

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830; US OSHA HCS 2015; and Canadian WHMIS 2015.

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

- 1.1 Product Code:** TH-415CI
Product Name: TH-415ci
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: Printing Ink Related Material
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Hitachi Industrial Equipment & Solutions America, LLC
2730 Greenleaf Avenue **Phone Number:**
Elk Grove Village, IL 60007 (866)583-0048
Web site address: <https://www.hitachi-iesa.com/industrial-marking-and-coding>
Information: Christian Krzykwa (980)500-7144
- 1.4 Emergency telephone number:**
Emergency Contact: Chemtrec (800)424-9300

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
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 1
Specific Target Organ Toxicity (single exposure), Category 2
Specific Target Organ Toxicity (repeated exposure), Category 1
Aspiration Toxicity, Category 2

- 2.2 Label Elements:**



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
- 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.
- 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.
- P235 - Keep cool.

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 or 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+233 - Store container tightly closed in well-ventilated place.
- P405 - Store locked up.
- P501 - Dispose of contents/container ...

2.3 Adverse Human Health Hazards not otherwise classified (HNOC) or not covered by GHS. Hazards not otherwise **Effects and Symptoms:** classified (HNOC) or not covered by GHS -none.

Section 3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
67-64-1	Acetone 01-2119471330-49	90.0 -100.0 %	200-662-2 606-001-00-8	Flam. Liq. 2: H225 Eye Damage 2: H319 STOT (SE) 3: H336 EUH066
616-38-6	Dimethyl carbonate 01-2119548399-23	0.0 -10.0 %	210-478-4 607-013-00-6	Flam. Liq. 2: H225

Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:** 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.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
- 4.3 Indication of any immediate medical attention and special treatment needed:** No data available.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.
- 5.2 Flammable Properties and Hazards:** Carbon oxides.
- Flash Pt:**
- Explosive Limits:** LEL: UEL:
- Autoignition Pt:**
- 5.3 Fire Fighting Instructions:** Wear self contained breathing apparatus for fire fighting if necessary. Further information.

Section 6. Accidental Release Measures

- 6.1 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.
- 6.2 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.
- 6.3 Methods and Material For Containment and Cleaning Up:** 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). Methods and materials for containment and cleaning up:

Section 7. Handling and Storage

- 7.1 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.
- 7.2 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 deg.C. Air sensitive.

Storage class (TRGS 510): Flammable liquids

Other Precautions: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
67-64-1	Acetone	ACGIH TLV	TLV: 250 ppm STEL: 500 ppm	
		Europe	TWA: 1210 mg/m3 (500 ppm)	
		France VL	TWA: 1210 mg/m3 (500 ppm) STEL: 2420 mg/m3 (1000 ppm)	
		OSHA PELs	PEL: 1000 ppm	
		Britain EH40	TWA: 1210 mg/m3 (500 ppm) STEL: 3620 mg/m3 (1500 ppm)	

8.2 Exposure Controls:

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

8.2.2 Personal protection equipment:

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).

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: ? min.
Reducing agents,

[Mindste lagtykkelse: 0,11 mm Gennemtrængningshasti ghed: 480 min. (DANISH - CWG)] If used in solution, or mixed with other substances, and under conditions which differ from EN 0.3, 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.

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.

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). Respiratory:

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

8.2.3 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.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: Gas Liquid Solid

Appearance and Odor: colorless.
solvent odor.

pH:

Melting Point:

Boiling Point:

Flash Pt:

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:

Explosive Properties: No data available.

Oxidizing Properties: No data available.

9.2 Other Information

Percent Volatile:

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable Stable

10.3 Conditions To Avoid - Vapors may form explosive mixture with air.

Hazardous Reactions:

Possibility of Will occur Will not occur

Hazardous Reactions:

10.4 Conditions To Avoid - Heat, flames and sparks. Extremes of temperature and direct sunlight.

Instability:

10.5 Incompatibility - Strong oxidizing agents, Strong reducing agents, Bases, Oxidizing agents, Strong acids,

Materials To Avoid: Strong bases.

10.6 Hazardous Other decomposition products: No data available.

Decomposition or In the event of fire: see section 5.

Byproducts:

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: Germ cell mutagenicity: No data available.
 Reproductive toxicity. Aspiration hazard: Acute toxicity.

Chromosome aberration test in vitro. Cell Type: lymphocyte.
 Result: negative.
 Reproductive toxicity - rat - Oral. male and female. No toxicity to reproduction.

Irritation or Corrosion: Skin corrosion/irritation. Provide adequate ventilation.
 Result: Tumorigenic:Tumors at site or application. Mild eye irritation -24. Serious eye damage/eye irritation: Eyes - rabbit -
 Skin: Rabbit.
 Result: No skin irritation . (OECD Test Guideline 404) Eyes.

Sensitization: Guinea pig 88%, 4
 Result: Tumorigenic:Tumors at site or application. Freund's complete adjuvant test:
 Species: Guinea pig. Result: negative.

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 -repeated exposure: no data available.

Carcinogenicity/Other Information: 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: 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. No data available. 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.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
67-64-1	Acetone	n.a.	n.a.	A4	n.a.
616-38-6	Dimethyl carbonate	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

12.1 Toxicity:

12.2 Persistence and Degradability: Biodegradability Result: 91 % -Readily biodegradable. - Readily biodegradable.
 Biodegradability aerobic -Exposure time 28 d Result: 86 % -Readily biodegradable.

12.3 Bioaccumulative Potential: Does not bioaccumulate. No data available.

12.4 Mobility in Soil: No data available.

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

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

Section 13. Disposal Considerations

13.1 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:

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

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

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



14.1 LAND TRANSPORT (Canadian TDG):

TDG Shipping Name:
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

Section 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)
67-64-1	Acetone	No	Yes 5000 LB	No
616-38-6	Dimethyl carbonate	No	No	No

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

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

CAS #	Hazardous Components (Chemical Name)	Canadian NPRI	Canadian Toxic	Canadian DSL
67-64-1	Acetone	No	No	Yes
616-38-6	Dimethyl carbonate	No	No	Yes
CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists		
67-64-1	Acetone	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8; NC TAP: No		
616-38-6	Dimethyl carbonate	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; NC TAP: No		
CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists		
67-64-1	Acetone	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		
616-38-6	Dimethyl carbonate	Mexico INSQ: Yes - 1161; Australia ICS: Yes; New Zealand IOC: Yes; Japan ENCS: Yes - 2-2853; Japan ISHL: No; Israel HSL: No; Germany WHCS: Yes - 4077: WGK 1; Switzerland Giftliste 1: Yes - G-5966; Switzerland INNS: No; REACH: Yes - 01-2119548399-23: Full, (P); Rotterdam: No		

Canadian WHMIS Classification:

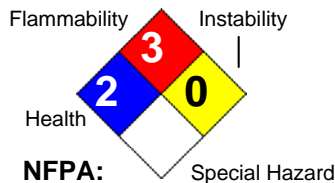
Section 16. Other Information

Revision Date: 08/09/2018

Hazard Rating System:

HEALTH		2
FLAMMABILITY		3
PHYSICAL		0
PPE	B	

HMIS:



Additional Information About

This Product:

Company Policy or

Disclaimer: