

1. Product and Company Identification

Product Name: TH-413, S4413

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

Phone Number: (847)956-6600

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

Emergency Contact: Chemtrec (800)424-9300

Information: Christian Krzykwa (704)972-9887

2. Hazards Identification

Flammable Liquids, Category 2

Serious Eye Damage/Eye Irritation, Category 2A

Specific Target Organ Toxicity (single exposure), Category 3 - Respiratory irritation, Narcotic effects, Respiratory irritation.

Acute Toxicity: Oral, Category 4



GHS Signal Word: **Danger**

GHS Hazard Phrases: H225 - Highly flammable liquid and vapor.
H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.
H335 - May cause respiratory 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/storage/handling/ equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing 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+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.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P330 - Rinse mouth.
P337+313 - If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases:	P403+233 - Store container tightly closed in a cool and well-ventilated place. P405 - Store locked up. P501 - Dispose of contents/container a licensed waste disposal company in the area of use in accordance with all local and state regulations.
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. Repeated exposure may cause skin dryness or cracking.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
107-87-9	2-Pentanone	70.0 -80.0 %
64-17-5	Ethyl alcohol	10.0 -20.0 %
108-10-1	Methyl isobutyl ketone	1.0 -10.0 %

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:	> 7.00 C (44.6 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. 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:	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. Hygroscopic. Protect from sunlight.
Other Precautions:	Apart from the uses mentioned in section 1 no other specific uses are stipulated. 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
107-87-9	2-Pentanone	PEL: 200 ppm	TLV: 200 ppm STEL: 150 ppm	No data.
64-17-5	Ethyl alcohol	PEL: 1000 ppm	TLV: 1000 ppm STEL: 1000 ppm	No data.
108-10-1	Methyl isobutyl ketone	PEL: 100 ppm	TLV: 20 ppm STEL: 75 ppm	No data.

Personal Protective Equipment Symbols:



Respiratory Equipment (Specify Type):

Respiratory: 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:

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. Splash contact:

Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: ? 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. Material: butyl-rubber Minimum

layer thickness: 0.3 mm Break through time: 175 min.

Full contact.

Material: Nitrile rubber Minimum layer thickness: 0.4 mm.

Other Protective Clothing:

Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**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.

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	colorless. Ketone odor.
pH:	No data.
Melting Point:	No data.
Boiling Point:	No data.
Flash Pt:	> 7.00 C (44.6 F) Method Used: TAG Closed Cup
Evaporation Rate:	No data.
Flammability (solid, gas):	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg):	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.
Information with regard to primary physical hazard:	

10. Stability and Reactivity

Reactivity:	No data available.
Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Heat, flames and sparks. Heat, Extremes of temperature and direct sunlight.
Incompatibility - Materials To Avoid:	Oxidizing agents, Strong bases, Reducing agents, Strong oxidizing agents. Acid anhydrides, Aluminum, Halogenated compounds, Acids.
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:	Vapors may form explosive mixture with air. No data available.

11. Toxicological Information

Toxicological Information: Acute toxicity.

Germ cell mutagenicity: No data available.

In vitro mammalian cell gene mutation test: Mouse. lymphoma cells. Result: negative.

Reproductive toxicity. Aspiration hazard: Developmental Toxicity. Inhalation. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.

Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Cardiovascular (circulatory) system.

Inhalation: Dermal.

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

Irritation or Corrosion: Skin corrosion/irritation. Skin. Species: Guinea pig. Result: Mild skin irritation (OECD Test Guideline 404) Serious eye damage/eye irritation: Eyes. Rabbit. Moderate eye irritation. (OECD Test Guideline 405) Result: Tumorigenic:Tumors at site or application. Mild skin irritation -24 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. Eyes - rabbit -

Sensitization: No data available.

Chronic Toxicological Effects: Specific target organ toxicity - single exposure: No data available.

Specific target organ toxicity -repeated exposure: no data available. Specific target organ

toxicity -single exposure: May cause respiratory irritation.
Specific target organ toxicity -single exposure (Globally Harmonized System) Inhalation. Oral. 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. IARC: 2B - Group 2B: Possibly carcinogenic to humans (4-Methylpentan-2-one).
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 #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
107-87-9	2-Pentanone	n.a.	n.a.	n.a.	n.a.
64-17-5	Ethyl alcohol	n.a.	1	Unknown	n.a.
108-10-1	Methyl isobutyl ketone	n.a.	2B	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:	Biodegradability aerobic -Exposure time 28 d Result: 70 % -Readily biodegradable. Biodegradability: Biotic/Aerobic. 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.
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14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name:	Printing ink related material.		
DOT Hazard Class:	3	FLAMMABLE LIQUID	
UN/NA Number:	1210	Packing Group:	II



LAND TRANSPORT (Canadian TDG):

TDG Shipping Name:	Printing ink related material.		
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)
107-87-9	2-Pentanone	No	No	No
64-17-5	Ethyl alcohol	No	No	No
108-10-1	Methyl isobutyl ketone	No	Yes NA	Yes

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 type="checkbox"/> Yes <input checked="" 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 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 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)		

California Proposition 65



WARNING

This product can expose you to chemicals including Methyl isobutyl ketone, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
107-87-9	2-Pentanone	TSCA: Inventory CA TAC, Title 8: Title 8
64-17-5	Ethyl alcohol	TSCA: Inventory CA TAC, Title 8: Title 8
108-10-1	Methyl isobutyl ketone	TSCA: Inventory CA PROP.65: Yes: Canc+RDTox. CA TAC, Title 8: TAC: Cat. IVa, Title 8 NC TAP: Yes: NC TAP

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
107-87-9	2-Pentanone	Japan ENCS: 2-542 Germany WHCS: 590: WGK 1 Switzerland Giftliste 1: G-2529 REACH: 01-2119988840-24: Full, (P)
64-17-5	Ethyl alcohol	Japan ENCS: 5-153 Israel HSL: Cat. Germany WHCS: 96: WGK 1 Switzerland Giftliste 1: G-1158 REACH: 01-2119457610-43: Full, (P)
108-10-1	Methyl isobutyl ketone	Mexico INSQ: 1245 Japan ENCS: 2-542 Germany WHCS: 137: WGK 1 Switzerland Giftliste 1: G-2468 REACH: 01-2119473980-30: Full, (P)

16. Other Information

Revision Date: 06/18/2021 **Previous revision:** 08/27/2019

Hazard Rating System:

HEALTH		1
FLAMMABILITY		3
PHYSICAL		0
PPE		B

HMIS:

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: