

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: JP-K83
Product Name: JP-K83 Printing Ink
X Code:

1.2 Relevant identified uses of the substance or mixture and uses advised against:

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Hitachi America, Ltd.
50 Prospect Avenue
Tarrytown, NY 10591

Information: Garan Myers (866)-583-0048

1.4 Emergency telephone number:

Emergency Contact: Chemtrec (800)424-9300

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:

Flammable Liquids, Category 2

Carcinogenicity, Category 2

Toxic To Reproduction, Category 1B

Specific Target Organ Toxicity (single exposure), Category 1

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:



GHS Signal Word: Danger

GHS Hazard Phrases:

H225 - Highly flammable liquid and vapor.

H331 - Toxic if inhaled.

H301 - Toxic if swallowed.

H311 - Toxic in contact with skin.

H316 - Causes mild skin irritation.

H318 - Causes serious eye damage.

H317 - May cause an allergic skin reaction.

H351 - Suspected of causing cancer state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard.

H360 - May damage fertility or the unborn child .

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.
- P271 - Use only outdoors or in a well-ventilated area.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P361+364 - Take off immediately all contaminated clothing and wash it before reuse.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P362+364 - Take off contaminated clothing and wash it before reuse.
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P281 - Use personal protective equipment as required.
- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

GHS Response Phrases:

- P370+378 - In case of fire, use ... to extinguish.
- P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P311 - Call a POISON CENTER/doctor/....
- P322 - Specific measures see ... on this label.
- P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P330 - Rinse mouth.
- P321 - Specific treatment see ... on this label.
- P302+352 - IF ON SKIN: Wash with plenty of soap and water.
- P312 - Call a POISON CENTER/doctor/... if you feel unwell.
- 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.
- P310 - Immediately call a POISON CENTER/doctor/....
- P333+313 - If skin irritation or rash occurs, seek medical advice/attention.
- P308+313 - IF exposed or concerned: Get medical attention/advice.

GHS Storage and Disposal Phrases:

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

- 2.3 Adverse Human Health** Chronic: Effects may be delayed. Laboratory experiments have shown mutagenic effects.
- Effects and Symptoms:** Repeated contact may cause corneal damage. May cause adverse reproductive effects. 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. Repeated or prolonged exposure may cause CNS stimulation. Prolonged or repeated skin contact may cause dermatitis. Adverse reproductive effects have been reported in animals. Testicular effects in rats were noted after repeated, high-dose oral and inhalation exposures. (BASF) Human occupational exposure has been associated with chronic eye irritation, headaches, and irritant contact dermatitis. Airborne concentrations of 49 to 83 ppm are intolerable. (REPROTEXT)
- 2.3.1 Inhalation:** Causes respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. Can produce delayed pulmonary edema. 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 be harmful if inhaled. Vapors may cause dizziness or suffocation. May cause headache. Material has a very low vapor pressure at room temperature, so inhalation exposures are not expected unless material is heated or misted.
- 2.3.2 Skin Contact:** Causes skin irritation. Absorption into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). 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 cause skin irritation. May be harmful if absorbed through the skin. Prolonged and/or frequent contact may cause drying, cracking or folliculitis. Not expected to cause an allergic skin reaction. Because of the high permeability rate of N-methylpyrrolidone in human skin, prolonged exposures should be avoided.
- 2.3.3 Eye Contact:** May cause chemical conjunctivitis. Causes eye irritation and possible injury. Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant. May cause eye irritation. May cause temporary corneal clouding.
- 2.3.4 Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause hemolytic anemia. 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 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.

Section 3. Composition/Information on Ingredients

| CAS # | Hazardous Components (Chemical Name)/ REACH Registration No. | Concentration | EC No./ EC Index No. | GHS Classification |
|------------|--|---------------|---------------------------|--|
| 25085-75-0 | Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol] | 7.7 -18.0 % | 607-535-4 NA | Aquatic (C) 4: H413 |
| 80-05-7 | 4,4'-Isopropylidenediphenol | 1.0 -3.6 % | 201-245-8 604-030-00-0 | Skin Sens. 1: H317 Eye Damage 1: H318 STOT (SE) 3: H335 H336 Toxic Repro. 2: H361 |
| 2807-30-9 | Ethylene glycol monopropyl ether | 0.1 -1.0 % | 220-548-6 603-095-00-2 | Acute Tox.(D) 4: H312 Eye Damage 2: H319 |
| 50-00-0 | Formaldehyde | 0.01 -0.1 % | 200-001-8 605-001-00-5 | Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Skin Corr. 1B: H314 Skin Sens. 1: H317 Acute Tox.(I) 3: H331 Carcinogen 2: H351 |
| 78-93-3 | Methyl ethyl ketone | 30.0 -60.0 % | 201-159-0 606-002-00-3 | Flam. Liq. 2: H225 Eye Damage 2: H319 STOT (SE) 3: H335 H336 |
| 67-56-1 | Methanol | 15.0 -45.0 % | 200-659-6 603-001-00-X | Flam. Liq. 2: H225 Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Acute Tox.(I) 3: H331 STOT (SE) 1: H370 |
| 107-98-2 | 2-Propanol, 1-Methoxy- | 3.0 -10.0 % | 203-539-1 603-064-00-3 | Flam. Liq. 3: H226 STOT (SE) 3: H335 H336 |
| 872-50-4 | N-Methyl-2-pyrrolidone | 1.0 -5.0 % | 212-828-1 606-021-00-7 | Skin Corr. 2: H315 Eye Damage 2: H319 STOT (SE) 3: H335 H336 Toxic Repro. 1B: H360 |
| 8047-99-2 | Toluene ethylsulfonamide | 1.0 -5.0 % | 232-465-2 NA | |

Section 4. First Aid Measures

4.1 Description of First Aid

Measures:

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. If inhaled, remove to fresh air. Remove victim to fresh air. If not breathing give artificial respiration. Get medical aid immediately.

In Case of Skin

Contact:

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Flush with copious amounts of water for at least 15 minutes.

Call a physician.

In Case of Eye

Contact:

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. In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician. Get medical aid immediately.

In Case of Ingestion:

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. If vomiting occurs naturally, have victim lean forward. Wash out mouth with water provided person is conscious. Call a physician immediately. Do NOT induce vomiting. If swallowed, do not induce vomiting unless directed to do so by medical personnel.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

Gastrointestinal disturbances. May cause convulsions.

Acute and Delayed:

CONDITIONS AGGRAVATED BY EXPOSURE:
The toxicological properties have not been thoroughly investigated.

Note for the Doctor:

Treat symptomatically and supportively.

Section 5. Fire Fighting Measures

5.1 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. Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam. 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. Water may be ineffective. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

5.2 Flammable Properties and Hazards:

Flash Pt: > -7.00 Method Used: Estimate

Explosive Limits: LEL: UEL:

Autoignition Pt:

5.3 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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust

explosion. 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. Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. 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. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. Combustible liquid and vapor.

Section 6. Accidental Release Measures

**6.1 Protective Precautions,
Protective Equipment
and Emergency
Procedures:**

**6.2 Environmental
Precautions:**

**6.3 Methods and Material
For Containment and
Cleaning Up:**

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. 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. PROCEDURE(S) OF PERSONAL PRECAUTION(S) Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Methods for cleaning up.

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete. Avoid runoff into storm sewers and ditches which lead to waterways. A vapor suppressing foam may be used to reduce vapors.

Section 7. Handling and Storage

**7.1 Precautions To Be
Taken in Handling:**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. 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. User Exposure: Avoid prolonged or repeated exposure. Do not breathe dust. Use only in a well-ventilated area. Keep away from heat and flame. Avoid breathing dust, mist, or vapor.

**7.2 Precautions To Be
Taken in Storing:**

Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from sources of ignition. Flammables-area. Keep container closed. Keep away from heat and open flame. Store at -20°C. Keep containers tightly closed. Store in a cool, dry place. Store in a tightly closed container.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

| CAS # | Partial Chemical Name | Britain EH40 | France VL | Europe |
|------------|---|---|---|-----------------------------------|
| 25085-75-0 | Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol] | | | |
| 80-05-7 | 4,4'-Isopropylidenediphenol | | | |
| 2807-30-9 | Ethylene glycol monopropyl ether | | | |
| 50-00-0 | Formaldehyde | TWA: 2.5 mg/m3 (2 ppm) STEL: 2.5 mg/m3 (2 ppm) | TWA: 0.5 ppm STEL: 1 ppm | |
| 78-93-3 | Methyl ethyl ketone | TWA: 600 mg/m3 (200 ppm) STEL: 899 mg/m3 (300 ppm) | TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm) | TWA: 600 mg/m3 STEL: 900 mg/m3 |
| 67-56-1 | Methanol | TWA: 266 mg/m3 (200 ppm) STEL: 333 mg/m3 (250 ppm) | TWA: 260 mg/m3 (200 ppm) STEL: 1300 mg/m3 (1000 ppm) | TWA: 260 mg/m3 |
| 107-98-2 | 2-Propanol, 1-Methoxy- | TWA: 375 mg/m3 (100 ppm) STEL: 560 mg/m3 (150 ppm) | TWA: 188 mg/m3 (50 ppm) STEL: 375 mg/m3 (100 ppm) | TWA: 375 mg/m3 STEL: 568 mg/m3 |
| 872-50-4 | N-Methyl-2-pyrrolidone | TWA: 103 mg/m3 (25 ppm) STEL: 309 mg/m3 (75 ppm) | | |

| CAS # | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
|------------|---|---------------------------------------|-------------------------------|--------------|
| 25085-75-0 | Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol] | | | |
| 80-05-7 | 4,4'-Isopropylidenediphenol | | | |
| 2807-30-9 | Ethylene glycol monopropyl ether | | | |
| 50-00-0 | Formaldehyde | PEL: 0.75 ppm STEL: 2 ppm (15 min) | CEIL: 0.3 ppm | |
| 78-93-3 | Methyl ethyl ketone | PEL: 200 ppm | TLV: 200 ppm STEL: 300 ppm | |
| 67-56-1 | Methanol | PEL: 200 ppm | TLV: 200 ppm STEL: 250 ppm | |
| 107-98-2 | 2-Propanol, 1-Methoxy- | | TLV: 100 ppm STEL: 150 ppm | |
| 872-50-4 | N-Methyl-2-pyrrolidone | | | |
| 8047-99-2 | Toluene ethylsulfonamide | | | |

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.): Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. 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. Safety shower and eye bath. Mechanical exhaust required.

8.2.2 Personal protection equipment:

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

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. 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). (EU). Use supplied-air or SCBA respirators. Europe permits the use of type AXBEK full-face cartridge respirators (EN 14387).
Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Work/Hygienic/Maintenance Practices: Wash thoroughly after handling.

EXPOSURE LIMITS.
Country Source Type Value.
Poland NDS 100 MG/M3
Poland NDSch 300 MG/M3
Poland NDSP -

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor: Dark. solvent odor.

Melting Point: -97.00 C - -24.00 C

Boiling Point: 80.00 C - 202.00 C

Flash Pt: > -7.00 Method Used: Estimate

Evaporation Rate: ~ 3.8 (BuAC=1)

Explosive Limits: LEL: UEL:

Vapor Pressure (vs. Air or mm Hg): ~ 84 MM_HG at 20.0 C

Vapor Density (vs. Air = 1): > Air

Specific Gravity (Water = 1): 0.891

Density: ~ 7.43 LB/GA

Solubility in Water: Miscible

Autoignition Pt:

9.2 Other Information

Percent Volatile: > 74.0 % by volume.

Section 10. Stability and Reactivity

10.1 Reactivity:

10.2 Stability: Unstable [] Stable [X]

10.3 Conditions To Avoid -

Hazardous Reactions:

Possibility of Will occur [] Will not occur [X]

Hazardous Reactions:

10.4 Conditions To Avoid - dust generation, Excess heat, ignition sources, Incompatible materials, Light.
Instability:

10.5 Incompatibility - Oxidizing agents, Reducing agents, Bases, DICHROMATES, ALKALI IODIDES, caustic
Materials To Avoid: alkalis, Strong oxidizing agents, Strong acids, 2-propanol, acids, Acid chlorides, Acid anhydrides, Alkali metals, isocyanates, Perchloric acid, Sulfuric acid.

10.6 Hazardous chlorine, Nitrogen oxides, Carbon monoxide, oxides of sulfur, Carbon dioxide,
Decomposition Or Phosphorous oxides.
Byproducts:

Section 11. Toxicological Information

11.1 Information on
Toxicological Effects:

ROUTE OF EXPOSURE:

Skin Contact: May cause skin irritation.

Skin Absorption: Harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract.
Harmful if inhaled.

Ingestion: Harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Eyes. Kidneys. Liver. Heart. Epidemiology: No information found.

Teratogenicity: No information available. Reproductive Effects: Mutagenicity:

Neurotoxicity: No data available.

See actual entry in RTECS for complete information.

Other Studies:

Carcinogenicity/Other CAS# 7220-79-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Information: CAS# 61-73-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 107-98-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 872-50-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Section 12. Ecological Information

12.1 Toxicity:

Environmental: If released to the atmosphere, Methylene Blue will exist as both vapor and particulate in the ambient atmosphere. Vapor-phase Methylene Blue is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals with an estimated half-life of about 1.9 hours. Direct photolysis in the environment may also be possible. Particulate-phase Methylene Blue may be physically removed from the air by wet and dry deposition.

Physical: No information available.

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 $T_{1/2} = 2.3$ days. Oxidizes rapidly by photo-chemical reactions in air. Readily biodegradable meeting the 10 day window criterion. Not expected to bioaccumulate significantly.

If released on soil propylene glycol methyl ether would be expected to leach because it has a very low estimated soil adsorptivity. Based on limited data from screening tests, it would probably biodegrade. If released in water, the fate of propylene glycol methyl ether is not clear. Based on limited data from screening tests, it should be readily biodegradable. Propylene glycol methyl ether would not be expected to volatilize from water, adsorb to sediment, bioconcentrate in fish, photolyze or hydrolyze.

Physical: Propylene glycol methyl ether will react with photochemically-produced hydroxyl radicals in the atmosphere. Using an estimated rate constant of 1.57 cu cm/molec-sec for this reaction, the half-life of propylene glycol methyl ether in the atmosphere is predicted to be 24.5 hr. The experimentally-determined half-life of propylene glycol methyl ether under photochemical smog conditions was 3.1 hr. Propylene glycol methyl ether is soluble in water and would be subject to wash out by rain.

Other: The Koc for propylene glycol methyl ether, estimated from molecular structure is 0.21. No information available.

Other: Biodegradable.

12.2 Persistence and Degradability:

12.3 Bioaccumulative Potential:

12.4 Mobility in Soil:

12.5 Results of PBT and vPvB assessment:

Section 13. Disposal Considerations

13.1 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. RCRA U-Series:

CAS# 78-93-3: waste number U159 (Ignitable waste, Toxic waste). APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14. Transport Information

GHS Classification: Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor
Carcinogenicity, Category 2 - Warning! Suspected of causing cancer
Toxic To Reproduction, Category 1B - Danger! May damage fertility or the unborn child
Specific Target Organ Toxicity (single exposure), Category 1 - Danger! Causes damage to {<target organs>}

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Printing ink

DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN1210 **Packing Group:** II

14.1 LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Printing ink

UN Number: 1210 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID **TDG Classification:**

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name:

UN Number: 1210 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Printing ink

Section 15. Regulatory Information

Canadian WHMIS Classification:

CLASS B, DIVISION 2: Flammable Liquids
CLASS D, DIVISION 1, SUBDIVISION B: Toxic Materials (moderate LD50 values)
CLASS D, DIVISION 2, SUBDIVISION A: Very Toxic Materials (carcinogens, reproductive toxicity, etc.)

Section 16. Other Information

Revision Date: 02/04/2014

Additional Information About

This Product:

Company Policy or

Disclaimer:

The information and recommendations contained herein are, to the best of Hitachi's knowledge and belief, accurate and reliable as of the date issued. Because many factors may affect processing or application/use, HITACHI recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by Hitachi hereunder are given gratis and Hitachi assumes no obligation or liability for the description, designs, data and information given or results obtained. All such being given and accepted at your risk.