1. Product and Company Identification

Product Name: JP-E431ci, E3431ci

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

2. Hazards Identification

Flammable Liquids, Category 3
Serious Eye Damage/Eye Irritation, Category 2A
Flammable Liquids, Category 2
Specific Target Organ Toxicity (single exposure), Category 3
Acute Toxicity: Oral, Category 4
Skin Corrosion/Irritation, Category 1A
Serious Eye Damage/Eye Irritation, Category 1

GHS Signal Word: **Danger**

GHS Hazard Phrases:
H225 - Highly flammable liquid and vapor.
H226 - Flammable liquid and vapor.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.

GHS Precautionary Phrases:
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
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.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P235 - Keep cool.

GHS Response Phrases:
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.

	P310 - Immediately call a POISON CENTER or doctor/physician. P321 - Specific treatment see ... on this label. P330 - Rinse mouth. P337+313 - If eye irritation persists, get medical advice/attention. P363 - Wash contaminated clothing before reuse. P391 - Collect spillage.
GHS Storage and Disposal Phrases:	P403+233 - Store container tightly closed in well-ventilated place. P405 - Store locked up. P501 - Dispose of contents/container ...
Other Hazards:	Harmful to aquatic life. Harmful to aquatic life with long lasting effects. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Potential Health Effects (Acute and Chronic):	Hazards not otherwise classified (HNOC) or not covered by GHS -none. Hazards not otherwise classified (HNOC) or not covered by GHS.
Inhalation:	May be harmful if inhaled.
Skin Contact:	May be harmful if absorbed through the skin. May cause skin irritation.
Eye Contact:	May cause eye irritation.
Ingestion:	May be harmful if swallowed.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
64-17-5	Ethyl alcohol	75.0 -80.0 %
9000-59-3	Shellac	7.0 -12.0 %
67-64-1	Acetone	1.0 -5.0 %
1336-21-6	Ammonium hydroxide	1.0 -5.0 %
57-55-6	Propylene glycol	0.0 -3.0 %
3844-45-9	C.I. Acid Blue 9, Disodium salt	0.5 -2.0 %

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. Consult a physician.
In Case of Skin Contact:	Wash off with soap and plenty of water. Consult a physician. Take off contaminated clothing and shoes immediately.
In Case of Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Flush eyes with water as a precaution. Continue rinsing eyes during transport to hospital.
In Case of Ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Signs and Symptoms Of Exposure:	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 The most important known symptoms and effects are described in the labelling (see section 2 .2) and/or in section 11
Indication of any immediate medical attention and special treatment needed:	No data available.

5. Fire Fighting Measures

Flash Pt: > 10.00 C (50.0 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.

Fire Fighting Instructions: Wear self contained breathing apparatus for fire fighting if necessary.
Further information. No data available.

Flammable Properties and Hazards: Carbon oxides,
No data available. Carbon oxides, nitrogen oxides (NOx), Sulphur oxides.

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. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Methods and materials for containment and cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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). Personal precautions.
Avoid dust formation.
Environmental precautions.
Do not let product enter drains.
Methods for cleaning up.
Sweep up and shovel. Keep in suitable, closed containers for disposal. Soak up with inert absorbent material and dispose of as hazardous waste. Pick up and arrange disposal without creating dust.

7. Handling and Storage

Precautions To Be Taken in Handling: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. Use explosion-proof equipment. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Precautions To Be Taken in Storing: 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. Recommended storage temperature: 2 -8 - 8 deg.C.
Storage class 510) Hygroscopic.

Other Precautions: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated. 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
64-17-5	Ethyl alcohol	PEL: 1000 ppm	TLV: 1000 ppm STEL: 1000 ppm	
9000-59-3	Shellac			
67-64-1	Acetone	PEL: 1000 ppm	TLV: 250 ppm STEL: 500 ppm	
1336-21-6	Ammonium hydroxide			
57-55-6	Propylene glycol			
3844-45-9	C.I. Acid Blue 9, Disodium salt			

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). is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. 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. Wear respiratory protection. Respiratory protection is not required.

Eye Protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles. Faceshield (8-inch minimum). Safety glasses with side-shields conforming to 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. Full contact.
Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 480 min.
Material: Nitrile rubber Minimum layer thickness: 0.11 mm.
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.

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. Complete suit protecting against chemicals. Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

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

Work/Hygienic/Maintenance Practices: General industrial hygiene practice. 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. Discharge into the environment must be avoided.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [X] Solid
Appearance and Odor:	Blue. alcohol-like.
pH:	
Melting Point:	
Boiling Point:	
Flash Pt:	> 10.00 C (50.0 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):	
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:	Heat, flames and sparks. Extremes of temperature and direct sunlight. No data available. Conditions to Avoid:
Incompatibility - Materials To Avoid:	Strong oxidizing agents, Strong reducing agents, Bases, Copper, Iron. Zinc. Acid chlorides, Acid anhydrides, Chloroformates, Reducing agents.
Hazardous Decomposition or Byproducts:	No data available. In the event of fire: see section 5. formed under fire conditions. Other decomposition products:
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available. Vapors may form explosive mixture with air.

11. Toxicological Information

Toxicological Information:

Acute toxicity.
No data available. Inhalation: Dermal. Germ cell mutagenicity: Reproductive toxicity.
Aspiration hazard: (Ammonium hydroxide)
Specific target organ toxicity - single exposure: Specific target organ toxicity - repeated exposure: Kidney, Ureter, Bladder:Changes in both tubules and glomeruli.
Blood:Changes in spleen. Behavioral: Muscle contraction or spasticity.
Hamster.
Lungs.
Cytogenetic analysis.

Irritation or Corrosion:

Skin corrosion/irritation. No data available. Serious eye damage/eye irritation no data available. Provide adequate ventilation.
Result: Tumorigenic:Tumors at site or application. Eyes - rabbit -
Skin: Human.
Mild skin irritation -7 d Serious eye damage/eye irritation Eyes -Rabbit Eyes:

Sensitization:

No data available. Guinea pig 88%, 4
Result: Tumorigenic:Tumors at site or application.

Chronic Toxicological Effects:

Specific target organ toxicity -single exposure (Globally Harmonized System) No data available.
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. May cause drowsiness or dizziness.
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.
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. 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. Rat. Parenteral. Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Gastrointestinal:Tumors. Blood: Lymphomas including Hodgkin's disease. IARC: Group 3: Not classifiable as to its carcinogenicity to humans 3.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.
9000-59-3	Shellac	n.a.	n.a.	n.a.	n.a.
67-64-1	Acetone	n.a.	n.a.	A4	n.a.
1336-21-6	Ammonium hydroxide	n.a.	n.a.	n.a.	n.a.
57-55-6	Propylene glycol	n.a.	n.a.	n.a.	n.a.
3844-45-9	C.I. Acid Blue 9, Disodium salt	n.a.	3	n.a.	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. Biodegradability Result: 91 % -Readily biodegradable. - Readily biodegradable.

Bioaccumulative Potential: No data available. Does not bioaccumulate.

Mobility in Soil: No data available.

Other adverse effects: No data available. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

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: Observe all federal, state, and local environmental regulations.

Dispose of as unused product.

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

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Acetone. mixture.

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)
64-17-5	Ethyl alcohol	No	No	No
9000-59-3	Shellac	No	No	No
67-64-1	Acetone	No	Yes 5000 LB	No
1336-21-6	Ammonium hydroxide	No	Yes 1000 LB	No
57-55-6	Propylene glycol	No	No	No
3844-45-9	C.I. Acid Blue 9, Disodium salt	No	No	No

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

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

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
64-17-5	Ethyl alcohol	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No
9000-59-3	Shellac	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; NC TAP: No
67-64-1	Acetone	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No
1336-21-6	Ammonium hydroxide	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No
57-55-6	Propylene glycol	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; NC TAP: No
3844-45-9	C.I. Acid Blue 9, Disodium salt	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
64-17-5	Ethyl alcohol	Canadian DSL: Yes; Canadian NDSL: No; 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
9000-59-3	Shellac	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 8-38; Japan ISHL: No; Israel HSL: No; Germany WHCS: No; Switzerland Giftliste 1: No; Switzerland INNS: No; REACH: Yes - (P); Rotterdam: No
67-64-1	Acetone	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 2-542; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 6: WGK 1; Switzerland Giftliste 1: Yes - G-1031; Switzerland INNS: No; REACH: Yes - 01-2119471330-49: Full, (P); Rotterdam: No
1336-21-6	Ammonium hydroxide	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 2672; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 1-314; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 211: WGK 2; Switzerland Giftliste 1: Yes - G-1100; Switzerland INNS: No; REACH: Yes - 01-2119982985-14: Intermediate, (P); Rotterdam: No
57-55-6	Propylene glycol	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 7-62; Japan ISHL: Yes - 2-(8)-323; Israel HSL: No; Germany WHCS: Yes - 280: WGK 1; Switzerland Giftliste 1: Yes -

		G-2798; Switzerland INNS: No; REACH: Yes - 01-2119456809-23: Full, (P); Rotterdam: No
3844-45-9	C.I. Acid Blue 9, Disodium salt	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 5-3308; Japan ISHL: No; Israel HSL: No; Germany WHCS: No; Switzerland Giftliste 1: No; Switzerland INNS: No; REACH: Yes - 01-2120740569-45: Full, (P); Rotterdam: No

16. Other Information

Revision Date: 01/23/2019

Additional Information About This Product:

Company Policy or Disclaimer: 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.

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