

This SDS complies with the US OSHA HCS 2012.

1. Product and Company Identification

Product Name: TH-431ci, S3431ci
Company Name: Hitachi Industrial Equipment & Solutions America, LLC
 75 NW Point Blvd Suite D,
 Elk Grove Village, IL 60007
Phone Number: (800)627-5464
Web site address: <https://mc.hitachi-iesa.com>
Emergency Contact: Chemtrec (800)424-9300

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
 Aquatic Toxicity (Acute), Category 3
 Aquatic Toxicity (Chronic), Category 3
 Acute Toxicity: Oral, Category 4
 Skin Corrosion/Irritation, Category 1A
 Serious Eye Damage/Eye Irritation, Category 1
 Aquatic Toxicity (Acute), Category 1
 Aquatic Toxicity (Chronic), 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.
 H400 - Very toxic to aquatic life.
 H402 - Harmful to aquatic life.
 H410 - Very toxic to aquatic life with long lasting effects.
 H412 - Harmful to aquatic life with long lasting effects.

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 first aid measures 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 in accordance with local regulations.

Emergency Overview:
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.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
64-17-5	Ethyl alcohol	85.0 -95.0 %
67-64-1	Acetone	5.0 -7.0 %
1336-21-6	Ammonium hydroxide	0.0 -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. 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. 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. 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

Indication of any immediate medical attention and special treatment needed:

No data available.

5. Fire Fighting Measures

Flash Point:	> 10.00 C (50.0 F)	Method Used: TAG Closed Cup
Explosive Limits:	LEL: No data.	UEL: No data.
Autoignition Pt:	No data.	
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.	
Hazardous Combustion Products:	No data available.	

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).

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. For precautions see section 2. Use explosion-proof equipment.
Precautions To Be Taken in Storing:	Keep container tightly closed in a cool, 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)
Other Precautions:	Apart from the uses mentioned in section 1 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	No data.
67-64-1	Acetone	PEL: 1000 ppm	TLV: 250 ppm STEL: 500 ppm	No data.
1336-21-6	Ammonium hydroxide	No data.	No data.	No data.

**Personal Protective
Equipment Symbols:**

**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. 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).

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.

**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:**

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 [] Solid

Appearance and Odor:

Blue.
alcohol-like.

pH:

> 8

Melting Point:

No data.

Boiling Point:

No data.

Flash Point:

> 10.00 C (50.0 F) TAG Closed Cup

Evaporation Rate:

No data.

Flammability (solid, gas):

No data available.

Explosive Limits:

LEL: No data. UEL: No data.

Vapor Pressure:

No data.

Vapor Density (vs. Air=1):

No data.

Specific Gravity (Water=1):

No data.

Solubility in Water:

No data.

Saturated Vapor Concentration: No data.

Octanol/Water Partition Coefficient: No data.

Autoignition Pt: No data.

Decomposition Temperature: No data.

Viscosity: No data.

Explosive Properties: No data available.

Information on other hazards: No data available.

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.

Incompatibility - Materials To Avoid: Strong oxidizing agents, Strong reducing agents, Bases, Copper, Iron. Zinc.

Hazardous Decomposition or Byproducts: No data available. In the event of fire: see section 5. 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:
 CAS# 64-17-5:
 1. Acute toxicity, TDLo, Oral, Human, 3371. UL/KG.
 Result:
 Behavioral: Altered sleep time (including change in righting reflex).
 Behavioral: Excitement.
 Behavioral: Coma.
 - Veterinary and Human Toxicology., American College of Veterinary and Comparative Toxicology, Publication Office, Comparative Toxicology, Manhattan, KS 66506, Vol/p/yr: 21,272, 1979

2. Acute toxicity, TDLo, Oral, Human, 700.0 MG/KG.
 Result:
 Behavioral: Changes in psychophysiological tests.
 - Neurobehavioral Toxicology and Teratology., For publisher information, see NETEEC, Fayetteville, NY, Vol/p/yr: 8,77, 1986

CAS# 67-64-1:

1. Acute toxicity, TDLo, Oral, Human, 2857. MG/KG.

Result:

Behavioral: Coma.

Kidney, Ureter, Bladder: Other changes.

- "Toxicology of Drugs and Chemicals", Deichmann, W.B., Academic Press, Inc., New York, Vol/p/yr: -,64, 1969

2. Standard Draize Test, Eyes, Human, 500.0 PPM.

Result:

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.

Gastrointestinal: Tumors.

Liver: Tumors.

- Journal of Industrial Hygiene and Toxicology, Vol/p/yr: 25,282, 1943

3. Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H.

Result:

Gastrointestinal: Gastritis.

Liver: Hepatitis (hepatocellular necrosis), diffuse.

Kidney, Ureter, Bladder: Interstitial nephritis.

- Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,280, 1986

4. Standard Draize Test, Eyes, Human, 186300. ppm, Mild.

Result:

Gastrointestinal: Alteration in gastric secretion.

Gastrointestinal: Other changes.

- CRC Critical Reviews in Toxicology., CRC Press, Inc., 2000 Corporate Blvd., NW, Boca Raton, FL 33421, Vol/p/yr: 32,43, 2002

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 -

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.

Specific target organ toxicity -repeated exposure: no data available. May cause drowsiness or dizziness.

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.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
64-17-5	Ethyl alcohol	n.a.	1	A4	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.

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.

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:
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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.		
UN Number:	UN1210	Packing Group:	II
Hazard Class:	3 - FLAMMABLE LIQUID		

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
67-64-1	Acetone	No	Yes NA	No
1336-21-6	Ammonium hydroxide	No	Yes NA	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 checked="" type="checkbox"/> Yes <input 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

Revision: 01/08/2025

Supersedes Revision: 01/24/2019

- | | | | |
|---|---|---|--|
| <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 type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> Yes <input 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)
Other US EPA or State Lists

64-17-5 Ethyl alcohol

 TSCA: Inventory
CA TAC, Title 8: Title 8

67-64-1 Acetone

 TSCA: Inventory
CA TAC, Title 8: Title 8

1336-21-6 Ammonium hydroxide

 TSCA: Inventory
CA TAC, Title 8: Title 8

CAS # Hazardous Components (Chemical Name)
International Regulatory Lists

64-17-5 Ethyl alcohol

 Japan ENCS: 5-153
Israel HSL: Cat.
Germany WHCS: 96: WGK 1
Switzerland Giftliste 1: G-1158
REACH: (P), 01-2119457610-43: Full

67-64-1 Acetone

 Japan ENCS: 2-542
Germany WHCS: 6: WGK 1
Switzerland Giftliste 1: G-1031
REACH: (P), 01-2119471330-49: Full

1336-21-6 Ammonium hydroxide

 Mexico INSQ: 2672
Japan ENCS: 1-314
Germany WHCS: 211: WGK 2
Switzerland Giftliste 1: G-1100
REACH: (P), 01-2119982985-14: Intermediate

16. Other Information

Revision Date: 01/08/2025

Previous revision: 01/24/2019

Additional Information About No data available.

This Product:
Company Policy or
Disclaimer: