1. Product and Company Identification

Product Code: TH-414CI

Product Name: TH-414ci

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

Phone Number: (866)583-0048

Web site address: https://www.hitachi-iesa.com/industrial-marking-and-coding

Emergency Contact: Chemtrec (800)424-9300

Information: Christian Krzykwa (980)500-7144

Intended Use: Printing Ink Related Material

2. Hazards Identification

Flammable Liquids, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Specific Target Organ Toxicity (single exposure), Category 3
Acute Toxicity: Oral, Category 5
Acute Toxicity: Inhalation, Category 5
Skin Corrosion/Irritation, Category 2
Specific Target Organ Toxicity (single exposure), Category 2
Specific Target Organ Toxicity (single exposure), Category 1
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 central and peripheral nervous systems 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.
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.
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. P307+311 - IF exposed: Call a POISON CENTER or doctor/physician. P309+311 - Call a POISON CENTER or doctor/physician if exposed or you feel unwell. 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 - Take off contaminated clothing and wash before re-use.
GHS Storage and Disposal Phrases:	P403+233 - Store container tightly closed in well-ventilated place. P405 - Store locked up. P501 - Dispose of contents/container in accordance with local/regional/national/ international regulation.
Emergency Overview:	
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.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
78-93-3	Methyl ethyl ketone	85.0 -99.0 %
64-17-5	Ethyl alcohol	1.0 -10.0 %
67-63-0	Isopropyl alcohol	< 5.0 %

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.
In Case of Skin Contact:	Wash off with soap and plenty of water. Consult a physician.
In Case of Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
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
Indication of any immediate medical attention and special treatment needed:	No data available.

5. Fire Fighting Measures

Flash Pt: 1.00 C (33.8 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.

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).

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.

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.

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	

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).
Eye Protection:	Face shield and safety glasses.
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.
Other Protective Clothing:	Impervious clothing. Flame retardant antistatic protective clothing.
Engineering Controls (Ventilation etc.):	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 [ ] Solid
Appearance and Odor:	colorless. solvent odor.
pH:	
Melting Point:	
Boiling Point:	
Flash Pt:	1.00 C (33.8 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: Exposure to moisture. Heat, flames and sparks.

Incompatibility - Materials To Avoid: Oxidizing agents, Strong reducing agents, Strong oxidizing agents.

Hazardous Decomposition or Byproducts: No data available. In the event of fire: see section 5.

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.

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.

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.

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.

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.

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:

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:

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

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

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Ethyl methyl ketone. 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)
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

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

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

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

Canadian WHMIS Classification:

16. Other Information

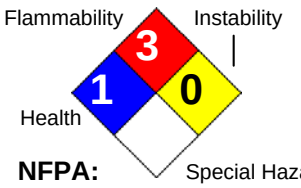
Revision Date: 08/09/2018

Hazard Rating System:

HMIS:

HEALTH	1
FLAMMABILITY	3
PHYSICAL	0
PPE	B

NFPA:



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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