



MATERIAL SAFETY DATA SHEET

TH-TYPE-A
Make-Up Ink

THIS MATERIAL SAFETY DATA SHEET CONFORMS TO THE REQUIREMENTS OF ANSI 2400.1.
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 Hitachi America, Ltd.
50 Prospect Avenue
Tarrytown, NY 10591

PRODUCT NAME TH-TYPE-A Make-Up Ink

MATERIAL USES Industrial coding applications; Ink Jet Printers

PRODUCT CODE X(01, 19, 21, 22, 45, 53) 0368

NON-EMERGENCY PHONE (936) 856-6600

EMERGENCY PHONE **CHEMTREC (800) 424-9300**

SECTION II - HAZARDS IDENTIFICATION

Classification according to Directive 1999/45/EC [DPD]
HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS)

HEALTH	1	FLAMMABILITY	3	REACTIVITY	0	PERSONAL PROTECTION	B
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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](tel:8002221222)). 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!
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

SECTION III – COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS#	EINECS# INDEX	PERCENT RANGE (%)	67/548/EEC	EC 1272/2008	TYP E
Methyl Ethyl Ketone	78-93-3	201-159-0 606-002-00-3	60 - 100	F; R11 Xi; R36 R66 R67	Flam. Liq 2 – H225 Eye Irrit. 2, H319	1,2

Methanol 67-56-1 200-659-6 10-30 F;R11 Flam. Liq 2 – H225
603-001-00-x Eye Irrit. 2, H319 1,2

TYPE

1. Substance classified with a health or environmental hazard
2. Substance with a workplace exposure limit
3. Substance meets criteria for PBT EC 1907/2006
4. Substance meets criteria for vPbV EC 1907/2006

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 & REACTIVITY

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 _{L0} 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
PERSISTENCE / DEGRADABILITY	Not Available

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	RELATED MATERIAL
DOT / TDG LABEL	3
PACKING GROUP	FLAMMABLE LIQUID
EMERGENCY RESPONSE GUIDEBOOK NUMBER	II
	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: None
International Regulations	The components of this product are listed on the chemical inventories of the following countries:

