HMIS CODES	H	2	F	3	R	0	PPE	BX

MULTICHEM
THE INK SPECIALISTS

TYNE MILLS IND. ESTATE
HEXHAM
NORTHUMBERLAND
ENGLAND
NE46 1XL

TEL: +44 1434 606 085
FAX: +44 1434 601 804

MAIL@MULTICHEM.NET
WWW.MULTICHEM.NET

THE QUEEN'S AWARDS FOR ENTERPRISE 2002

Multichem Limited

Premium Permanent Ink (PP120,PP140)

All Colours

Safety Data Sheet

(Prepared according to 91/155/EEC)

Emergency Telephone Number (24Hrs) +44 7887 612787

1.0	**Identification of the Substance / Preparation and of the company / undertaking**	
1.1	Product Name	Premium Permanent Ink PP120 and PP140
1.2	Intended use	Marking ink for use in writing instruments
1.3	Supplier / Manufacturer Address	Multichem Limited Tyne Mills Industrial Estate Hexham Northumberland England
1.4	**24Hr Emergency Tel:** Daytime Tel:	**+44 7887 612787** +44 1434 606 085
	Fax Number	+44 1434 601 804

2.0	**Composition / Information On Ingredients**					
	Contains:	EINECS	CAS	Conc'n %	Symbols	R-phrases
	Propan-1-ol (n-Propanol)	200-746-9	71-23-8	20 to 30%	F Xi	R11 R41-R67
	1-Methoxypropan-2-ol (1-Methoxy-2-Propanol)	203-539-1	107-98-2	30 to 60%		R10
	Solvent Dyes*			<13%	Xn	R20 R21 R33
	Basic Dyes*			<7%	Xn N	R.20.21.22. R33 R51.53

Note: The complete text of risk –R- phrases can be found in Section 15 and 16

**The chemical nature of the dyes used has been included as detailed in Article 15 of Directive 1999/45/EC*

3.0	**Hazards Identification**	
3.1	Preparation Classification	This preparation is dangerous under 67/548/EEC and 1999/45/EC regulations as amended. This preparation requires a Safety Data Sheet in accordance with 91/155/EC as amended. Additional information relating to health and environmental hazards can be found in Sections 11 and 12 of this Safety Data Sheet.
3.2	Danger Symbols:	**F Xi**
3.3	Phrases –R–	**R11 R41 R67 R33 R52.53**
3.4	Danger Identification	HIGHLY FLAMMABLE. RISK OF SERIOUS DAMAGE TO EYES. VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS. HARMFUL IF SWALLOWED. DANGER OF CUMULATIVE EFFECTS. HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

REGISTERED OFFICE:
3 PORTLAND TERRACE,
JESMOND
NEWCASTLE UPON TYNE
ENGLAND
NE2 1QQ

VAT REG. 178116454
COMPANY REGISTERED IN
ENGLAND NO. 1100854

4.0	First Aid Measures		
	Route	**Effect**	**First Aid**
4.1	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.
4.2	Eye Contact	May cause damage	Irrigate with a suitable eye solution or water for ten minutes - obtain medical attention.
4.3	Inhalation	Narcotic avoid inhalation	Remove from exposure - in severe cases obtain medical attention.
4.4	Ingestion	Harmful	Give plenty to drink if ingestion is suspected. DO NOT induce vomiting and consult a physician.
5.0	**Fire-Fighting Measures**		
5.1	Hazard	Low Flash Point - 15°C (Closed Cup) Explosive Limits : Lower Limit 1.9% to 13.5% Upper Limit.	
5.1	Extinguishing Media	Alcohol resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Water may not be effective initially.	
5.2	Media to avoid		
5.3	Hazardous Combustion Products	Carbon Monoxide (CO) can form with incomplete combustion. Some Oxides of Nitrogen (NO_X) and Sulphur (SO_X) could be formed. Complete combustion will yield primarily Carbon Dioxide (CO_2) and Water.	
5.4	Protective Equipment	Fire fighters should wear proper protective equipment and self-contained breathing apparatus with full face-piece	
5.5	Additional Information	Vapours may flow along surfaces to distant ignition sources and flash back. Closed containers exposed to heat may explode. Move exposed containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.	
6.0	**Accidental Release Measures**		
6.1	Personal Precautions	Avoid contact with skin and eyes. Ventilate contaminated area thoroughly. Do not breathe vapour. Extinguish naked flames. Remove ignition sources. No smoking. Avoid sparks. Evacuate the area of all non-essential personnel. Shut off leaks, if possible without personal risk.	
6.2	Environmental Precautions	Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.	
6.3	Method of Clean Up	Absorb or contain liquid with sand, earth or spill control material. Collect avoiding possible spark ignition and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum. Solvent is miscible with water. Flush contaminated area with plenty of water. Retain washings as contaminated waste. Refer to Sections 8.0 and 13.0 for additional information on Exposure and Disposal.	
7.0	**Handling and Storage**		
7.1	Handling	Product is not intended nor should be allowed to maintain prolonged skin contact. Ensure good ventilation or the provision of local exhaust ventilation where possible. Avoid contact with eyes, skin and clothing, avoid ingestion and inhalation. Avoid sources of Ignition.	
7.2	Storage	Keep away from direct sunlight and other sources of heat or ignition. Do not smoke in storage areas. Keep container tightly closed and in a well-ventilated place.	
7.3	Product Transfer	Low flash point, requires attention to equipment used in transport and use so as to avoid sparks and other sources of ignition. Take precautionary measures against static discharges. Earth all equipment. Avoid splash filling. Do not empty into drains. 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.	

8.0	**Exposure Controls / Personal Protection**		
8.1	Exposure Limit Values	Propan-1-ol	8hour TWA 200ppm (492mg/m3) (skin) STEL (15 mins) 250ppm (615mg/m3) (skin) (ACGIH 1999)
		1-Methoxypropan-2-ol	8hour TWA 100ppm (369mg/m3) STEL (15 mins) 150ppm (553mg/m3) (ACGIH 1997). MAK 100ppm (375mg/m3)(1996)
8.2	Personal Protection		
	Respiratory Protection	Avoid inhalation of the vapours when the product in being used. Local exhaust ventilation (LEV) should be used in conjunction with other control measures as a means of removing material incidentally released. Type approved RPE for organic vapours if required.	
	Hand Protection	Protective Butyl gloves	
	Eye Protection	Safety goggles or face shield	
	Skin Protection	Overalls and anti static safety shoes	
	Additional	Do not permit smoking whilst product is used. **Keep away from children.**	
8.3	Environmental Exposure	See Section 12 for detailed information	
9.0	**Physical and Chemical Properties**		
	Odour	Characteristic Odour of Propan-1-ol and 1-Methoxypropan-2-ol	
	Appearance	Coloured Liquid	
	Volatility	Approx 80% Volatile Solvents	
	pH	4.0 to 9.0	
	Boiling Point / Range	96 to 122°C	
	Flash Point	15°C	
	Auto-ignition	270°C	
	Explosive Properties	This preparation is not considered explosive. It will form explosive Vapour / Air Mixtures.	
	Explosive Limits :	Lower Limit 1.9% to 13.5% Upper Limit. (Volume % in Air)	
	Oxidising Properties	N/A	
	Vapour Pressure	13.3mbar at 20°C	
	Relative Density	0.92 (water = 1.0)	
	Solubility	Water Solubility – Solvents Miscible with Water Fat Solubility -	
	Partition Coefficient	n-Octanol / Water – N/A	
	Viscosity	5 – 9 cP	
	Vapour Density	Relative density of the vapour / air mixture at 20°C = 1.02 (Air = 1.0)	
	Evaporation Rate	N/A	
10.0	**Stability and Reactivity**		
10.1	Conditions to Avoid	Considered a Stable Product.	
10.2	Materials to Avoid	Reacts with strong oxidants causing fire and explosion hazards. Can also react with acid chlorides, acid anhydrides, aluminium and copper. It may attack some forms of plastic and rubber.	
10.3	Hazardous	May give of irritant / toxic fumes if involved in a fire. Primarily forms oxides of carbon during	

	Decomposition	combustion.

11.0	**Toxicological Information**	
11.1	Acute Effects	
	Vapour inhalation	Ataxia, Confusion, Dizziness, Drowsiness, Headache, Nausea, Weakness
	Skin	De-fatting of Skin. Dry Skin Note that dermal absorption of solvents could also contribute substantially to the total body burden.
	Eyes	Lacrimation, Redness, Pain, Blurred Vision
	Ingestion	Abdominal Pain, Sore Throat, Drowsiness, Headache, Nausea
11.2	Target Organ Effects	The preparation may cause Liver & Kidney damage if abused.
11.3	Sensitisation	Allergic skin reaction / dermatitis could occur with misuse of this preparation.
12.0	**Ecological Information**	
12.1	Ecotoxicity	Propan-1-ol exhibits low acute toxicity to aquatic species. The 96-hour LC50 value for the fathead minnow ranges from 4100-5000 ppm. The toxicity threshold values for bacteria (Pseudomonas putida), euglenoid (Entosiphon sulcatum) and green algae (Scenedesmus quadricauda) in cell multiplication inhibition tests were 2700, 38 and 3100 ppm, respectively. 1-Methoxypropan-2-ol Acute toxicity testing in fish, invertebrates, and algae indicate a very low order of toxicity with effect concentration exceeding 1,000 mg/L. Using an assessment factor of 100 for the fish 96 hour LC 50 of 20,800 mg/L, a PNEC of 208 mg/L was derived. Solvent Dyes and Basic Dyes Toxicity to Fish EC/LC50: 1-16mg/l Leuciscus idus Toxicity to Bacteria EC/LC50: 1 – 10 mg/l Modified Waste Test
12.2	Mobility	Mobile liquid. Contains approx 80% volatile components. Solvents readily absorbed into soil. Non volatile content only slightly soluble in water. Dyes vary in solubility and some leaching into soil may occur from the non volatile fraction.
12.3	Persistance and Degradability	Solvents are readily biodegradable. 1-Methoxypropan-2-ol The half-life in air is estimated to be 3.1 hours due to direct reactions with photochemically generated hydroxyl radicals. It is readily biodegraded under aerobic conditions.
12.4	Bioaccumulative Potential	Propan-1-ol The log octanol/water partition coefficient for propanol is 0.25- 0.34. The calculated bio-concentration factor is 0.7. This indicates that it has low potential to bio-concentrate in aquatic organisms. 1-Methoxypropan-2-ol It is likely to partition to water compartments in the environment (surface water, groundwater) with small to negligible amounts remaining in other environmental compartments (air, soil, sediment, and fish). Solvent Dyes and Basic Dyes Some of the solvent dyes can contain copper or chromium (111) which can accumulate after breakdown of the dye complex.

12.5	Other Adverse Effects	

13.0	**Disposal Considerations**		
		Dispose of spilled material and containers in accordance with State and Local regulations for hazardous or 'Special' waste. Consider recycling or incineration. State or Local regulations are complex and subject to change so should be consulted by the owner of the waste prior to disposal.	
14.0	**Transport Information**		
	UN No:	1993	
	Proper Shipping Name:	Flammable Liquid n.o.s (Contains Propanol)	
	ADR, IATA, IMDG Hazard Class	3	
	Packing Group	2	
15	**Regulatory Information**		
15.1	Hazard Symbols	**F**	**Xi**
		HIGHLY FLAMMABLE	**IRRITANT**
15.2	-R-phrases		
	R11	HIGHLY FLAMMABLE	
	R22	HARMFUL IF SWALLOWED	
	R41	RISK OF SERIOUS DAMAGE TO EYES	
	R67	VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS	
	R33	DANGER OF CUMULATIVE EFFECTS	
	R52.53	HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT	
15.3	-S-Phrases		
	S(2)	KEEP OUT OF THE REACH OF CHILDREN	
	S7	KEEP CONTAINER TIGHTLY CLOSED	
	S16	KEEP AWAY FROM SOURCES OF IGNITION – NO SMOKING	
	S24/25	AVOID CONTACT WITH SKIN AND EYES	
	S26	IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE	
	S36/37/39	WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE / FACE PROTECTION	
	S43	IN CASE OF FIRE USE FOAM, CO2, DRY CHEMICAL	
	S60	THIS MATERIAL AND ITS CONTAINER MUST BE DISPOSED OF AS HAZARDOUS MATERIAL	

15.4	Contains	Propan-1-ol

16	**Other information**	
16.1	-R-Phrases	
	R10	FLAMMABLE
	R20/21	HARMFUL BY INHALATION AND IN CONTACT WITH SKIN
	R20/21/22	HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED
16.2	Select Bibliography	Regulation 67/548/EEC Regulation 91/155/CE Regulation 1999/45/CE Regulation 2001/58/CE Regulation 2001/59/CE Regulation 2001/60/CE
16.3	The product conforms to the requirements of the Pencils & Graphics (Safety) Regulations in respect of toxic heavy metals.	
16.4	The product conforms to the requirements of the EN71 Part 3 Standard in respect of migration of certain elements.	
16.5	The product conforms to the requirements of ASTM D-4236 in respect of toxicity.	
16.6	HS Tariff No:	321590 10
16.7	The information contained herein does not constitute the user's own assessment of workplace risk as required by other health and safety legislation. The above information is provided in good faith and is based on our present knowledge. It shall not constitute a guarantee for any specific product feature and shall not establish a legally valid contractual arrangement.	