

**1. Product and Company Identification**

**Product Code:** TH-TYPE A  
**Product Name:** TH-TYPE A  
**Trade Name:** TH-TYPE A  
**Company Name:** Hitachi America, Ltd  
50 Prospect Ave  
Tarrytown, NY  
**Web site address:** [www.hitachi-america.us/ice/inkjetprinters/](http://www.hitachi-america.us/ice/inkjetprinters/)  
**Emergency Contact:** Chemtrec  
(800)424-9300

**2. Hazards Identification**

**Flammable Liquids, Category 2**  
**Acute Toxicity: Oral, Category 5**  
**Skin Corrosion/Irritation, Category 2**  
**Serious Eye Damage/Eye Irritation, Category 2**  
**Toxic To Reproduction, Category 1B**  
**Specific Target Organ Toxicity (single exposure), Category 1**  
**Specific Target Organ Toxicity (single exposure), Category 2**  
**Specific Target Organ Toxicity (single exposure), Category 3**  
**Specific Target Organ Toxicity (repeated exposure), Category 1**  
**Aspiration Toxicity, Category 2**



**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:** Highly flammable liquid and vapor.  
May be harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
May damage fertility or the unborn child .  
Causes damage to organs  
May cause damage to organs .  
May cause respiratory irritation.  
Causes damage to organs through prolonged or repeated exposure.  
May be harmful if swallowed and enters airways.

**GHS Precaution Phrases:** Keep container tightly closed.  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting equipment.  
Take precautionary measures against static discharge.  
Use only non-sparking tools.  
Wash hands thoroughly after handling.  
Take off contaminated clothing and wash it before reuse.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Use personal protective equipment as required.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Do not eat, drink or smoke when using this product.

**GHS Response Phrases:**

Avoid breathing dust/fume/gas/mist/vapours/spray.  
Use only outdoors or in a well-ventilated area.

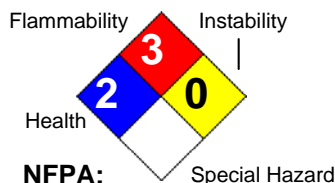
In case of fire, use dry chemical, CO<sub>2</sub>, water splay, fog or foam to extinguish.  
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.  
Call a POISON CENTER/doctor if you feel unwell.  
IF ON SKIN: Wash with plenty of soap and water.  
Specific treatment see section 4 on this label.  
If skin irritation occurs, get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists, get medical advice/attention.  
IF EXPOSED OR CONCERNED: Get medical attention/advice.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Get medical attention/advice if you feel unwell.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
Do NOT induce vomiting.

**GHS Storage and Disposal Phrases:**

Store in cool/well-ventilated place.  
Dispose of contents/container listed in 40 CFR Parts 261.  
Store locked up.  
Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.

**Hazard Rating System:**

<b>HEALTH</b>	2
<b>FLAMMABILITY</b>	3
<b>PHYSICAL</b>	0
<b>PPE</b>	B



**HMIS:**

**Potential Health Effects (Acute and Chronic):**

Chronic: Chronic inhalation may cause effects similar to those of acute inhalation. Prolonged or repeated skin contact may cause defatting and dermatitis. Animal studies have reported that fetal effects/abnormalities may occur when maternal toxicity is seen. Chronic overexposure to vapors may cause lung damage. Prolonged or repeated skin contact may cause dermatitis. Chronic exposure may cause effects similar to those of acute exposure. Methanol is only very slowly eliminated from the body. Because of this slow elimination, methanol should be regarded as a cumulative poison. Though a single exposure may cause no effect, daily exposures may result in the accumulation of a harmful amount. Methanol has produced fetotoxicity in rats and teratogenicity in mice exposed by inhalation to high concentrations that did not produce significant maternal toxicity.

**Inhalation:**

Causes respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness. May cause central nervous system effects such as nausea and headache. Neurobehavioural effects of exposure to MEK (200 ppm for 4 hrs) were studied with 137 volunteers. There were no statistically significant effects observed in biochemical, psychomotor, sensorimotor and psychological tests. Methanol is toxic and can very readily form extremely high vapor concentrations at room temperature. Inhalation is the most common route of occupational exposure. At first, methanol causes CNS depression with nausea, headache, vomiting, dizziness and incoordination. A time period with no obvious symptoms follows (typically 8-24 hrs). This latent period is followed by metabolic acidosis and severe visual effects which may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness. Depending on the severity of exposure and the promptness of treatment, survivors may recover completely or may have permanent blindness, vision disturbances and/or nervous system effects.

<b>Skin Contact:</b>	May be absorbed through the skin in harmful amounts. Repeated or prolonged exposure may cause drying and cracking of the skin. Only one human case of skin sensitization was located. Negative results were obtained in an animal test; MEK did not produce skin sensitization in the mouse ear thickness test. Causes moderate skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances.
<b>Eye Contact:</b>	Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant. May cause painful sensitization to light. Methanol is a mild to moderate eye irritant. Inhalation, ingestion or skin absorption of methanol can cause significant disturbances in vision, including blindness.
<b>Ingestion:</b>	May cause irritation of the digestive tract. Possible aspiration hazard. May cause central nervous system depression. Animal evidence suggests that MEK can be aspirated (inhaled) into the lungs during ingestion or vomiting. May be fatal or cause blindness if swallowed. Aspiration hazard. Cannot be made non-poisonous. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause cardiopulmonary system effects.

### 3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
78-93-3	Methyl ethyl ketone	65.0 -75.0 %
67-56-1	Methanol	20.0 -30.0 %

### 4. First Aid Measures

#### Emergency and First Aid

##### Procedures:

<b>In Case of Inhalation:</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
<b>In Case of Skin Contact:</b>	In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately.
<b>In Case of Eye Contact:</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.
<b>In Case of Ingestion:</b>	Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.
<b>Note to Physician:</b>	Treat symptomatically and supportively. Effects may be delayed. Antidote: Ethanol may inhibit methanol metabolism.

## 5. Fire Fighting Measures

**Flash Pt:** > -3.80 C (25.2 F) Method Used: Closed Cup

**Explosive Limits:** LEL: UEL:

**Autoignition Pt:** > 505.00 C (941.0 F)

**Suitable Extinguishing Media:** In case of fire, use carbon dioxide, dry chemical powder or appropriate foam. Water may be ineffective because it will not cool material below its flash point. For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Water may be ineffective. For large fires, use water spray, fog, or alcohol-resistant foam. Do NOT use straight streams of water.

**Fire Fighting Instructions:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Ethanol may inhibit methanol metabolism. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water.

**Flammable Properties and Hazards:**

## 6. Accidental Release Measures

**Steps To Be Taken In Case Material Is Released Or Spilled:** Use proper personal protective equipment as indicated in Section 8. Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Use water spray to disperse the gas/vapor. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

## 7. Handling and Storage

**Precautions To Be Taken in Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor. Do not ingest or inhale. Avoid use in confined spaces.

**Precautions To Be Taken in Storing:** Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep away from heat, sparks and flame. Keep containers tightly closed.

## 8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
78-93-3	Methyl ethyl ketone	PEL: 200 ppm	TLV: 200 ppm STEL: 300 ppm	
67-56-1	Methanol	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	
<b>Respiratory Equipment (Specify Type):</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.			
<b>Eye Protection:</b>	Wear chemical splash goggles.			
<b>Protective Gloves:</b>	Wear appropriate protective gloves to prevent skin exposure. Wear butyl rubber gloves, apron, and/or clothing.			
<b>Other Protective Clothing:</b>	Wear appropriate protective clothing to prevent skin exposure.			
<b>Engineering Controls (Ventilation etc.):</b>	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design. Use explosion-proof ventilation equipment.			

## 9. Physical and Chemical Properties

<b>Physical States:</b>	[ ] Gas [ X ] Liquid [ ] Solid
<b>Appearance and Odor:</b>	
<b>Melting Point:</b>	-98.00 C (-144.4 F)
<b>Boiling Point:</b>	64.70 C (148.5 F)
<b>Autoignition Pt:</b>	> 505.00 C (941.0 F)
<b>Flash Pt:</b>	> -3.80 C (25.2 F) Method Used: Closed Cup
<b>Explosive Limits:</b>	LEL: UEL:
<b>Specific Gravity (Water = 1):</b>	
<b>Density:</b>	0.8013 G/CM3
<b>Vapor Pressure (vs. Air or mm Hg):</b>	
<b>Vapor Density (vs. Air = 1):</b>	
<b>Evaporation Rate:</b>	
<b>Solubility in Water:</b>	
<b>Percent Volatile:</b>	

## 10. Stability and Reactivity

<b>Stability:</b>	Unstable [ ] Stable [ X ]
<b>Conditions To Avoid - Instability:</b>	ignition sources, Excess heat, High temperatures, confined spaces.
<b>Incompatibility - Materials To Avoid:</b>	Strong oxidizing agents, Strong acids, 2-propanol, Oxidizing agents, Reducing agents, acids, Alkali metals, Potassium, Sodium, metals as powders (e.g. hafnium, raneý nickel), Acid anhydrides, Acid chlorides, powdered aluminum, powdered magnesium.
<b>Hazardous Decomposition Or Byproducts:</b>	Carbon monoxide, Carbon dioxide.
<b>Possibility of Hazardous Reactions:</b>	Will occur [ ] Will not occur [ X ]
<b>Conditions To Avoid - Hazardous Reactions:</b>	

## 11. Toxicological Information

**Toxicological Information:** Epidemiology: No information found.  
 Teratogenicity: There is no human information available. Methanol is considered to be a potential developmental hazard based on animal data. In animal experiments, methanol has caused fetotoxic or teratogenic effects without maternal toxicity.  
 Reproductive Effects: See actual entry in RTECS for complete information.  
 Mutagenicity: Neurotoxicity: ACGIH cites neuropathy, vision and CNS under TLV basis.  
 Other Studies:

**Carcinogenicity/Other Information:** CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 67-56-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
78-93-3	Methyl ethyl ketone	n.a.	n.a.	n.a.	n.a.
67-56-1	Methanol	n.a.	n.a.	n.a.	n.a.

## 12. Ecological Information

**General Ecological Information:** Environmental: Substance evaporates in water with T1/2= 3D (rivers) to 12D (lakes). Substance is not expected to bioconcentrate in marine life. Physical: Substance photodegrades in air with T1/2 = 2.3 days. Oxidizes rapidly by photo-chemical reactions in air. Readily biodegradable meeting the 10 day window criterion. Not expected to bioaccumulate significantly.  
 Dangerous to aquatic life in high concentrations. Aquatic toxicity rating: TLm 961000 ppm. It may be dangerous if it enters water intakes. Methyl alcohol is expected to biodegrade in soil and water very rapidly. This product will show high soil mobility and will be degraded from the ambient atmosphere by the reaction with photochemically produced hydroxyl radicals with an estimated half-life of 17.8 days. Bioconcentration factor for fish (golden ide) < 10. Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.  
 Physical: No information available.

## 13. Disposal Considerations

**Waste Disposal Method:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
 RCRA P-Series: None listed.  
 RCRA U-Series:  
 CAS# 78-93-3: waste number U159 (Ignitable waste, Toxic waste). CAS# 67-56-1: waste number U154 (Ignitable waste).

## 14. Transport Information

**LAND TRANSPORT (US DOT):**

**DOT Proper Shipping Name:** Printing Ink related materials  
**DOT Hazard Class:** 3 FLAMMABLE LIQUID  
**UN/NA Number:** UN1210 **Packing Group:** II



**LAND TRANSPORT (Canadian TDG):**

**TDG Shipping Name:** Printing ink related material  
**UN Number:** 1210 **Packing Group:** II  
**Hazard Class:** 3 - FLAMMABLE LIQUID **TDG Classification:**

**LAND TRANSPORT (European ADR/RID):**

**ADR/RID Shipping Name:**  
**UN Number:** 1210 **Packing Group:** II  
**Hazard Class:** 3 - FLAMMABLE LIQUID

**15. Regulatory Information**

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
78-93-3	Methyl ethyl ketone	No	Yes 5000 LB	No
67-56-1	Methanol	No	Yes 5000 LB	Yes

**This material meets the EPA**  Yes  No Acute (immediate) Health Hazard  
**'Hazard Categories' defined**  Yes  No Chronic (delayed) Health Hazard  
**for SARA Title III Sections**  Yes  No Fire Hazard  
**311/312 as indicated:**  Yes  No Sudden Release of Pressure Hazard  
 Yes  No Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
78-93-3	Methyl ethyl ketone	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes
67-56-1	Methanol	TSCA: Yes - Inventory; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
78-93-3	Methyl ethyl ketone	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1193; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-542; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 150; Switzerland Giftliste 1: Yes - G-2429; Switzerland INNS: No; REACH: Yes - (R), (P)
67-56-1	Methanol	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-201; Japan ISHL: No; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 145; Switzerland Giftliste 1: Yes - G-2063; Switzerland INNS: No; REACH: Yes - (R), (P)

**16. Other Information**

**Revision Date:** 11/13/2014  
**Additional Information About This Product:** To the best of our knowledge, the information contained here in is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Hitachi Contact Information:

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