1. Product and Company Identification

Product Name: JP-W406

Company Name: Hitachi Industrial Equipment & Solutions America, LLC
2730 Greenleaf Avenue
Elk Grove Village, IL 60007

Phone Number: (866)583-0048

Web site address: http://www.hitachi-america.us/ice/marking-and-coding

Emergency Contact: Chemtrec (800)424-9300

Information: Christian Krzykwa (980)500-7144

Intended Use: Printing ink

2. Hazards Identification

Flammable Liquids, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Acute Toxicity: Oral, Category 5
Acute Toxicity: Inhalation, Category 5
Skin Corrosion/Irritation, Category 2
Specific Target Organ Toxicity (single exposure), Category 1
Specific Target Organ Toxicity (single exposure), Category 2
Specific Target Organ Toxicity (single exposure), Category 3
Specific Target Organ Toxicity (repeated exposure), Category 1
Aspiration Toxicity, Category 2

GHS Signal Word: **Danger**

GHS Hazard Phrases:
H225 - Highly flammable liquid and vapor.
H303 - May be harmful if swallowed.
H305 - May be harmful if swallowed and enters airways.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H333 - May be harmful if inhaled.
H336 - May cause drowsiness or dizziness.
H370 - Causes damage to kidneys
H371 - May cause damage to organs .
H372 - Causes damage to through prolonged or repeated exposure.

GHS Precaution Phrases:
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

GHS Response Phrases:
P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352 - IF ON SKIN: Wash with plenty of soap and water.
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. P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+311 - If exposed of concerned: Call a POISON CENTER/Doctor/... P312 - Call a POISON CENTER or doctor/physician if you feel unwell. P314 - Get medical attention/advice if you feel unwell. P321 - Specific treatment see on this label. P331 - Do NOT induce vomiting. P332+313 - If skin irritation occurs, get medical advice/attention. P337+313 - If eye irritation persists, get medical advice/attention. P362+364 - Take off contaminated clothing and wash it before reuse.
GHS Storage and Disposal Phrases:	P403+235 - Store in cool/well-ventilated place. P405 - Store locked up. P501 - Dispose of contents/container in accordance with local/regional/ national/international regulation.
Emergency Overview:	Warning! Causes eye, skin, and respiratory tract irritation.
Potential Health Effects (Acute and Chronic):	Hazards not otherwise classified (HNOC) or not covered by GHS. Hazards not otherwise classified (HNOC) or not covered by GHS -none.
Inhalation:	Causes respiratory tract irritation. May be harmful if inhaled.
Skin Contact:	Causes skin irritation. May be harmful if absorbed through the skin.
Eye Contact:	Causes eye irritation.
Ingestion:	May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated. May be harmful if swallowed.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
78-93-3	Methyl ethyl ketone	30.0 -50.0 %
64-17-5	Ethyl alcohol	30.0 -50.0 %
67-63-0	Isopropyl alcohol	1.0 -5.0 %
1643-19-2	Tetrabutylammonium bromide	1.0 -5.0 %
13463-67-7	Titanium dioxide	5.0 -15.0 %

4. First Aid Measures

Emergency and First Aid Procedures:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
In Case of Inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid.
In Case of Skin Contact:	Wash off with soap and plenty of water. Consult a physician. 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 Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
In Case of Ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. Get medical aid. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Signs and Symptoms Of	The most important known symptoms and effects are described in the labelling (see

Exposure:	section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed:	No data available.
Note to Physician:	Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Pt:	> -2.70 C (27.1 F) Method Used: TAG Closed Cup
Explosive Limits:	LEL: UEL:
Autoignition Pt:	
Suitable Extinguishing Media:	Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam. Use water spray, dry chemical, carbon dioxide, or chemical foam.
Fire Fighting Instructions:	Wear self contained breathing apparatus for fire fighting if necessary. Further information. 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.
Flammable Properties and Hazards:	Carbon oxides, Flash back possible over considerable distance. Container explosion may occur under fire conditions.
Hazardous Combustion Products:	

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). 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.

7. Handling and Storage

Precautions To Be Taken in Handling:	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2. 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. Keep container tightly closed. Avoid breathing dust.
Precautions To Be Taken in Storing:	Store under inert gas. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Hygroscopic. Storage class 510) Recommended storage temperature: 2 -8 - 8 deg.C. Handle and store under inert gas. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.
Other Precautions:	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
78-93-3	Methyl ethyl ketone	PEL: 200 ppm	TLV: 200 ppm STEL: 300 ppm	
64-17-5	Ethyl alcohol	PEL: 1000 ppm	TLV: 1000 ppm STEL: 1000 ppm	
67-63-0	Isopropyl alcohol	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	
1643-19-2	Tetrabutylammonium bromide			
13463-67-7	Titanium dioxide	PEL: 15 (dust) mg/m3	TWA: 10 mg/m3 (Total dust)	

Respiratory Equipment (Specify Type): Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Eye Protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). 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: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Splash contact:
Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 292 min.
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario. Full contact.
Material: Nitrile rubber Minimum layer thickness: 0.4 mm.
Wear appropriate protective gloves to prevent skin exposure.

Other Protective Clothing: Impervious clothing. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Wear appropriate protective clothing to prevent skin exposure.

Engineering Controls (Ventilation etc.): Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. 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.

Work/Hygienic/Maintenance Practices: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Environmental Exposure Controls: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [X] Solid
Appearance and Odor:	White. solvent odor.
pH:	
Melting Point:	-89.50 C (-129.1 F) - 129.10 C (264.4 F)
Boiling Point:	80.00 C (176.0 F) - 82.00 C (179.6 F)
Flash Pt:	> -2.70 C (27.1 F) Method Used: TAG Closed Cup
Evaporation Rate:	
Flammability (solid, gas):	
Explosive Limits:	LEL: UEL:
Vapor Pressure (vs. Air or mm Hg):	
Vapor Density (vs. Air = 1):	
Specific Gravity (Water = 1):	
Density:	~ 0.826 G/CM3
Solubility in Water:	
Octanol/Water Partition Coefficient:	
Autoignition Pt:	
Decomposition Temperature:	
Viscosity:	

10. Stability and Reactivity

Reactivity:	No data available.
Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	Exposure to moisture. Heat, flames and sparks. Extremes of temperature and direct sunlight. dust generation, Moisture.
Incompatibility - Materials To Avoid:	Oxidizing agents, Strong reducing agents, Strong oxidizing agents. Acid anhydrides, Aluminum, Halogenated compounds, Acids. Strong oxidizing agents.
Hazardous Decomposition or Byproducts:	No data available. In the event of fire: see section 5. Other decomposition products: Nitrogen oxides, Carbon monoxide, Carbon dioxide, hydrogen bromide.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	Vapors may form explosive mixture with air. No data available.

11. Toxicological Information

Toxicological Information: Acute toxicity.

Germ cell mutagenicity: No data available.
Reproductive toxicity. Aspiration hazard: Inhalation: Dermal. Epidemiology: No information found.
Teratogenicity: No information available. Reproductive Effects: Mutagenicity: Neurotoxicity:

Irritation or Corrosion: Skin corrosion/irritation.
Result: Tumorigenic:Tumors at site or application. No skin irritation . (OECD Test Guideline 404) Serious eye damage/eye irritation Eyes -Rabbit
Irritating to eyes . No data available. Serious eye damage/eye irritation no data available. Provide adequate ventilation.
Mild eye irritation Serious eye damage/eye irritation Eyes -rabbit. Serious eye damage/eye irritation: Eyes - rabbit -

Sensitization: No data available.

Chronic Toxicological Effects: Specific target organ toxicity - single exposure: May cause drowsiness or dizziness. Specific target organ toxicity -repeated exposure: no data available. Specific target organ toxicity -single exposure (Globally Harmonized System) No data available.
Inhalation. Oral. Specific target organ toxicity - repeated exposure:

Carcinogenicity/Other Information: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. IARC: 3 -Group 3: Not classifiable as to its carcinogenicity to humans. CAS# 1643-19-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
78-93-3	Methyl ethyl ketone	n.a.	n.a.	n.a.	n.a.
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.
67-63-0	Isopropyl alcohol	n.a.	3	A4	n.a.
1643-19-2	Tetrabutylammonium bromide	n.a.	n.a.	n.a.	n.a.
13463-67-7	Titanium dioxide	n.a.	2B	A4	n.a.

12. Ecological Information

General Ecological Information: No data available.

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other adverse effects: No data available.

13. Disposal Considerations

Waste Disposal Method: Product:

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: 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.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]

DOT Hazard Class: 3 FLAMMABLE LIQUID

UN/NA Number: UN1210 **Packing Group:** II

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.

UN Number: 1210 **Packing Group:** II

Hazard Class: 3 - FLAMMABLE LIQUID **TDG Classification:**

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
67-63-0	Isopropyl alcohol	No	No	Yes
1643-19-2	Tetrabutylammonium bromide	No	No	No
13463-67-7	Titanium dioxide	No	No	No

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

[ ] Yes [X] No	Explosive	[X] Yes [ ] No	Acute toxicity (any route of exposure)
[ ] Yes [X] No	Flammable (gases, aerosols, liquid, or solid)	[X] Yes [ ] No	Skin Corrosion or Irritation
[ ] Yes [X] No	Oxidizer (liquid, solid or gas)	[X] Yes [ ] No	Serious eye damage or eye irritation
[ ] Yes [X] No	Self-reactive	[ ] Yes [X] No	Respiratory or Skin Sensitization
[ ] Yes [X] No	Pyrophoric (liquid or solid)	[ ] Yes [X] No	Germ cell mutagenicity
[ ] Yes [X] No	Pyrophoric gas	[ ] Yes [X] No	Carcinogenicity
[ ] Yes [X] No	Self-heating	[ ] Yes [X] No	Reproductive toxicity
[ ] Yes [X] No	Organic peroxide	[X] Yes [ ] No	Specific target organ toxicity (single or repeated exposure)
[ ] Yes [X] No	Corrosive to metal	[X] Yes [ ] No	Aspiration Hazard
[ ] Yes [X] No	Gas under pressure (compressed gas)	[ ] Yes [X] No	Simple Asphyxiant
[ ] Yes [X] No	In contact with water emits flammable gas	[ ] Yes [X] No	(Health) Hazard Not Otherwise Classified (HNOC)
[ ] Yes [X] No	Combustible Dust		
[ ] Yes [X] No	(Physical) Hazard Not Otherwise Classified (HNOC)		

CAS #	Hazardous Components (Chemical Name)	Canadian NPRI	Canadian Toxic	Canadian DSL
78-93-3	Methyl ethyl ketone	Yes: Part 5	No	Yes
64-17-5	Ethyl alcohol	Yes: Part 5		Yes
67-63-0	Isopropyl alcohol	Yes: Part 5		Yes
1643-19-2	Tetrabutylammonium bromide	No	No	Yes
13463-67-7	Titanium dioxide			Yes

California Proposition 65

WARNING This product can expose you to chemicals including Titanium dioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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: Cat. IIa, Title 8; NC TAP: Yes: NC TAP
64-17-5	Ethyl alcohol	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No
67-63-0	Isopropyl alcohol	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC: Cat. IIb, Title 8; NC TAP: No
1643-19-2	Tetrabutylammonium bromide	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; NC TAP: No
13463-67-7	Titanium dioxide	TSCA: Yes - Inventory; CA PROP.65: Yes: Canc.; CA TAC, Title 8: No; NC TAP: No

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
78-93-3	Methyl ethyl ketone	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: WGK 1; Switzerland Giftliste 1: Yes - G-2429; Switzerland INNS: No; REACH: Yes - 01-2119457290-43: Full, (P); Rotterdam: No
64-17-5	Ethyl alcohol	Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 5-153; Japan ISHL: No; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 96: WGK 1; Switzerland Giftliste 1: Yes - G-1158; Switzerland INNS: No; REACH: Yes - 01-2119457610-43: Full, (P); Rotterdam: No
67-63-0	Isopropyl alcohol	Mexico INSQ: Yes - 1219; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 2-207; Japan ISHL: Yes - 2-(8)-319; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 135: WGK 1; Switzerland Giftliste 1: Yes - G-1712; Switzerland INNS: No; REACH: Yes - 01-2119457558-25: Full, (P); Rotterdam: No
1643-19-2	Tetrabutylammonium bromide	Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 2-186; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 985: WGK 3; Switzerland Giftliste 1: No; Switzerland INNS: No; REACH: Yes - 01-2119943706-31: Full, (P); Rotterdam: No
13463-67-7	Titanium dioxide	Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 5-5225; Japan ISHL: Yes - 2-(3)-509; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 1345: WGK 0/nwg; Switzerland Giftliste 1: Yes - G-2950; Switzerland INNS: No; REACH: Yes - 01-2119489379-17: Full, (P); Rotterdam: No

Canadian WHMIS Classification:

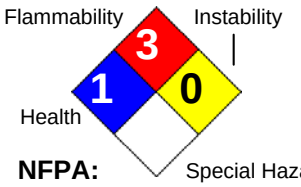
16. Other Information

Revision Date: 08/09/2018

Hazard Rating System:

HMIS:

NFPA:



Additional Information About This Product: To the best of our knowledge, the information contained herein 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 presented in this document. Final determination of suitability of any material is the sole responsibility of the user to follow local, state and federal laws and regulations in regards to handling of hazardous materials. Although certain hazards are described herein, unknown hazards may exist and caution should always be exercised.

Hitachi Contact Information:
Christian Krzykwa
(980)500-7144

Company Policy or Disclaimer: