1. Product and Company Identification

Product Code: TH-69
Product Name: TH-69
Company Name: Hitachi America, Ltd
            50 Prospect Ave
            Tarrytown, NY
Web site address: www.hitachi-america.us/ice/inkjetprinters/
Emergency Contact: Chemtrec
            (800)424-9300

2. Hazards Identification

Flammable Liquids, Category 2
Acute Toxicity: Oral, Category 5
Acute Toxicity: Inhalation, Category 5
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Germ Cell Mutagenicity, Category 1B
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
Specific Target Organ Toxicity (repeated exposure), Category 2
Aspiration Toxicity, Category 2

GHS Signal Word: Danger
GHS Hazard Phrases:
Highly flammable liquid and vapor.
May be harmful if swallowed.
May be harmful if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May be harmful if inhaled.
May cause respiratory irritation.
May cause genetic defects state route of exposure if it is conclusively proven that no
other routes of
exposure cause the hazard.
May damage fertility or the unborn child .
Causes damage to organs
May cause damage to organs .
Causes damage to organs through prolonged or repeated exposure.
May cause damage to organs through prolonged or repeated exposure.

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

GHS Response Phrases:
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. 
- IF ON SKIN: Wash with plenty of soap and water. 
- IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. 
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 
- IF exposed: Call a POISON CENTER or doctor/physician. 
- IF exposed or concerned: Get medical attention/advice. 
- Call a POISON CENTER or doctor/physician if exposed or you feel unwell. 
- Call a POISON CENTER or doctor/physician if you feel unwell. 
- Specific treatment see section 4 on this label. 
- Do NOT induce vomiting. 
- If skin irritation occurs, get medical advice/attention. 
- If eye irritation persists, get medical advice/attention. 
- Take off contaminated clothing and wash before re-use.

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

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. Hazards not otherwise classified (HNOC) or not covered by GHS.

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.

Skin Contact: 
- 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.

Eye Contact: 
- Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant.

Ingestion: 
- 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.
3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>80.0 - 90.0 %</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>5.0 - 10.0 %</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>1.0 - 3.0 %</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Emergency and First Aid Procedures: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

In Case of Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. If breathed in, move person into fresh air. Consult a physician.

In Case of Skin Contact: 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. Wash off with soap and plenty of water. Consult a physician.

In Case of Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In Case of Ingestion: 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. Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Signs and Symptoms of Exposure: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Note to Physician: Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Pt: > -6.40 C (20.5 F) Method Used: Closed Cup

Explosive Limits: LEL: UEL: 505.00 C (941.0 F)

Autoignition Pt: 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. Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

Suitable Extinguishing Media: 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. Wear self contained breathing apparatus for fire fighting if necessary.

Fire Fighting Instructions: Further information.

Flammable Properties and Hazards: Carbon oxides, No data available.
6. Accidental Release Measures

Follow the OSHA respiratory regulations found in 29 CFR 1910.134 or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. When risk assessment shows air-purifying respirators are required, use a full-face respirator with a multi-purpose combination (US) or type ABEK (EN 14387), or use a half-mask respirator with appropriate filters. Use only with adequate ventilation. Avoid breathing vapor, mist, or gas. Ensure sufficient ventilation. Do not let product enter drains. Clean up spills immediately, observe precautions in the Protective Equipment section. Provide ventilation during spill clean-up. Contain spillage, and then collect with an electrically protected vacuum cleaner. Dilute vapors with water, if possible.

7. Handling and Storage

Keep away from sources of ignition. Keep container tightly closed. Keep container upright to prevent leakage. Keep away from heat, sparks, and flames. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep container out of reach of children. Do not use or store in kerosene, petroleum distillate, or other solvents.

8. Exposure Controls/Personal Protection

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. Where risk assessment shows air-purifying respirators are required, use a full-face respirator with a multi-purpose combination (US) or type ABEK (EN 14387), or use a half-mask respirator with appropriate filters. Wear chemical splash goggles. Face shield and safety glasses. Use equipment for eye protection as needed.

Trademark(s):
MIRS MSDS, (c) A V Systems, Inc.

GHS format

OSHA TWA ACGIH TWA Partial Chemical Name Other Limits
PEL: 200 ppm TLV: 200 ppm STEL: 250 ppm
Methyl ethyl ketone
PEL: 100 ppm TLV: 1000 ppm STEL: 250 ppm
Ethyl alcohol
PEL: 200 ppm TLV: 200 ppm STEL: 250 ppm
Methanol
TH-69
SAFETY DATA SHEET

Protective Gloves:
Wear appropriate protective gloves to prevent skin exposure. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Other Protective Clothing:
Wear appropriate protective clothing to prevent skin exposure. Impervious clothing. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Complete suit protecting against chemicals.

Engineering Controls (Ventilation etc.):
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.

Work/Hygienic/Maintenance Practices:
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Environmental Exposure Controls:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and Chemical Properties

Physical States: [ ] Gas  [ X ] Liquid  [ ] Solid

Appearance and Odor: Clear. solvent odor.

Melting Point: -87.00 C (-124.6 F)
Boiling Point: 64.00 C (147.2 F) - 65.00 C (149.0 F)
Autoignition Pt: 505.00 C (941.0 F)
Flash Pt: > -6.40 C (20.5 F) Method Used: Closed Cup

Explosive Limits:

LEL: UEL:

Specific Gravity (Water = 1):
Density: ~ 0.8047 G/CM3

Vapor Pressure (vs. Air or mm Hg):

Vapor Density (vs. Air = 1):

Evaporation Rate:

Solubility in Water:
Percent Volatile:

10. Stability and Reactivity

Reactivity: No data available.
Stability: Unstable [ ] Stable [ X ]

Incompatibility - Materials To Avoid:
Strong oxidizing agents, Strong acids, 2-propanol, Oxidizing agents, Alkali metals, Ammonia, Peroxides, acids, Bases.

Hazardous Decomposition Or Byproducts:
Carbon monoxide, Carbon dioxide, Other decomposition products: No data available. In the event of fire: see section 5.
Possibility of Hazardous Reactions: Will occur [ ] Will not occur [ X ]
Conditions To Avoid - Hazardous Reactions:
No data available.
11. Toxicological Information

Toxicological Information: Germ cell mutagenicity: No data available.
Reproductive toxicity. Aspiration hazard:

Irritation or Corrosion: Skin corrosion/irritation. No data available.
Serious eye damage/eye irritation:

Sensitization: No data available.

Chronic Toxicological Effects:
Specific target organ toxicity - single exposure: No data available.
Specific target organ toxicity - repeated exposure:

Carcinogenicity/Other Information: CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>n.a.</td>
<td>1</td>
<td>A4</td>
<td>n.a.</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

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.

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data 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). Product. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contaminated packaging.
14. Transport Information

LAND TRANSPORT (US DOT):

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

15. Regulatory Information

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

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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<tbody>
<tr>
<td>78-93-3</td>
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<td>Yes 5000 LB</td>
<td>No</td>
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<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
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<td>Methanol</td>
<td>No</td>
<td>Yes 5000 LB</td>
<td>Yes</td>
</tr>
</tbody>
</table>

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections as indicated:

Acute (immediate) Health Hazard: [X] Yes [ ] No
Chronic (delayed) Health Hazard: [X] Yes [ ] No
Fire Hazard: [ ] Yes [X] No
Sudden Release of Pressure Hazard: [ ] Yes [X] No
Reactive Hazard: [ ] Yes [X] No

Other US EPA or State Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: No</td>
<td>Mexican 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)</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes</td>
<td>Mexican DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-202; Japan ISHL: No; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 96; Switzerland Giftliste 1: Yes - G-1158; Switzerland INNS: No; REACH: Yes - (R), (P)</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>TSCA: Yes - Inventory; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes</td>
<td>Mexican 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 - 95; Switzerland Giftliste 1: Yes - G-1158; Switzerland INNS: No; REACH: Yes - (R), (P)</td>
</tr>
</tbody>
</table>

International Regulatory Lists

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)
16. Other Information

Revision Date: 02/17/2015

Hazard Rating System:

- **HEALTH**: 2
- **FLAMMABILITY**: 3
- **PHYSICAL**: 0
- **PPE**: B

Hitachi Contact Information:
Garan Myers
Phone (866) 583-0048

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