SAFETY DATA SHEET

Thermochromic blood-red to brick-red ink 1270

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT NAME: Thermochromic blood-red to brick-red ink 1270

PART No.: 1270

APPLICATIONS: Ink for Linx® CIJ printers

SUPPLIER: Linx Printing Technologies plc
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2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	CONTENTS	HEALTH (class)	RISK (R No.)
BUTANONE	78-93-3	30-60 %	Xi	36, 66, 67
ETHANOL	64-17-5	30-60 %		
2-METHOXY-1-METHYLETHYL ACETATE	108-65-6	10-30 %	Xi	36
METHANOL	67-56-1	1-5 %	T	23/24/25, 39/23/24/25

COMPOSITION COMMENTS: A mixture of colourants, resins, additives, and solvents.

3 HAZARDS IDENTIFICATION

Highly flammable.
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

4 FIRST AID MEASURES

GENERAL: Get medical attention if any discomfort continues. Do not give victim anything to drink if he is unconscious.

INHALATION: Move the exposed person to fresh air at once. If breathing stops, provide artificial respiration. Keep the affected person warm and at rest. Get prompt medical attention.

INGESTION: DO NOT INDUCE VOMITING! Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Provide rest, warmth and fresh air. Get medical attention immediately!

SKIN: Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if irritation persists after washing.

EYES: Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes and get medical attention.

5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Fire can be extinguished using: Alcohol resistant foam. Carbon dioxide (CO2). Water spray, fog or mist. Powder.

SPECIAL FIRE FIGHTING PROCEDURES:

Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control. Containers close to fire should be removed or cooled with water.

UNUSUAL FIRE & EXPLOSION HAZARDS:

HIGHLY FLAMMABLE! Vapours may form explosive mixture with air at room temperature. Vapours are heavier than air and may spread near ground to sources of ignition. May travel considerable distance to source of ignition and flash back.

6 ACCIDENTAL RELEASE MEASURES

SPILL CLEANUP METHODS: Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Clean-up personnel should use respiratory and/or liquid contact protection. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS: Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Risk of vapour concentration on the floor and in low lying areas. Contaminated rags and cloths must be put in fire proof containers for disposal.

STORAGE PRECAUTIONS: Flammable/combustible - Keep away from oxidizers, heat and flames. Keep in cool, dry, ventilated storage and closed containers. May attack some plastics, rubber and coatings.

STORAGE CRITERIA: Flammable liquid storage.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME	CAS No	STD	LT EXP (8 hrs)	ST EXP (15 min)
BUTANONE	78-93-3	OES.	200 ppm(Sk)	300 ppm(Sk)
ETHANOL	64-17-5	OES.	1000 ppm	No std.
METHANOL	67-56-1	OES.	200 ppm(Sk)	250 ppm(Sk)

INGREDIENT COMMENTS: OES = Occupational Exposure Standard.

PROTECTIVE EQUIPMENT:


VENTILATION: Provide adequate general and local exhaust ventilation.

RESPIRATORS:	No specific recommendation made, but respiratory protection must be used if the general level exceeds the Occupational Exposure Level (OEL).
PROTECTIVE GLOVES:	Protective gloves must be used if there is a risk of direct contact or splash. Use protective gloves made of: Impermeable material.
EYE PROTECTION:	Wear approved safety goggles.
OTHER PROTECTION:	Wear appropriate clothing to prevent any possibility of skin contact.
HYGIENIC WORK ROUTINES:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. No eating or drinking while working with this material.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Mobile. Liquid.	**COLOUR:**	Dark. Red.
ODOUR/TASTE:	Characteristic. Pungent. Ketonic.		
SOLUBILITY DESCRIPTION:	Partially soluble in water.		
BOILING POINT (°C):	ca.80 @ 760mmHg	**MELTING POINT (°C):**	ca.-86
SPECIFIC GRAVITY (Water=1):	0.85 - 0.90 @ 20 °C	**VAPOUR DENSITY (air=1):**	ca.2.4
VAPOUR PRESSURE:	ca.78mmHg @ 20 °C	**VOLATILITY DESCRIPTION:**	Highly volatile.
EVAPORATION RATE:	>BuAc(BuAc=1)	**pH-VALUE,CONC:**	N/A
VISCOSITY:	2 - 5 mPas @ 25 °C	**FLASH POINT (°C):**	ca.-6
FLASH POINT METHOD:	CC (Closed cup).		
AUTO IGNITION TEMPERATURE (°C):	ca.515	**FLAMMABILITY LIMIT (lower %):**	ca. 1.8 (%v/v)
FLAMMABILITY LIMIT (upper %):	ca. 11.5 (%v/v)		

10 STABILITY AND REACTIVITY

STABILITY:	No particular stability concerns.
CONDITIONS TO AVOID:	Avoid heat. Avoid contact with oxidisers or reducing agents. Avoid contact with acids and alkalies.
HAZARDOUS POLYMERIZATION:	Will not polymerize.
HAZARDOUS DECOMPOSITION PRODUCTS:	Fire creates: Asphyxiating gases/vapours/fumes of: Carbon dioxide (CO2). Carbon monoxide (CO). Nitrous gases (NOx).

11 TOXICOLOGICAL INFORMATION

INHALATION:	High concentrations of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting. Drowsiness, dizziness, disorientation, vertigo.
INGESTION:	Liquid irritates mucous membranes and may cause abdominal pain if swallowed. Nausea, vomiting. Diarrhoea.
SKIN:	Product has a defatting effect on skin.
EYES:	May cause severe irritation to eyes. Vapour or spray may cause temporary (reversible) eye damage.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS:	Not regarded as dangerous for the environment (with reference to EU Directive 99/45/EC).

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Dispose of in accordance with Local Authority requirements. Absorb in vermiculite or dry sand, dispose in licensed special waste. Make sure containers are empty before discarding (explosion risk).

14 TRANSPORT INFORMATION

LABEL FOR CONVEYANCE:

ROAD:

UN No:	1210		
HAZARD CLASS (ADR):	Class 3: Flammable liquids.	**ADR CLASS No:**	3
ADR ITEM No:	5°(b)	**HAZARD No. (ADR):**	30
MARGINAL:	2301	**ADR LABEL No:**	3
HAZCHEM CODE:	3YE	**CEFIC TEC(R) No:**	30G30
PROPER SHIPPING NAME I:	PRINTING INK		

RAIL:

RAIL TRANSPORT CLASS No:	3	**RAILROAD PT:**	5°(b)

SEA:

UN SEA:	1210	**SEA TRANSPORT CLASS No:**	3.2
IMDG Page No:	3272-1	**SEA PACK GR:**	II
EmS No.:	3-05	**MFAG Table No:**	311
MARINE POLLUTANT:	No.		

AIR:

UN AIR:	1210	**AIR TRANSPORT CLASS No:**	3
AIR PACK GR:	II		

15 REGULATORY INFORMATION

LABEL FOR SUPPLY:

HIGHLY FLAMMABLE

IRRITANT

RISK PHRASES:	R-11	Highly flammable.
	R-36	Irritating to eyes.
	R-66	Repeated exposure may cause skin dryness or cracking.
	R-67	Vapours may cause drowsiness and dizziness.
SAFETY PHRASES:	S-9	Keep container in a well ventilated place.
	S-16	Keep away from sources of ignition - No Smoking.
	S-25	Avoid contact with eyes.
	S-26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S-37	Wear suitable gloves.
S-51	Use only in well ventilated areas.
S-60	This material and its container must be disposed of as hazardous waste.

UK REGULATORY REFERENCES:	Classification, Packaging and Labelling Regulations 1984.
	The Control of Substances Hazardous to Health Regulations 1988.
	Chemicals (Hazard Information & Packaging) Regulations 1993.
STATUTORY INSTRUMENTS:	Chemicals (Hazard Information and Packaging) Regulations.
	Control of Substances Hazardous to Health.
APPROVED CODE OF PRACTICE:	Classification and Labelling of Substances and Preparations Dangerous for Supply.
	Safety Data Sheets for Substances and Preparations L62.
GUIDANCE NOTES:	Occupational Exposure Limits EH40.
	Introduction to Local Exhaust Ventilation HS(G)37.
	CHIP for everyone HSG(108).

16 OTHER INFORMATION

INFORMATION SOURCES:	Dangerous Properties of Industrial Materials Report, N.Sax et.al.
	Croner's: Dangerous Substances.
	Material Safety Data Sheet, Misc. manufacturers.
REVISION COMMENTS:	Initial issue on new system
ISSUED BY:	Paul Doody
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