MATERIAL SAFETY DATA SHEET

TH-TYPE-P-FT Make-Up Ink

THIS MATERIAL SAFETY DATA SHEET CONFORMS TO THE REQUIREMENTS OF ANSI Z400.1.
THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (OSHA HAZARD COMMUNICATION STANDARD).
IMPORTANT: READ THIS MSDS BEFORE HANDLING OR DISPOSING OF THIS PRODUCT.

SECTION I – PRODUCT & COMPANY IDENTIFICATION

MANUFACTURER / DISTRIBUTOR	**Hitachi America, Ltd** 50 Prospect Avenue Tarrytown, NY 10591
PRODUCT NAME	**TH-TYPE-P-FT Make-Up Ink**
MATERIAL USES	Industrial coding applications; Ink Jet Printers
PRODUCT CODE	X ()
NON-EMERGENCY PHONE	914-524-6685
EMERGENCY PHONE	**CHEMTREC (800) 424-9300**

SECTION II – COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS#	PERCENT RANGE (%)
Methyl Ethyl Ketone	78-93-3	60 - 100
Methanol	67-56-1	5 - 10

SECTION III - HAZARDS IDENTIFICATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS)

HEALTH	1	FLAMMABILITY	3	REACTIVITY	0	PERSONAL PROTECTION	B

NOTICE: THESE RATINGS ARE FOR GENERAL RAPID INTERPRETATION. THE END-USER IS RESPONSIBLE FOR DETERMINING THE PROPER PROTECTIVE PROCEDURES.

EMERGENCY OVERVIEW

Warning! Flammable Liquid and Vapor. Skin, Eye and Mucous Membrane Irritant. Do not use near fire or flame. May be fatal or cause blindness if swallowed. Avoid contact with skin, eyes and mucous membranes. If skin contact occurs, wash skin with mild soap and water. If splashed in eyes, flush with water. If inhaled, remove to fresh air. In medical emergency contact Poison Control Center (**USA 800.222.1222**). Read MSDS before using.

EXPOSURE EFFECTS AND RELATED SYMPTOMS

METHYL ETHYL KETONE

Minor embryotoxic/fetotoxic effects have been observed in laboratory rats exposed to methyl ethyl ketone by inhalation at levels greater than 1000 ppm (5 times the OSHA-PEL/TWA) for most of the gestation period. Methyl ethyl ketone may potentiate (shorten the time of onset) peripheral neuropathy, but methyl ethyl ketone, by itself, has not been shown to cause peripheral neuropathy.

METHANOL

Poisoning may occur from ingestion. Other symptoms of over-exposure may be headaches, acidosis, convulsions, mydriasis, circulatory collapse, respiratory failure and death.

F - Highly Flammable

Xi - Irritant

RISK STATEMENTS

R11	Highly Flammable
R36/37/38	Irritating to eyes, respiratory system and skin
R66	Repeated exposure may cause skin dryness or cracking
R67	Inhalation of vapors can provoke sleepiness and dizziness

SAFETY STATEMENTS

S2	Keep away from children.
S7	Keep container tightly closed
S16	Keep away from sources of ignition - No Smoking!
S25	Avoid contact with eyes
S36/37	Wear suitable protective clothing and gloves
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

SECTION IV - FIRST AID MEASURES

ORAL INGESTION	Do not induce vomiting unless directed to do so by medical personnel. Seek immediate medical attention.
EYE CONTACT	Flush with water for 15 minutes and seek medical attention.
SKIN CONTACT	Wash with soap and water. Wash contaminated clothing before reuse. Seek immediate medical attention.
INHALATION	Remove to fresh air, if not breathing, give artificial respiration and seek medical attention.

SECTION V - FIREFIGHTING MEASURES

Extinguishing Media	Alcohol Resistant foam or dry chemical
Hazardous Combustion Products	Carbon Monoxide, Carbon Dioxide
Fire Fighting Procedures	Wear self-contained breathing apparatus with full facepiece operated in the positive pressure demand mode.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Keep away all sources of ignition from spill. If spill is indoors, ventilate areas of spill and soak up the spill with absorbent material. Do not let spilled or leaking material enter watercourse.

SECTION VII - HANDLING AND STORAGE

Handling	Avoid contact with eyes. Wash hands thoroughly with soap and water after handling. Utilize proper grounding with containers of material.
Storage	Protect from freezing. Overheating may cause container to rupture. Covered storage in a cool, dry place out of direct sunlight is preferable. Keep container tightly sealed until ready for use. Store away from ignition sources.

SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory protection	If workplace exposure limit(s) of product or any other component is exceeded, a NIOSH/OSHA approved respirator is advised. (See your safety equipment supplier for specific details.)
Ventilation	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below PEL/ TLV.
Protective gloves	Wear chemical resistant gloves. (Consult your safety equipment supplier.)
Eye protection	Wear chemical splash goggles in compliance with OSHA regulations. However, OSHA regulations also permit other types of safety glasses.
Other protective equipment	Wear impervious clothing and boots to prevent prolonged exposure.

Occupational Exposure Limits:

Ingredient	ACGIH TLV*	Osha PEL*
Methyl Ethyl Ketone	200	200
Methanol	200	200

SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

Physical State	Liquid
Color	Clear
Odor	Solvent odor
Boiling Range	78 to 80° C
Melting Range	~ - 80° C
Specific Gravity (Water=1)	0.798
Density (lbs / gal)	6.65
Evaporation Rate (N-Butyl Acetate=1)	3.4 to 6
Percent Volatile By Volume (%)	100%
Vapor Pressure	~ 85 mm of Hg @ 20° C
Vapor Density (Air=1)	Greater than air
Flash Point (Tcc)	- 2° C
Auto Ignition Temperature	~ 500° C
Upper Flammable Limit (%By Vol.)	37
Lower Flammable Limit (%By Vol.)	1.8
Solubility In Water	Miscible
Solubility In Organic Solvents	Miscible
pH	Not Applicable

SECTION X - STABILITY & REACIVITY

Condition Of Instability	None Known
Conditions Of Reactivity	Not applicable
Incompatibility	Strong oxidizing agents
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide
Explosion Data (Sensitive To Mechanical Impact)	No
Explosion Data (Sensitive To Static Discharge)	Yes

SECTION XI - TOXICOLOGICAL INFORMATION

Ingredient	Toxicological Information**
Methyl Ethyl Ketone	LD_{50} Oral (rat) - 2737 mg / kg LC_{50} Inhalation (rat) - 23,500 mg / m^3 / 8 hr LD_{50} Intraperitoneal (rat) - 607 mg / kg LD_{50} Skin (rabbit) - 6480 mg / kg LD_{Lo} Intraperitoneal (guinea pig) - 2 g / kg
Methanol	LD_{50} Oral (rat) - 5628 mg / kg LC_{50} Inhalation (rat) - 64,000 ppm / 4 hr LD_{50} Intraperitoneal (rat) - 7529 mg / kg LD_{50} Intravenous (rat) - 2131 mg / kg

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity	Not Available
Persistance / Degradability	Not Available
Heavy Metals	Concentration of lead, mercury, cadmium and hexavalent chromium [Cr(VI)] < 100 ppm

No other ecological information is available for this product.

SECTION XIII - DISPOSAL CONSIDERATIONS

Absorb in vermiculite, floor absorbent or other non-combustible absorbent material and dispose in licensed facility. Observe all federal, state and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT / TDG UN Number & Proper Shipping Name	UN1210 Printing Ink
DOT / TDG Hazard Class	3
DOT / TDG Label	Flammable Liquid
Packing Group	II
Emergency Response Guidebook Number	129

SECTION XV - REGULATORY INFORMATION

TSCA

All chemicals used are listed on the TSCA Inventory.

CERCLA

The following product(s) is (are) listed by CERCLA:

Methyl Ethyl Ketone (60 - 100%)

Methanol (5 - 10%)

SARA 313

The following product(s) is (are) listed on SARA 313:

Methyl Ethyl Ketone (60 - 100%)

Methanol (5 - 10%)

California Prop 65

This product contains the following ingredients that the State of California has found to cause cancer, birth defects, or other reproductive harm, which requires a warning under the statute:

Toluene (≤ 0.00002%)

International Regulations

The components of this product are listed on the chemical inventories of the following countries:

Australia, Canada, Europe (EINECS), Japan, Korea, United Kingdom

SECTION XVI - OTHER INFORMATION

Issue Date	April 2007
Revision Number	1
Supercedes	n/a
Prepared By	Chris Jordan, Product Specialist

Disclaimer

Every effort has been made to ensure that the information in this MSDS is accurate and as complete as reasonably possible and of course all data herein are given in good faith. However, all information is furnished without warranty of any kind, and Hitachi America, Ltd. expressly negates any warranty of accuracy, expressed or implied; and Hitachi America, Ltd. assumes no responsibility for personal injury or damage to property to customers, vendors, or third parties if any information herein proves to be incorrect in any respect. Purchasers are encouraged to make independent determination of suitability and completeness of information from all sources to assure proper use and compatibility of product.

*NIOSH Publication #94-116

**Sax's Dangerous Properties of Industrial Mtls. 11th Ed.