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 that no other routes of exposure cause the hazard.
Suspected of causing cancer 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 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.
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 skin 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 exposed or concerned: 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:

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
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, double 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

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

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 at 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 system 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Pt.</td>
<td>&gt; -4.00 C (24.8 F)</td>
</tr>
<tr>
<td>Method Used:</td>
<td>Closed Cup</td>
</tr>
<tr>
<td>Explosive Limits:</td>
<td></td>
</tr>
<tr>
<td>LEL:</td>
<td></td>
</tr>
<tr>
<td>UEL:</td>
<td></td>
</tr>
<tr>
<td>Autoignition Pt.</td>
<td>&gt; 505.00 C (941.0 F)</td>
</tr>
</tbody>
</table>

**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. 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 appropriate foam. 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. 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. Get medical aid. Combustion generates toxic fumes. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Ethanol may inhibit methanol metabolism. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Carbon black can be ignited in the presence of open flames. Once ignited it burns slowly with the production of Carbon monoxide. Combustible liquid and vapor.

## 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,
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

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>PEL: 200 ppm</td>
<td>TLV: 200 ppm</td>
<td>STEL: 300 ppm</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>PEL: 1000 ppm</td>
<td>TLV: 1000 ppm</td>
<td></td>
</tr>
<tr>
<td>71-23-8</td>
<td>1-Propanol</td>
<td>PEL: 200 ppm</td>
<td>TLV: 200 ppm</td>
<td>STEL: (250 ppm)</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>PEL: 200 ppm</td>
<td>TLV: 200 ppm</td>
<td>STEL: 250 ppm</td>
</tr>
<tr>
<td>1333-86-4</td>
<td>Carbon black</td>
<td>PEL: 3.5 mg/m3</td>
<td>TLV: 3.5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>111-76-2</td>
<td>Ethanol, 2-Butoxy-</td>
<td>PEL: 50 ppm</td>
<td>TLV: 20 ppm</td>
<td></td>
</tr>
</tbody>
</table>

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. 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. 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. Wear butyl rubber gloves, apron, and/or clothing. Wear appropriate gloves to prevent skin exposure.

Other Protective Clothing:

Wear appropriate protective clothing to prevent skin exposure. Wear appropriate protective clothing to minimize contact with skin.

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. Use explosion-proof ventilation equipment. Use only under a chemical fume hood.
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:
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]
Incompatibility - Materials To Avoid: Strong oxidizing agents, Strong acids, 2-propanol, acids, Alkali metals, Ammonia, 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, disulfuryldifluoride, 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, especially when heated. Incompatible with chlorinated paraffins, lead oxide, manganese oxide, iron oxide, liquid oxygen, oils, and moisture. Strong bases, Aluminum.
Hazardous Decomposition Or Byproducts: Carbon monoxide, Carbon dioxide, irritating and toxic fumes and gases.
Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]
11. Toxicological Information

Toxicological Information:
- 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.

Carcinogenicity/Other Information:
- 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# 71-23-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 67-56-1: 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.

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>n.a.</td>
<td>1</td>
<td>A4</td>
<td>n.a.</td>
</tr>
<tr>
<td>71-23-8</td>
<td>1-Propanol</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>1333-86-4</td>
<td>Carbon black</td>
<td>n.a.</td>
<td>2B</td>
<td>A4</td>
<td>n.a.</td>
</tr>
<tr>
<td>111-76-2</td>
<td>Ethanol, 2-Butoxy-</td>
<td>n.a.</td>
<td>3</td>
<td>A3</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

12. Ecological Information

General Ecological Information:
- Environmental: Substance evaporates in water with T1/2 = 3D (rivers) to 12D (lakes). Substance is not expected to bioconcentrate in marine life. Physical: Substance photodegrades in air with T1/2 = 2.3 days. Oxidizes rapidly by photo-chemical reactions in air. Readily biodegradable meeting the 10 day window criterion. Not expected to bioaccumulate significantly.

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.
- Expected to rapidly volatile.

Other: No information available. Dangerous to aquatic life in high concentrations. Aquatic toxicity rating: TLm 961000 ppm. It may be dangerous if it enters water intakes. Methyl alcohol is expected to biodegrade in soil and water very rapidly. This product will show high soil mobility and will be degraded from the ambient atmosphere by the reaction with photochemically produced hyroxyl radicals with an estimated half-life of 17.8 days. Bioconcentration factor for fish (golden ide) < 10. Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.

TERRESTRIAL FATE: Based on a recommended classification scheme, an estimated Koc value of 67.5, determined from an experimental log Kow and a recommended regression-derived equation, indicates that ethylene glycol mono-n-butyl ether is expected to have high mobility in soil. An estimated BCF value of 2.5 was calculated for ethylene glycol mono-n-butyl ether, using an experimental log Kow of 0.83 and a
recommended regression-derived equation. According to a recommended classification scheme, this BCF value suggests that bioconcentration in aquatic organisms is low. Physical: No information found. Other: An estimated BCF value of 2.5, from an experimental log Kow, suggests that ethylene glycol mono-n-butyl ether bioconcentration in aquatic organisms will be low, according to a recommended classification scheme.

13. Disposal Considerations


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

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>No</td>
<td>Yes 5000 LB</td>
<td>No</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>71-23-8</td>
<td>1-Propanol</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>No</td>
<td>Yes 5000 LB</td>
<td>Yes</td>
</tr>
<tr>
<td>1333-86-4</td>
<td>Carbon black</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>111-76-2</td>
<td>Ethanol, 2-Butoxy-</td>
<td>No</td>
<td>No</td>
<td>Yes-Cat. N230</td>
</tr>
</tbody>
</table>

This material meets the EPA 'Hazard Categories’ defined for SARA Title III Sections

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

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<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
<th>International Regulatory Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Methyl ethyl ketone</td>
<td>TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes</td>
<td>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)</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: No</td>
<td>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)</td>
</tr>
<tr>
<td>71-23-8</td>
<td>1-Propanol</td>
<td>TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: No</td>
<td>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)</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>TSCA: Yes - Inventory; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes</td>
<td>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)</td>
</tr>
<tr>
<td>1333-86-4</td>
<td>Carbon black</td>
<td>TSCA: Yes - Inventory; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; NC TAP: No</td>
<td>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)</td>
</tr>
<tr>
<td>111-76-2</td>
<td>Ethanol, 2-Butoxy-</td>
<td>TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; NC TAP: Yes - Cat.</td>
<td>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)</td>
</tr>
</tbody>
</table>
16. Other Information

Revision Date: 11/26/2014

To the best of our knowledge, the information contained here 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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