

1. Product and Company Identification

Product Code: TH-TYPE F
Product Name: TH-TYPE F
Trade Name: TH-TYPE F
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: Skin, Category 5
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Target Organ Systemic Toxicity (single exposure), Category 1
Target Organ Systemic Toxicity (single exposure), Category 3
Target Organ Systemic Toxicity (repeated exposure), Category 1
Target Organ Systemic Toxicity (repeated exposure), Category 2



GHS Signal Word: Danger

GHS Hazard Phrases: H225: Highly flammable liquid and vapor.
H313: May be harmful in contact with skin.
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.
H373: May cause damage to {organs} through prolonged or repeated exposure.
H401: Toxic to aquatic life.
H370: Causes damage to organs .

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.
P362+364: Take off contaminated clothing and wash it before reuse.
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.
P273: Avoid release to the environment.
P241: Use explosion-proof electrical/ventilating/lighting/{...} equipment.
GHS Response Phrases: P370+378: In case of fire, use dry chemical, CO2, water splay, fog or foam to extinguish.

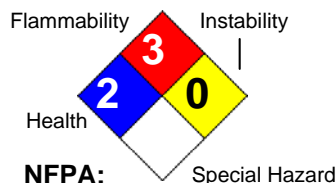
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
 P312: Call a {POISON CENTER/doctor} if you feel unwell.
 P302+352: IF ON SKIN: Wash with plenty of soap and water.
 P321: Specific treatment {see Section 4 on this label}.
 P332+313: If skin irritation occurs, get medical advice/attention.
 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.
 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.
 P321: Specific treatment {see ... on this label}.

GHS Storage and Disposal Phrases:

P403+235: Store in cool/well-ventilated place.
 P501: Dispose of contents/container to 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.
 P501: Dispose of contents/container to {...}.

Hazard Rating System:

HEALTH		2
FLAMMABILITY		3
PHYSICAL		0
PPE		B



HMIS:

Potential Health Effects (Acute and Chronic):

Chronic: May cause reproductive and fetal effects. Laboratory experiments have shown mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis. Chronic exposure may cause liver damage.

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Inhalation:

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation.

Inhalation of vapor may cause respiratory tract irritation. May cause effects similar to those described for ingestion.

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Skin Contact:

Causes moderate skin irritation. May cause cyanosis of the extremities.

May cause moderate skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.

May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic

contact dermatitis have been reported. May be absorbed through intact skin. Dermal absorption has been considered toxicologically insignificant. The cases of deep coma associated with skin contact are thought to be a consequence of gross isopropanol vapor inhalation in rooms with inadequate ventilation, rather than being attributable to percutaneous absorption of isopropanol per se.

Eye Contact:

Causes severe eye irritation. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage.

May cause moderate eye irritation. May result in corneal injury.

Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury. In the eyes of a rabbit, 0.1 ml of a rabbit, 0.1 ml of 70% isopropyl alcohol caused conjunctivitis, isopropyl alcohol caused conjunctivitis, iritis, and corneal opacity.

Ingestion:

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.

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Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. 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. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. The probable oral lethal dose in humans is 240 ml (2696 mg/kg), but ingestion of only 20 ml (224 mg/kg) has, but in gestion of only {20 ml (224 mg/kg)} has caused poisoning.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
64-17-5	Ethyl alcohol	80.0 -90.0 %
71-23-8	1-Propanol	10.0 -20.0 %
67-63-0	Isopropyl alcohol	< 5.0 %

4. First Aid Measures

Emergency and First Aid Procedures:

No data available.

In Case of Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

In Case of Skin Contact:

Get medical aid. Wash clothing before reuse. Flush skin with plenty of soap and water.

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

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.

In Case of Eye Contact:

Get medical aid. Gently lift eyelids and flush continuously with water.

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

In Case of Ingestion:

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

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.

5. Fire Fighting Measures

Flash Pt:	14.00 C (57.2 F)	Method Used:	Closed Cup
Explosive Limits:	LEL: No data.	UEL:	No data.
Autoignition Pt:	> 390.00 C (734.0 F)		
Suitable Extinguishing Media:	No data available.		
Fire Fighting Instructions:	No data available.		
Flammable Properties and Hazards:	No data available.		

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	<p>Use proper personal protective equipment as indicated in Section 8.</p> <p>Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.</p> <p>Use proper personal protective equipment as indicated in Section 8.</p> <p>Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Provide ventilation.</p> <p>Use proper personal protective equipment as indicated in Section 8.</p> <p>Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to dilute spill to a non-flammable mixture. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.</p>
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7. Handling and Storage

Precautions To Be Taken in Handling:	<p>Wash thoroughly after handling. Use only in a well-ventilated area. 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. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.</p> <p>Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Use spark-proof tools and explosion proof equipment. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not get on skin or in eyes. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.</p> <p>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. Take precautionary measures against static discharges. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open</p>
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flames. Use only with adequate ventilation. Avoid breathing dust, mist, or vapor. Do not allow to evaporate to near dryness.

Precautions To Be Taken in Storing:

Keep away from heat, sparks and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

Keep away from heat, sparks and flame. Do not store near combustible materials. Store in a cool, dry place. Store in a tightly closed container. Keep from contact with oxidizing materials. Flammables-area.

Keep away from heat, sparks and flame. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation. Store protected from moisture. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
64-17-5	Ethyl alcohol	PEL: 1000 ppm	TLV: 1000 ppm	No data.
71-23-8	1-Propanol	PEL: 200 ppm	TLV: 200 ppm STEL: (250 ppm)	No data.
67-63-0	Isopropyl alcohol	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	No data.

Respiratory Equipment (Specify Type):

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

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Eye Protection:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Wear chemical splash goggles.

dioxide.

Acid chlorides, Acid anhydrides, Oxidizing agents, potassium tert-butoxide.

Strong oxidizing agents, Strong acids, Strong bases, Amines, Ammonia, ethylene oxide, isocyanates, acetaldehyde, chlorine, phosgene, Attacks some forms of plastics, rubbers, and coatings. aluminum at high temperatures.

Hazardous Decomposition Or Byproducts: Carbon monoxide, irritating and toxic fumes and gases, Carbon dioxide.

Possibility of Hazardous Reactions:

Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Reactions:

No data available.

11. Toxicological Information

Toxicological Information: No data available.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.
71-23-8	1-Propanol	n.a.	n.a.	n.a.	n.a.
67-63-0	Isopropyl alcohol	n.a.	3	A4	n.a.

12. Ecological Information

General Ecological Information:

Environmental: When released to the atmosphere it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rainout should be significant.

Physical: No information available.

Other: No information available.

Environmental: Expected to rapidly volatilize.

Physical: No information available.

Other: No information available.

Ecotoxicity: Fish: Fathead Minnow: 1000 ppm; 96h; LC50Daphnia: 1000 ppm; 96h; LC50Fish: Gold orfe: 8970-9280 ppm; 48h; LC50 IPA has a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.

Environmental: No information available.

Physical: THOD: 2.40 g oxygen/gCOD: 2.23 g oxygen/gBOD-5: 1.19-1.72 g oxygen/g.

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: None listed.

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RCRA P-Series: None listed.
RCRA U-Series: None listed.

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)
64-17-5	Ethyl alcohol	No	No	No
71-23-8	1-Propanol	No	No	No
67-63-0	Isopropyl alcohol	No	No	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
64-17-5	Ethyl alcohol	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No
71-23-8	1-Propanol	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No
67-63-0	Isopropyl alcohol	TSCA: Yes - Inventory, 4 Test; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: No

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
64-17-5	Ethyl alcohol	Canadian 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)
71-23-8	1-Propanol	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1274; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-207; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 176; Switzerland Giftliste 1: Yes - G-2043; Switzerland INNS: No; REACH: Yes - (R), (P)
67-63-0	Isopropyl alcohol	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1219; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-207; Japan ISHL: Yes - 2-(8)-319; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 135; Switzerland Giftliste 1: Yes - G-1712; 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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