

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-Y109
Product Name: JP-Y109 Printing Ink
- 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
Target Organ Systemic 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.
H318 - Causes serious eye damage.
H370 - Causes damage to organs
H301 - Toxic if swallowed.
H311 - Toxic in contact with skin.
H331 - Toxic if inhaled.
EUH066 - Repeated exposure may cause skin dryness or cracking.

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.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P261 - Avoid breathing 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.

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/....

P307+311 - IF exposed: Call a POISON CENTER or doctor/physician.

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.

P361 - Take off immediately all contaminated clothing.

P302+352 - IF ON SKIN: Wash with plenty of soap and water.

P312 - Call a POISON CENTER/doctor/... if you feel unwell.

P363 - Wash contaminated clothing before reuse.

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/....

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: Chronic inhalation may cause effects similar to those of acute inhalation.
Effects and Symptoms: 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. Adverse reproductive effects have been reported in animals. Laboratory experiments have shown mutagenic effects.

2.3.1 Inhalation: Causes respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness. May cause central nervous system effects such as nausea and headache. Neurobehavioural effects of exposure to MEK (200 ppm for 4 hrs) were studied with 137 volunteers. There were no statistically significant effects observed in biochemical, psychomotor, sensorimotor and psychological tests. May cause respiratory tract irritation. May be harmful if inhaled.

2.3.2 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 mild skin irritation. May be harmful if absorbed through the skin.

2.3.3 Eye Contact: Causes eye irritation. Vapors may cause eye irritation. Animal evidence suggests that MEK is a moderate to severe eye irritant. Causes mild eye irritation.

2.3.4 Ingestion: May cause irritation of the digestive tract. Possible aspiration hazard. May cause central nervous system depression. Animal evidence suggests that MEK can be aspirated (inhaled) into the lungs during ingestion or vomiting. May be harmful if swallowed.

Section 3. Composition/Information on Ingredients

| CAS # | Hazardous Components (Chemical Name)/ REACH Registration No. | Concentration | EC No./ EC Index No. | GHS Classification |
|---------|---|---------------|---------------------------|--|
| 78-93-3 | Methyl ethyl ketone | 40.0 -70.0 % | 201-159-0 606-002-00-3 | Flam. Liq. 2: H225 Eye Damage 2A: H319 TOST (SE) 3: H335 H336 |
| 67-56-1 | Methanol | 1.0 -5.0 % | 200-659-6 603-001-00-X | Flam. Liq. 2: H225 Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 |

| | | | | |
|-----------|---------------------------------------|------------|--------------|--|
| 2530-83-8 | 3-Glycidioxypropyltrimethoxysilane | 1.0 -5.0 % | 219-784-2 | Acute Tox.(I) 3: H331 TOST (SE) 1: H370 |
| | | | NA | Eye Damage 1: H318 |
| 110-43-0 | 2-Heptanone | 1.0 -5.0 % | 203-767-1 | Flam. Liq. 3: H226 |
| | | | 606-024-00-3 | Acute Tox.(O) 4: H302 Acute Tox.(I) 4: H332 |
| 108-65-6 | Propylene glycol methyl ether acetate | 1.0 -5.0 % | 203-603-9 | Flam. Liq. 3: H226 |
| | | | 607-195-00-7 | |

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

- 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 victim to fresh air. If not breathing give artificial respiration. Remove from exposure and move to fresh air immediately.
- 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. Flush with copious amounts of water for at least 15 minutes. Call a physician. Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- In Case of Eye Contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid. 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. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
- In Case of Ingestion:** Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward. Wash out mouth with water provided person is conscious. Call a physician immediately. Do NOT induce vomiting. Get medical aid.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

Gastrointestinal disturbances. May cause convulsions.

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. Use foam, dry chemical, or carbon dioxide. DO NOT USE WATER!

5.2 Flammable Properties and Hazards:

Flash Pt: > -7.00 C Method Used: Estimate

Explosive Limits: LEL: UEL:

Autoignition Pt: 400.00 C

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. 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. Water reactive. Material will react with water and may release a flammable and/or toxic gas.

Section 6. Accidental Release Measures

- 6.3 Methods and Material For Containment and Cleaning Up:** 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. 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. Do not expose spill to water. Do not get water inside containers. Do not let this chemical enter the environment.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor. User Exposure: Avoid prolonged or repeated exposure. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use with adequate ventilation. Do not allow contact with water.
- 7.2 Precautions To Be Taken in Storing:** Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep container closed. Keep away from heat and open flame.
Store at -20°C. 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 |
|-----------|---------------------------------------|---|---|-----------------------------------|
| 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 |
| 2530-83-8 | 3-Glycidoxypropyltrimethoxysilane | | | |
| 110-43-0 | 2-Heptanone | TWA: 237 mg/m3 (50 ppm) STEL: 475 mg/m3 (100 ppm) | TWA: 238 mg/m3 (50 ppm) STEL: 475 mg/m3 (100 ppm) | TWA: 238 mg/m3 STEL: 475 mg/m3 |
| 108-65-6 | Propylene glycol methyl ether acetate | TWA: 274 mg/m3 (50 ppm) STEL: 548 mg/m3 (100 ppm) | TWA: 275 mg/m3 (50 ppm) STEL: 550 mg/m3 (100 ppm) | TWA: 275 mg/m3 STEL: 550 mg/m3 |
| CAS # | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
| 78-93-3 | Methyl ethyl ketone | PEL: 200 ppm | TLV: 200 ppm STEL: 300 ppm | |
| 67-56-1 | Methanol | PEL: 200 ppm | TLV: 200 ppm STEL: 250 ppm | |
| 2530-83-8 | 3-Glycidoxypropyltrimethoxysilane | | | |
| 110-43-0 | 2-Heptanone | PEL: 100 ppm | TLV: 50 ppm | |

108-65-6 Propylene glycol methyl ether acetate

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 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. Use adequate ventilation to keep airborne concentrations low.

8.2.2 Personal protection equipment:

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.

Other Protective Clothing: Wear appropriate protective clothing to prevent skin exposure.

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. 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. 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.

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: yellow. solvent odor.

Melting Point: -87.00 C

Boiling Point: 80.00 C - 120.00 C

Flash Pt: > -7.00 C Method Used: Estimate

Evaporation Rate: 4.6 (BuAC=1)

Explosive Limits: LEL: UEL:

Vapor Pressure (vs. Air or mm Hg): 82 MM_HG at 20.0 C

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

Specific Gravity (Water = 1): .901
Density: ~ 7.52 LB/GA
Solubility in Water: Miscible
Autoignition Pt: 400.00 C

9.2 Other Information

Percent Volatile: > 67.0 % 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 Hazardous Reactions: Will occur [] Will not occur [X]

10.4 Conditions To Avoid - Instability: ignition sources, Excess heat, Incompatible materials, Exposure to moist air or water.

10.5 Incompatibility - Materials To Avoid: Strong oxidizing agents, Strong acids, 2-propanol, acids, Acid chlorides, Acid anhydrides, Alkali metals, Oxidizing agents, Reducing agents, Water, Bases.

10.6 Hazardous Decomposition Or Byproducts: Carbon monoxide, Carbon dioxide, Phosphorous oxides, silicon dioxide.

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: Teratogenic effects have occurred in experimental animals.
Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.
Mutagenicity: Mutation in microorganisms: See actual entry in RTECS for complete information.
Neurotoxicity: Other Studies:

Carcinogenicity/Other Information: CAS# 78-93-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 2530-83-8: 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: 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.
No information available.
Physical: No information available.

Other: Do not empty into drains.

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:
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. RCRA U-Series: None listed.

Section 14. Transport Information

GHS Classification: Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor
Target Organ Systemic 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 2, SUBDIVISION B: Toxic Materials (Mutagenicity, skin sensitization, irritation, etc.)

Section 16. Other Information

Revision Date: 03/19/2014

**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.