1. Product and Company Identification

Product Code: TH-18u
Product Name: TH-18u
Trade Name: TH-18u
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
Serious Eye Damage/Eye Irritation, Category 2
Acute Toxicity: Oral, Category 5
Acute Toxicity: Inhalation, Category 5
Skin Corrosion/Irritation, Category 2
Target Organ Systemic Toxicity (single exposure), Category 1
Target Organ Systemic Toxicity (single exposure), Category 2
Target Organ Systemic Toxicity (single exposure), Category 3
Target Organ Systemic Toxicity (repeated exposure), Category 1
Aspiration Toxicity, Category 2

GHS Signal Word: **Danger**

GHS Hazard Phrases:
H225: Highly flammable liquid and vapor.
H303: May be harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H370: Causes damage to organs.
H335: May cause respiratory irritation.
H372: Causes damage to organs through prolonged or repeated exposure.
H333: May be harmful if inhaled.
H371: May cause damage to organs.
H305: May be harmful if swallowed and enters airways.

GHS Precaution Phrases:
P233: Keep container tightly closed.
P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P243: Take precautionary measures against static discharge.
P242: Use only non-sparking tools.
P264: Wash {hands} thoroughly after handling.
P260: Do not breathe {dust/fume/gas/mist/vapours/spray}.
P270: Do not eat, drink or smoke when using this product.
P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.
P271: Use only outdoors or in a well-ventilated area.

GHS Response Phrases:
P370+378: In case of fire, use dry chemical, CO2, water splay, fog or form to extinguish.
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated

clothing. Rinse skin with water/shower.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists, get medical advice/attention.
P312: Call a {POISON CENTER/doctor} if you feel unwell.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P321: Specific treatment {see Section 4 on this SDS}.
P332+313: If skin irritation occurs, get medical advice/attention.
P362: Take off contaminated clothing.
P307+311: IF exposed: Call a POISON CENTER or doctor/physician.
P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P314: Get medical attention/advice if you feel unwell.
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting.

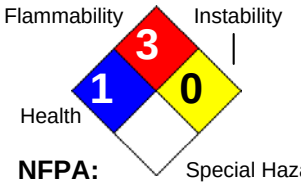
GHS Storage and Disposal Phrases:

P403+235: Store in cool/well-ventilated place.
P501: Dispose of contents/container listed in 40 CFR Parts 261.
P405: Store locked up.
P403+233: Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.

Hazard Rating System:

HMIS:

NFPA:



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.

The toxicological properties of this material have not been fully investigated. Use appropriate procedures to prevent opportunities for direct contact with the skin or eyes and to prevent inhalation.

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

CAS #	Hazardous Components (Chemical Name)	Concentration
78-93-3	Methyl ethyl ketone	90.0 -95.0 %
67-64-1	Acetone	5.0 -10.0 %

4. First Aid Measures

Emergency and First Aid Procedures: No data available.

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.

Not available.

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.

Not available.

In Case of Eye Contact: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid.

Not available.

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.

Not available.

Note to Physician: Treat symptomatically and supportively.

Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Pt: -9.00 C (15.8 F) Method Used: Closed Cup

Explosive Limits: LEL: No data. UEL: No data.

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.

Not available.

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.

Not available.

Flammable Properties and Hazards: No data available.

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 proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Not available.

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.

Not available.

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.

Not available.

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	No data.
67-64-1	Acetone	PEL: 1000 ppm	TLV: 500 ppm STEL: 750 ppm	No data.

Respiratory Equipment (Specify Type): 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.

Not available.

Eye Protection: Wear chemical splash goggles.

Not available.

Protective Gloves: Wear appropriate protective gloves to prevent skin exposure.

Not available.

Other Protective Clothing: Wear appropriate protective clothing to prevent skin exposure.

Not available.

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.

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:	80.00 C (176.0 F)
Autoignition Pt:	505.00 C (941.0 F)
Flash Pt:	-9.00 C (15.8 F) Method Used: Closed Cup
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	~ 0.8050
Density:	~ 0.8050 G/ML
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability: Ignition sources, Excess heat, confined spaces.

Not available.

Incompatibility - Materials To Avoid: Strong oxidizing agents, Strong acids.

Hazardous Decomposition Or Byproducts: Carbon monoxide, Carbon dioxide, Peroxides.

Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Reactions: No data available.

11. Toxicological Information

Toxicological Information:

Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information available.
Other Studies:

Carcinogenicity/Other Information:

CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 67-64-1: 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.
67-64-1	Acetone	n.a.	n.a.	A4	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.
Other: 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).

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# 67-64-1: waste number U002 (Ignitable waste).

14. Transport Information

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

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
67-64-1	Acetone	No	Yes 5000 LB	No

This material meets the EPA	[X] Yes [ ] No	Acute (immediate) Health Hazard
'Hazard Categories' defined	[X] Yes [ ] No	Chronic (delayed) Health Hazard
for SARA Title III Sections	[X] Yes [ ] No	Fire Hazard
311/312 as indicated:	[ ] Yes [X] No	Sudden Release of Pressure Hazard
	[ ] Yes [X] 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
67-64-1	Acetone	TSCA: Yes - Inventory, 4 Test; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No

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)
67-64-1	Acetone	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-542; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 6; Switzerland Giftliste 1: Yes - G-1031; 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.

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