

Page: 1

	1. Product and Company Identification
Product Code:	JP-K69 ENG
Product Name:	JP-K69
Trade Name:	JP-K69
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: Skin, Category 5 Acute Toxicity: Inhalation, Category 5 Skin Corrosion/Irritation, Category 2 Serious Eye Damage/Eye Irritation, Category 2 Germ Cell Mutagenicity, Category 1B Carcinogenicity, Category 2 Toxic To Reproduction, Category 1B Specific Target Organ Toxicity (single exposure), Category 1 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 in contact with skin.	
	May be harmful if inhaled.	
	Causes skin irritation.	
	Causes serious eye irritation.	
	May cause genetic defects state route of exposure if it is conclusively proven other routes of	that no
	exposure cause the hazard.	
	Suspected of causing cancer state route of exposure if it is conclusively prove	en that no
	other routes of exposure cause the hazard.	
	May damage fertility or the unborn child .	
	Causes 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.	
Licensed to Hitachi Ink Research and	Development: MIRS MSDS, (c) A V Systems, Inc.	GHS format



	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. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.			
GHS Response Phrases:	 In case of fire, use dry chemical, CO2, water splay, fog or form to extinguish. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skir 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 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: HMIS:	HEALTH 2 FLAMMABILITY 3 PHYSICAL 0 PPE B Flammability Instability Health Special Hazard			
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. Chronic exposure may cause liver 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			



Revision: 11/26/2014

	toxicity. Possible cancer hazard based on tests with laboratory animals. May cause liver and kidney damage. Sophisticated modeling has clearly proven that 2-butoxyethanol does not build up in the body under any kinds of normal use.
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. 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. Inhalation of vapor may cause respiratory tract irritation. May cause effects similar to those described for ingestion. 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, doubl 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. Dust is irritating to the respiratory tract. Exposure may impair lung function and cause mucostasis (reduced mucous clearance). Carbon black dust is extremely fine and light and can be breathed deeply into the lungs, where it can accumulate. Normally the dust is cleared gradually and has no harmful effects. However, high concentrations can overwhelm the clearance capacity of the lungs, and impair function. Harmful if inhaled. May cause respiratory tract irritation. May cause lung damage. May cause anemia.
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. 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. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances. May cause skin irritation. Causes skin irritation. Harmful if absorbed through the skin. Substance is rapidly absorbed through the skin. Causes symptoms similar to those of inhalation. Skin sensitization testing with human volunteers produced negative results. A skin notation is not recommended by ACGIH, based on estimates from physiologically based pharmacokinetic models which indicate that, even in worst-case dermal-exposure scenarios, 2-butoxyethanol is not absorbed in amounts sufficient to cause red blood cell hemolysis in humans.
Eye Contact:	Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant. 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. Methanol is a mild to moderate eye irritant. Inhalation, ingestion or skin absorption of methanol can cause significant disturbances in vision, including blindness. Causes redness and pain.
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 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 be fatal or cause blindness if swallowed. Aspiration hazard. Cannot be made non-poisonous. May cause cardiopulmonary system effects. Ingestion of large amounts may cause gastrointestinal irritation. Harmful if swallowed.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
78-93-3	Methyl ethyl ketone	50.0 -60.0 %
64-17-5	Ethyl alcohol	10.0 -20.0 %
71-23-8	1-Propanol	1.0 -5.0 %
67-56-1	Methanol	1.0 -3.0 %
1333-86-4	Carbon black	1.0 -5.0 %
111-76-2	Ethanol, 2-Butoxy-	0.0 -2.0 %

4. First Aid Measures

Emergency and First Aid	
Procedures: 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. Remove from exposure and move to fresh air immediately. Do NOT use mouth-to-mouth resuscitation. Get medical aid immediately. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
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. 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. Get medical aid immediately. Get medical aid if irritation develops or persists.
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. 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 immediately.
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. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid. Call a poison control center.
Note to Physician:	Treat symptomatically and supportively. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous sytem diseases may be at increased risk from exposure to this substance. Antidote: Replace fluid and electrolytes. Effects may be delayed. Antidote: Ethanol may inhibit methanol metabolism.



5. Fire Fighting Measures							
Flash Pt:	> -4.00 C (24.8 F) Method Used: Closed Cup						
Explosive Limits:	LEL: UEL:						
utoignition Pt: > 505.00 C (941.0 F)							
Suitable Extinguishing Media	a: 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. 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 dry chemical, carbon dioxide, or alcohol-resistant foam. Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam. Use water spray, dry chemical, carbon dioxide, or chemical foam. Use water spray, dry chemical, carbon dioxide, or chemical foam.						
Fire Fighting Instructions:							
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. A vapor suppressing foam may be used to reduce vapors. Avoid runoff into storm sewers and ditches which lead to waterways. 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. Water spray may reduce vapor but may not prevent ignition in closed spaces. Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Do not let this chemical enter the environment.						
	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,						
Licensed to Hitachi Ink Research and I	Development: MIRS MSDS, (c) A V Systems, Inc. GHS format						



	braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor. Use only in a well-ventilated area. Avoid ingestion and inhalation. Use with adequate ventilation. Do not get on skin or in eyes. Do not ingest or inhale. Avoid use in confined spaces. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. 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 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. Do not store near combustible materials. Store in a cool, dry place. Keep containers tightly closed.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemica	al Name	OSHA TWA	ACGIH TWA	Other Limits
78-93-3	Methyl ethyl ketone		PEL: 200 ppm	TLV: 200 ppm STEL: 300 ppm	
64-17-5	Ethyl alcohol		PEL: 1000 ppm	TLV: 1000 ppm	
71-23-8	1-Propanol		PEL: 200 ppm	TLV: 200 ppm STEL: (250 ppm)	
67-56-1	Methanol		PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	
1333-86-4	Carbon black		PEL: 3.5 mg/m3	TLV: 3.5 mg/m3	
111-76-2	Ethanol, 2-Butox	y-	PEL: 50 ppm	TLV: 20 ppm	
(Specify Typ	pe):	respirator if expos experienced. A res ANSI Z88.2 requir	ure limits are exceede spiratory protection pro	or European Standard EN d or if irritation or other sy ogram that meets OSHA's Standard EN 149 must be use.	mptoms are 29 CFR 1910.134 and
Eye Protecti	on:	safety goggles as	0 00 1	propriate protective eyegl eye and face protection re	
Protective G	iloves:			event skin exposure. Wea gloves to prevent skin ex	, ,
Other Protec	ctive Clothing:		protective clothing to p to minimize contact w	prevent skin exposure. We vith skin.	ear appropriate
Engineering (Ventilation		a safety shower. L concentrations bel electrical service r	Jse adequate general low the permissible ex nust be non-sparking a	should be equipped with a or local exhaust ventilatior posure limits. Ventilation f and have an explosion-pro se only under a chemical	n to keep airborne ans and other pof design. Use

Licensed to Hitachi Ink Research and Development: MIRS MSDS, (c) A V Systems, Inc.



Page: 7

	9. Physical and Chemical Properties
Physical States:	[]Gas [X]Liquid []Solid
Appearance and Odor:	Black.
	solvent odor.
Melting Point:	-127.00 C (-196.6 F)70.00 C (-94.0 F)
Boiling Point:	64.70 C (148.5 F) - 171.00 C (339.8 F)
Autoignition Pt:	> 505.00 C (941.0 F)
Flash Pt:	> -4.00 C (24.8 F) Method Used: Closed Cup
Explosive Limits:	LEL: UEL:
Specific Gravity (Water = 1):	
Density:	~ 0.8045 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
Stability:	Unstable [] Stable [X]
Conditions To Avoid - nstability:	ignition sources, Excess heat, Incompatible materials, High temperatures, confined spaces, Moisture.
Avoid:	hydrazine, Peroxides, Sodium, Acid anhydrides, calcium hypochlorite, chromyl chloride nitrosyl perchlorate, bromine pentafluoride, Perchloric acid, silver nitrate, mercuric nitrate, potassium tert-butoxide, magnesium perchlorate, Acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, Oxidizing agents, Reducing agents, Potassium, metals as powders (e.g. hafnium, raney nickel), powdered aluminum, powdered magnesium. May react vigorously or violently when mixed with strong oxidizing agents such as chlorates bromates and nitrates, expecially when heated. Incompatible with chlorinated paraffins lead oxide, manganese oxide, iron oxide, liquid oxygen, oils, and moisture. Strong bases, Aluminum.
Hazardous Decomposition O Byproducts:	r Carbon monoxide, Carbon dioxide, irritating and toxic fumes and gases.
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]



		11. Toxicological	Informatio	on		
Toxicologica Carcinogeni Information:	al Information: city/Other	 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: No data available. Teratogenicity: No information available. CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 64-17-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 64-17-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 64-17-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 1333-86-4: ACGIH: Not listed. California: carcinogen, initial date 2/21/03 (airborne, unbound particles of respirable size. NTP: Not listed. CAS# 111-76-2: ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans. California: Not listed. IARC: Not listed. 				
CAS#	Hazardous Co	mponents (Chemical Name)	NTP	IARC	ACGIH	OSHA
78-93-3	Methyl ethyl kei	tone	n.a.	n.a.	n.a.	n.a.
64-17-5	Ethyl alcohol		n.a.	1	A4	n.a.
71-23-8	1-Propanol		n.a.	n.a.	n.a.	n.a.
67-56-1	Methanol		n.a.	n.a.	n.a.	n.a.
1333-86-4	Carbon black		n.a.	2B	A4	n.a.
111-76-2	Ethanol, 2-Buto	ху-	n.a.	3	A3	n.a.
		12. Ecological Ir	formation			
Information: Subst photo in air. bioaco When atmos be sig Physic Expect Other toxicit alcoho high s photo Biocol value TERR Koc va regres expect		Environmental: Substance evapor Substance is not expected to bio photodegrades in air with T1/2 = in air. Readily biodegradable mea- bioaccumulate significantly. When released to the atmospher atmosphere) to an estimated ran be significant. Physical: No information available Expected to rapidly volatilize. Other: No information available. I toxicity rating: TLm 961000 ppm. alcohol is expected to biodegrade high soil mobility and will be degr photochemically produced hyroxy Bioconcentration factor for fish (g value for methanol can beestima TERRESTRIAL FATE: Based on Koc value of 67,, determined fror regression-derived equation, indi expected to have high mobility in ethylene glycol mono-n-butyl ether	concentrate in r 2.3 days. Oxidi eting the 10 day e it will photode ge of 4 to 6 day e. Dangerous to a It may be dang e in soil and wa raded from the vl radicals with polden ide) < 10 ted to be 0. a recommende n an experimer cates that ethyl soil. An estima er, using an exp	marine life. P izes rapidly b y window crit egrade in hou /s in less poll quatic life in gerous if it en ter very rapid ambient atmo an estimated).Based on a ed classification tal log Kow a lene glycol mo ated BCF valu	hysical: Subs y photo-chen erion. Not exp urs (polluted u uted areas. F high concent ters water int dly. This prod osphere by th half-life of 17 log Kow of -0 fon scheme, a and a recomm iono-n-butyl e ue of 2.5 was	stance nical reactions bected to arban Rainout should rations. Aquatic akes. Methyl uct will show e reaction with 7.8 days. 0.77, the BCF an estimated hended other is calculated for



Revision: 11/26/2014

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. USE PA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste. USE PA 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: CAS# 78-93.3 waste number U159 (Ignitable waste). RCRA U-Series: None listed. RCRA U-Series: None listed. CAS# 67-66-1: waste number U154 (Ignitable waste). LAND TRANSPORT (US DOT): DOT Proper Shipping Name: Printing ink DOT Proper Shipping Name: Printing ink DOT Proper Shipping Name: Printing ink UNIX10 Packing Group: II Hazard Class: 3 FLAMMABLE LIQUID UNIX10 Packing Group: II Hazard Class: 3 · FLAMMABLE LIQUID UNIX10 Packing Group: II Hazard Class: 3 · FLAMMABLE LIQUID TOG Shipping Name: Printing ink UNIX10 Packing Group: II Hazard Class: 3 · FLAMMABLE LIQUID TOG Shipping Name: 1210 Packing Group: II Hazard Class: 3 · FLAMMABLE LIQUID			recommended regression scheme, this BCF value Physical: No information Other: An estimated BC ethylene glycol mono-n- according to a recomme	suggests that biod found. F value of 2.5,, from butyl ether biocond	concentration in aquat m an experimental log centration in aquatic o	ic organisms is low. 9 Kow, suggests that	
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). RCRA U-Series: None listed. CAS# 67-56-1: waste number U154 (Ignitable waste). Image: CAS# 78-93-3: waste number U159 (Ignitable waste). RCRA U-Series: None listed. CAS# 67-56-1: waste number U154 (Ignitable waste). 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 TDG Classification: LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: 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 TOG Classification: EPASARA (Superfund Amendments and Reauthorization Act of 1989) 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 64-17-5 Ethyl alcohol No No No No 71-23-8 1-Propanol No No No No 71-23-8 1-Propanol No No No 71-23-8 1-Propanol No No No 71-23-8 1-Propanol No No Yes 5000 LB Yes 1333-86-4 Carbon black No 711-76-2 Ethanol, 2-But			13. Dispos	al Considera	tions		
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 TDG Classification: LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: 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 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 64-17-5 Ethyl alcohol No No No No 64-17-5 Ethyl alcohol No No No 67-56-1 Methanol No Yes 5000 LB Yes 1333-86-4 Carbon black No No No 111-76-2 Ethanol, 2-Butoxy- No No Yes-Cat. N230 This material meets the EPA [X] Yes [] No Acute (immediate) Health Hazard 'Hazard Categories' defined [X] Yes [] No Acute (immediate) Health Hazard 'Hazard Categories' defined [X] Yes [] No Chronic (delayed) Health Hazard 'Hazard Categories' defined [X] Yes [] No Sudden Release of Pressure Hazard 'Hazard Categories' defined [] Yes [] No Sudden Release of Pressure Hazard	Waste Dispo	osal 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). RCRA U-Series:				
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 Packing Group: II II LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: II II UN Number: 1210 Packing Group: II Hazard Class: 3 - FLAMMABLE LIQUID TDG Classification: II LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: II II UN Number: 1210 Packing Group: II Hazard Class: 3 - FLAMMABLE LIQUID Packing Group: II Bazard Class: 3 - FLAMMABLE LIQUID Packing Group: II Hazard Class: 3 - FLAMMABLE LIQUID Packing Group: II Bazard Class: 3 - FLAMMABLE LIQUID Packing Group: II Figure Class: 1210 No No No Grass: 1210 No No No			14. Trans	port Information	tion		
TDG Shipping Name: Printing ink 1210 Packing Group: II Hazard Class: 3 - FLAMMABLE LIQUID TDG Classification: II LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: II II UN Number: 1210 Packing Group: II Hazard Class: 3 - FLAMMABLE LIQUID Packing Group: II Hazard Class: 3 - FLAMMABLE LIQUID Packing Group: II Hazard Class: 3 - FLAMMABLE LIQUID Packing Group: II FeA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists E E 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 64-17-5 Ethyl alcohol No No No 71-23-8 1-Propanol No No No 1333-86-4 Carbon black No No No 111-76-2 Ethanol, 2-Butoxy- No No No This material meets the EPA [X] Yes [] No Chronic (delayed) Health Hazard <td< th=""><th>DOT Pro DOT Hai</th><th>oper Shipping Na zard Class:</th><th>ame: Printing ink 3 FLA UN1210</th><th></th><th>g Group:</th><th>II</th></td<>	DOT Pro DOT Hai	oper Shipping Na zard Class:	ame: Printing ink 3 FLA UN1210		g Group:	II	
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 64-17-5 Ethyl alcohol No No No 71-23-8 1-Propanol No No No 67-56-1 Methanol No Yes 5000 LB Yes 1333-86-4 Carbon black No No No 111-76-2 Ethanol, 2-Butoxy- No No Yes-Cat. N230 This material meets the EPA [X] Yes [] No Acute (immediate) Health Hazard 'Hazard Categories' defined [X] Yes [] No Chronic (delayed) Health Hazard Jes 5000 LB Jes 5000 'Hazard Categories' defined [X] Yes [] No Acute (immediate) Health Hazard Jes 5000 LB Jes 5000 'Hazard Categories' defined [X] Yes [] No Chronic (delayed) Health Hazard Jes 5000 Jes 5000 Jes 5000 <	TDG Shipping Name:Printing inkUN Number:1210Packing Group:Hazard Class:3 - FLAMMABLE LIQUIDTDG Classification:LAND TRANSPORT (European ADR/RID):					II	
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 64-17-5 Ethyl alcohol No No No 71-23-8 1-Propanol No No No 67-56-1 Methanol No Yes 5000 LB Yes 1333-86-4 Carbon black No No No 111-76-2 Ethanol, 2-Butoxy- No No No This material meets the EPA [X] Yes [] No Acute (immediate) Health Hazard 'Hazard Categories' defined for SARA Title III Sections [X] Yes [] No Fire Hazard 311/312 as indicated: [] Yes [X] No Sudden Release of Pressure Hazard					g Group:	II	
CAS #Hazardous Components (Chemical Name)S. 302 (EHS)S. 304 RQS. 313 (TRI)78-93-3Methyl ethyl ketoneNoYes 5000 LBNo64-17-5Ethyl alcoholNoNoNo71-23-81-PropanolNoNoNo67-56-1MethanolNoYes 5000 LBYes1333-86-4Carbon blackNoNoNo111-76-2Ethanol, 2-Butoxy-NoNoNoThis material meets the EPA[X] Yes [] NoAcute (immediate) Health Hazard'Hazard Categories' defined for SARA Title III Sections[X] Yes [] NoChronic (delayed) Health Hazard311/312 as indicated:[] Yes [X] NoSudden Release of Pressure Hazard			15. Regula	itory Informa	tion		
78-93-3Methyl ethyl ketoneNoYes 5000 LBNo64-17-5Ethyl alcoholNoNoNo71-23-81-PropanolNoNoNo67-56-1MethanolNoYes 5000 LBYes1333-86-4Carbon blackNoNoNo111-76-2Ethanol, 2-Butoxy-NoNoNoThis material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:[X] Yes [] NoAcute (immediate) Health Hazard Chronic (delayed) Health Hazard	EPA SARA (Superfund Amend	ments and Reauthorization	Act of 1986) Lists			
64-17-5Ethyl alcoholNoNo71-23-81-PropanolNoNoNo67-56-1MethanolNoYes 5000 LBYes1333-86-4Carbon blackNoNoNo111-76-2Ethanol, 2-Butoxy-NoNoNoThis material meets the EPA[X] Yes [] NoAcute (immediate) Health Hazard'Hazard Categories' definedfor SARA Title III Sections[X] Yes [] NoFire Hazard311/312 as indicated:[] Yes [X] NoSudden Release of Pressure Hazard	CAS #			S. 302 (EHS)) S. 304 RQ	S. 313 (TRI)	
71-23-8 1-Propanol No No No 67-56-1 Methanol No Yes 5000 LB Yes 1333-86-4 Carbon black No No No 111-76-2 Ethanol, 2-Butoxy- No No Yes-Cat. N230 This material meets the EPA 'Hazard Categories' defined [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			one				
67-56-1 Methanol No Yes 5000 LB Yes 1333-86-4 Carbon black No No No 111-76-2 Ethanol, 2-Butoxy- No No Yes-Cat. N230 This material meets the EPA [X] Yes [] No Acute (immediate) Health Hazard 'Hazard Categories' defined for SARA Title III Sections [X] Yes [] No Fire Hazard 311/312 as indicated: [] Yes [X] No Sudden Release of Pressure Hazard							
1333-86-4 Carbon black No No No 111-76-2 Ethanol, 2-Butoxy- No No No Yes-Cat. N230 This material meets the EPA [X] Yes [] No Acute (immediate) Health Hazard Yes-Cat. N230 'Hazard Categories' defined for SARA Title III Sections [X] Yes [] No Chronic (delayed) Health Hazard Yes [] No 311/312 as indicated: [] Yes [X] No Sudden Release of Pressure Hazard Yes							
111-76-2 Ethanol, 2-Butoxy- No No Yes-Cat. N230 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							
This material meets the EPA[X] Yes [] NoAcute (immediate) Health Hazard'Hazard Categories' defined[X] Yes [] NoChronic (delayed) Health Hazardfor SARA Title III Sections[X] Yes [] NoFire Hazard311/312 as indicated:[] Yes [X] NoSudden Release of Pressure Hazard							
Licensed to Hitachi Ink Research and Development: MIRS MSDS, (c) A V Systems, Inc. GHS formation GHS formation GHS formation GHS formation GHS formation GHS formation of the second sec	This materia 'Hazard Cate for SARA Ti 311/312 as i	al meets the EPA egories' defined tle III Sections ndicated:	X [X] Yes [] No Acute ([X] Yes [] No Chronic [X] Yes [] No Fire Ha [] Yes [X] No Sudder [] Yes [X] No Reactiv	immediate) Health c (delayed) Health zard n Release of Press re Hazard	Hazard Hazard	Yes-Cat. N230 GHS format	



Revision: 11/26/2014

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
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
67-56-1	Methanol	TSCA: Yes - Inventory; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes
1333-86-4	Carbon black	TSCA: Yes - Inventory; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; NC TAP: No
111-76-2	Ethanol, 2-Butoxy-	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes - Cat.
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)
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)
67-56-1	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)
1333-86-4	Carbon black	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (5)-3328; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 1742; Switzerland Giftliste 1: Yes - G-8938; Switzerland INNS: No; REACH: Yes - (R), (P)
111-76-2	Ethanol, 2-Butoxy-	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - (2)-2424; Japan ISHL: No; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 47; Switzerland Giftliste 1: Yes - G-1334; Switzerland INNS: No; REACH: Yes - (R), (P)

Licensed to Hitachi Ink Research and Development: MIRS MSDS, (c) A V Systems, Inc.



16. Other Information			
Revision Date:	11/26/2014		
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		