

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-B Make-Up Ink

MATERIAL USES Industrial coding applications; Ink Jet Printers

PRODUCT CODE X (22, 53) 0321

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 | 10 - 30 |

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](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



T - Toxic

RISK STATEMENTS

- R11 Highly Flammable
- R23/24/25 Toxic by inhalation, in contact with skin and if swallowed
- R36 Irritating to eyes, respiratory system and skin
- R66 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

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|----------|--|
| 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

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|----------------------------|---|
| 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 _{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

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| 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

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|---------------------------|---|
| 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 (10 - 30%) |
| SARA 313 | The following product(s) is (are) listed on SARA 313: Methyl Ethyl Ketone (60 - 100%) Methanol (10 - 30%) |
| 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

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*NIOSH Publication #94-116

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