Coloured opaque flammable liquid; mixes with water.
Supplied as a felt tipped marking pen.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Mixes with water.

Molecular Weight: Not Applicable
Melting Range (°C): Not Available
Solubility in water (g/L): Miscible
pH (1% solution): Not Available
Volatile Component (%vol): Not Available
Relative Vapour Density (air=1): Not Available
Lower Explosive Limit (%): Not Available
Autoignition Temp (°C): 360
State: LIQUID

Boiling Range (°C): 96
Specific Gravity (water=1): 0.931
pH (as supplied): Not Available
Vapour Pressure (kPa): Not Available
Evaporation Rate: Not Available
Flash Point (°C): 23
Upper Explosive Limit (%): 13.5
Decomposition Temp (°C): Not Available
Viscosity: Not Applicable

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- - Presence of incompatible materials.
 - Product is considered stable.
- For incompatible materials - refer to Section 7 - Handling and Storage.*

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

- Harmful if swallowed.
- HARMFUL- May cause lung damage if swallowed.
- Risk of serious damage to eyes.
- Vapours may cause dizziness or suffocation.
- Vapours may cause drowsiness and dizziness.

CHRONIC HEALTH EFFECTS

- Not applicable.

TOXICITY AND IRRITATION

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

■ The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis.

N-PROPANOL:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (woman) LDLo: 5700 mg/kg
Oral (rat) LD50: 1870 mg/kg
Dermal (rabbit) LD50: 5040 mg/kg

IRRITATION

Skin (rabbit): 500 mg Open Mild
Skin (rabbit): 20 mg/24h Moderate
Eye (rabbit): 4 mg Open SEVERE
Eye (rabbit): 20 mg/24h Moderate

■ The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis.

ETHANOL:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 7060 mg/kg
Oral (human) LDLo: 1400 mg/kg
Oral (man) TDLo: 50 mg/kg
Oral (man) TDLo: 1.40 mg/kg
Oral (woman) TDLo: 256 mg/kg/12 wks
Inhalation (rat) LC50: 20,000 ppm/10h
Inhalation (rat) LC50: 64000 ppm/4h

IRRITATION

Skin (rabbit): 20 mg/24hr- Moderate
Skin (rabbit): 400 mg (open)- Mild
Eye (rabbit): 100mg/24hr- Moderate
Eye (rabbit): 500 mg SEVERE

■ The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis.

2-PROPOXYETHANOL:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 3089 mg/kg
Inhalation (rat) LC50: 2000 ppm/4 hour
Dermal (rabbit) LD50: 960 mg/kg

IRRITATION

Skin (rabbit): 500 mg/24h - Mild
Eye (rabbit): 0.75 mg/24h SEVERE
Eye (rabbit): 100 mg - SEVERE

■ The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of

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Section 11 - TOXICOLOGICAL INFORMATION

dermatitis is often characterised by skin redness (erythema) and swelling epidermis.

For ethylene glycol monoalkyl ethers and their acetates (EGMAEs):

Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates

EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces alkoxyacetic acids, which are the predominant urinary metabolites of mono substituted glycol ethers.

There have been no specific human studies, but the consistency of the animal experiments emphasizes that human exposure should be dramatically reduced.

CARCINOGEN

Ethanol in alcoholic beverages	International Agency for Research on Cancer (IARC) Carcinogens	Group	1
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SKIN

n- propanol	Australia Exposure Standards - Skin	Notes	Sk
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Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulat ion	Mobility
Dy- Mark Duo Permanent Marker pen		No data		
n- propanol		No data		
ethanol		No data		
2- propoxyethanol		No data		

Section 13 - DISPOSAL CONSIDERATIONS

- - Containers may still present a chemical hazard/ danger when empty.
 - Return to supplier for reuse/ recycling if possible.
- Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.
- DO NOT allow wash water from cleaning or process equipment to enter drains.
 - It may be necessary to collect all wash water for treatment before disposal.
 - Recycle wherever possible.
 - Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE LIQUID
HAZCHEM: ●3Y (ADG7)

ADG7:

Class or division:	3	Subsidiary risk:	None
UN No.:	1993	UN packing group:	III
Special provisions:	223, 274	Packing Instructions:	None
Notes:	None	Limited quantities:	5 L
Portable tanks and bulk containers - Instructions:	T4	Portable tanks and bulk containers - Special provisions:	TP1, TP29
Packagings and IBCs - Packing instruction:	P001, IBC03, LP01	Packagings and IBCs - Special packing provisions:	None

Shipping Name:FLAMMABLE LIQUID, N.O.S. (contains n-propanol,ethanol and 2-propoxyethanol)

Land Transport UNDG:

Class or division:	3	Subsidiary risk:	None
UN No.:	1993	UN packing group:	III

Shipping Name:FLAMMABLE LIQUID, N.O.S. (contains n-propanol,ethanol and 2-propoxyethanol)

Air Transport IATA:

ICAO/IATA Class:	3	ICAO/IATA Subrisk:	None
UN/ID Number:	1993	Packing Group:	III
Special provisions:	A3 A148		

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Section 14 - TRANSPORTATION INFORMATION

Shipping Name: FLAMMABLE LIQUID, N.O.S. *(CONTAINS N-PROPANOL,ETHANOL AND 2-PROPOXYETHANOL)

Maritime Transport IMDG:

IMDG Class:	3	IMDG Subrisk:	None
UN Number:	1993	Packing Group:	III
EMS Number:	F- E, S- E	Special provisions:	223 274 330 944 955
Limited Quantities:	5 L	Marine Pollutant:	Not Determined

Shipping Name: FLAMMABLE LIQUID, N.O.S.(contains n-propanol, ethanol and 2-propoxyethanol)

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

Regulations for ingredients

n-propanol (CAS: 71-23-8) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances in Bulk", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "OECD Representative List of High Production Volume (HPV) Chemicals"

ethanol (CAS: 64-17-5) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Illicit Drug Reagents/Essential Chemicals - Categories 1-4", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "International Agency for Research on Cancer (IARC) Carcinogens", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

2-propoxyethanol (CAS: 2807-30-9) is found on the following regulatory lists;

"Australia Hazardous Substances", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

No data for Dy-Mark Duo Permanent Marker pen (CW: 22-1164)

Section 16 - OTHER INFORMATION

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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This is the end of the MSDS.