

1. Product and Company Identification

Product Code: JP-W89
Product Name: JP-W89
Trade Name: JP-W89
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
Germ Cell Mutagenicity, Category 1B
Toxic To Reproduction, Category 1B
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
Target Organ Systemic 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 inhaled.
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 .
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.
May cause 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.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.

GHS Response Phrases:

Do not breathe dust/fume/gas/mist/vapours/spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.

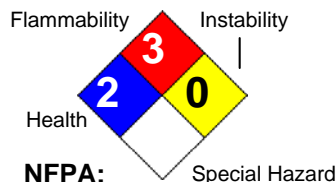
In case of fire, use dry chemical, CO₂, water splay, fog or foam to extinguish.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
Call a POISON CENTER/doctor if you feel unwell.
IF exposed or concerned: Get medical attention/advice.
Specific treatment see Section 4 on this label.
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:

HEALTH	2
FLAMMABILITY	3
PHYSICAL	0
PPE	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. 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. Not available. Repeated eye exposure may cause visual abnormalities including blurred vision and photosensitivity. Repeated exposure in combination with constant, loud noise can produce hearing loss and vertigo.

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. May be harmful if inhaled. May cause respiratory tract irritation. 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. Vapors may cause dizziness or suffocation. May be harmful if inhaled. Exposure causes central nervous system depression with possible headache, dizziness, and drowsiness. May cause lung hemorrhage, blood disturbances, and liver and kidney abnormalities.

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. May be harmful if absorbed through the skin. May cause skin irritation. Causes moderate skin irritation. May cause cyanosis of the extremities. Causes skin irritation. Prolonged and/or repeated contact may cause

Eye Contact:	defatting of the skin and dermatitis. Although n-butanol can enter the circulation after topical application, the absorbed dose is insignificant compared to that from other routes. Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant. May cause eye irritation. Causes severe eye irritation. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage. May result in corneal injury. May cause eye irritation and possible damage. Risk of serious damage to eyes. Vapors appear to cause a special vacuolar keratopathy in humans.
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. May be harmful if swallowed. 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. Harmful if swallowed. Aspiration hazard. May cause liver damage. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
78-93-3	Methyl ethyl ketone	40.0 -50.0 %
13463-67-7	Titanium dioxide	10.0 -20.0 %
64-17-5	Ethyl alcohol	1.0 -10.0 %
71-36-3	n-Butyl alcohol	1.0 -3.0 %
78-92-2	sec-Butyl alcohol	< 1.0 %
67-56-1	Methanol	< 1.0 %

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. If breathed in, move person into fresh air. Consult a physician. Remove from exposure and move to fresh air immediately. Do NOT use mouth-to-mouth resuscitation.
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. Get medical aid. Flush skin with plenty of soap and water. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
In Case of Eye Contact:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid. Flush eyes with water as a precaution. 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.
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. Rinse mouth with water. Consult a physician. Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid. Wash mouth out with water.
Signs and Symptoms Of	To the best of our knowledge, the chemical, physical, and toxicological properties have

Exposure:	not been thoroughly investigated.
Note to Physician:	Treat symptomatically and supportively. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous system diseases may be at increased risk from exposure to this substance. Antidote: Replace fluid and electrolytes.

5. Fire Fighting Measures

Flash Pt:	> -8.10 C (17.4 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. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. Use water spray, dry chemical, carbon dioxide, or chemical foam.
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. Wear self contained breathing apparatus for fire fighting if necessary. Replace fluid and electrolytes. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor.
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. Personal precautions. Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust. Environmental precautions. Do not let product enter drains. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. A vapor suppressing foam may be used to reduce vapors. Do not let this chemical enter the environment.
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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. Provide appropriate exhaust ventilation at places where dust is formed. Use only in a well-ventilated area. Avoid ingestion and inhalation. Avoid breathing dust, mist, or vapor. Avoid contact with skin and eyes. Use only in a chemical fume hood.

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

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.
13463-67-7	Titanium dioxide	PEL: 15 (dust) mg/m3	TLV: 10 mg/m3	No data.
64-17-5	Ethyl alcohol	PEL: 1000 ppm	TLV: 1000 ppm	No data.
71-36-3	n-Butyl alcohol	PEL: 100 ppm	TLV: 20 ppm	No data.
78-92-2	sec-Butyl alcohol	PEL: 150 ppm	TLV: 100 ppm	No data.
67-56-1	Methanol	PEL: 200 ppm	TLV: 200 ppm STEL: 250 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. is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Eye Protection: Wear chemical splash goggles. Safety glasses with side-shields conforming to EN166. 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.

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. Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to

11. Toxicological Information

Toxicological Information: Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: Mutagenicity: Neurotoxicity: Other Studies:

Irritation or Corrosion: Skin - Human - Mild skin irritation - -3 d.
Serious eye damage/eye irritation:
Eyes - rabbit - No eye irritation.

Carcinogenicity/Other Information: CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. Carcinogenicity. Carcinogenicity - rat - Inhalation.
Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Carcinogenicity - rat - Intramuscular.
Tumorigenic: Neoplastic by RTECS criteria. Blood: Lymphomas including Hodgkin's disease. Tumorigenic: Tumors at site of application.

IARC Group 2B: Proven animal carcinogenic substance of potential relevance to humans.
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. CAS# 64-17-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 71-36-3: 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.
13463-67-7	Titanium dioxide	n.a.	2B	A4	n.a.
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.
71-36-3	n-Butyl alcohol	n.a.	n.a.	n.a.	n.a.
78-92-2	sec-Butyl alcohol	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.
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.
No information available.

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.
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.
Dispose of as unused product. RCRA U-Series: None listed. CAS# 71-36-3: waste number U031 (Ignitable waste).

14. Transport Information

LAND TRANSPORT (US DOT):

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



LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Printing ink
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
13463-67-7	Titanium dioxide	No	No	No
64-17-5	Ethyl alcohol	No	No	No
71-36-3	n-Butyl alcohol	No	Yes 5000 LB	Yes
78-92-2	sec-Butyl alcohol	No	No	Yes
67-56-1	Methanol	No	Yes 5000 LB	Yes

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [] No Acute (immediate) Health Hazard
 [X] Yes [] No Chronic (delayed) Health Hazard
 [X] Yes [] No Fire Hazard
 [X] Yes [] 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
13463-67-7	Titanium dioxide	TSCA: Yes - Inventory; CA PROP.65: Yes; CA TAC, Title 8: No; NC TAP: No
64-17-5	Ethyl alcohol	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No
71-36-3	n-Butyl alcohol	TSCA: Yes - Inventory, 4 Test; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: No
78-92-2	sec-Butyl alcohol	TSCA: Yes - Inventory, 8A PAIR; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: No
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)
13463-67-7	Titanium dioxide	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (1)-558; Japan ISHL: No; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 1345; Switzerland Giftliste 1: Yes - G-2950; Switzerland INNS: No; REACH: Yes - (R), (P)
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)
71-36-3	n-Butyl alcohol	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-2993; Japan ISHL: Yes - 2-(8)-299; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 39; Switzerland Giftliste 1: Yes - G-1321; Switzerland INNS: No; REACH: Yes - (R), (P)
78-92-2	sec-Butyl alcohol	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-3049; Japan ISHL: Yes - 2-(8)-300; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 40; Switzerland Giftliste 1: Yes - G-1318; 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: 08/18/2014

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:

Garan Myers

Phone (866) 583 0048