

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2020/878; US OSHA HCS 2015; and Canadian WHMIS 2015.

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

- 1.1 Product Code:** N930324
Product Name: TH-TYPE-F
X Code: X(22,53)0324
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
- 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
Information: Christian Krzykwa (980)500-7144
- 1.4 Emergency telephone number:** (800)424-9300
Emergency Contact: Chemtrec

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
Flammable Liquids, Category 2
Specific Target Organ Toxicity (single exposure), Category 3
- 2.2 Label Elements:**

**GHS Signal Word:** **Danger****Hazard-determining components of labelling:**Isopropyl alcohol
1-Propanol**GHS Hazard Phrases:**H225 - Highly flammable liquid and vapor.
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.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
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:**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.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P370+378 - In case of fire, use ... to extinguish.

GHS Storage and Disposal Phrases:

P403+233 - Store container tightly closed in well-ventilated place.

P405 - Store locked up.

P501 - Dispose of contents/container to ...

UFI:

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

Section 3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
64-17-5	Ethyl alcohol 01-2119457610-43	76.24 -90.535 %	200-578-6 603-002-00-5	Flam. Liq. 2: H225
67-63-0	Isopropyl alcohol 01-2119457558-25	3.85 -5.465 %	200-661-7 603-117-00-0	Flam. Liq. 2: H225 Eye Damage 2: H319 STOT (SE) 3: H336
71-23-8	1-Propanol 01-2119486761-29	4.99 -14.97 %	200-746-9 603-003-00-0	Flam. Liq. 2: H225 Eye Damage 1: H318 STOT (SE) 3: H335 H336

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.
- No data available.
- Flash Pt:** > 12.00 C Method Used: Estimate
- Explosive Limits:** LEL: No data. UEL: No data.
- Autoignition Pt:** > 365.00 C
- 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. 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.
- 6.2 Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
- 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).

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. 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.
- 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 - 8 deg.C. Storage class 510) Handle and store under inert gas. Hygroscopic.
- 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
64-17-5	Ethyl alcohol	ACGIH TLV	TLV: 1000 ppm STEL: 1000 ppm	
		France VL	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)	
		OSHA PELs	PEL: 1000 ppm	
		Britain EH40	TWA: 1920 mg/m3 (1000 ppm) STEL: ()	
67-63-0	Isopropyl alcohol	ACGIH TLV	TLV: 200 ppm STEL: 400 ppm	
		France VL	STEL: 980 mg/m3 (400 ppm)	
		OSHA PELs	PEL: 400 ppm	
		Britain EH40	TWA: 999 mg/m3 (400 ppm) STEL: 1250 mg/m3 (500 ppm)	

71-23-8 1-Propanol

ACGIH TLV

TLV: 100 ppm

STEL: (250 ppm)

France VL

TWA: 500 mg/m³ (200 ppm)

OSHA PELs

PEL: 200 ppm

Britain EH40

TWA: 500 mg/m³ (200 ppm)

Skin Absorption

STEL: 625 mg/m³ (250 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). 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: Nitrile rubber, Minimum layer thickness: 0.4 mm, Break through time: 480 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. 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.

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).

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.

Exposure Scenarios: No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor: Color: colorless (Upon aging, clear or colorless fluids may develop a slight yellow tint which will not affect the product performance).

pH: No data.

Melting Point:	NA -127.00 - 129.10 C	
Boiling Point:	78.00 C - 97.00 C	
Flash Pt:	> 12.00 C Method Used: Estimate	
Evaporation Rate:	No data.	
Saturated Vapor Concentration:	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.	
	No data.	
Vapor Density (vs. Air = 1):	No data.	
Specific Gravity (Water = 1):	0.789	
Density:	0.7885 G/ML (6.58 - LB/GA)	
Solubility in Water:	MISCIBLE	
Octanol/Water Partition Coefficient:	No data.	
Autoignition Pt:	> 365.00 C	
Decomposition Temperature:	No data.	
Viscosity:	No data.	
Explosive Properties:	No data available.	
Oxidizing Properties:	No data available. The substance or mixture is not classified as oxidizing.	

9.2 Other Information

9.2.1 Information with regard to physical hazard classes

Information with regard to primary physical hazard:

9.2.2 Other safety characteristics

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable [] Stable [X]
10.3 Conditions To Avoid - Hazardous Reactions:	No data available. Vapors may form explosive mixture with air.
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
10.4 Conditions To Avoid - Instability:	Heat, flames and sparks. Extremes of temperature and direct sunlight. Heat.
10.5 Incompatibility - Materials To Avoid:	Strong oxidizing agents. Oxidizing agents, Acid anhydrides, Aluminum, Halogenated compounds, Acids.
10.6 Hazardous Decomposition or Byproducts:	No data available. In the event of fire: see section 5. Other decomposition products:

Section 11. Toxicological Information

- 11.1 Information on Toxicological Effects:** Acute toxicity. No data available. Inhalation: Dermal. Germ cell mutagenicity. Reproductive toxicity. Aspiration hazard:
- 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. Mild eye irritation Serious eye damage/eye irritation Eyes -rabbit. Serious eye damage/eye irritation: Eyes - rabbit - No skin irritation . (OECD Test Guideline 404) Serious eye damage/eye irritation Eyes -Rabbit)
Severe eye irritation .
- Sensitization:** No data available. Maximisation Test. Species: Guinea pig. 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. Specific target organ toxicity - single exposure: 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. 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
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.
67-63-0	Isopropyl alcohol	n.a.	3	A4	n.a.
71-23-8	1-Propanol	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

- 12.1 Toxicity:** No data available.
- 12.2 Persistence and Degradability:** No data available. Biodegradability Result: 75 % - Readily biodegradable.
- 12.3 Bioaccumulative Potential:** No data available. The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.
- 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:** 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

GHS Classification: Flammable Liquids, Category 2 - Danger! Highly flammable liquid and vapor
Specific Target Organ Toxicity (single exposure), Category 3 - Warning! May cause respiratory irritation, or may cause drowsiness and dizziness

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]
DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN1210 II



14.1 LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]
UN Number: 1210 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID **TDG Classification:**

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]
UN Number: 1210 II
Hazard Class: 3 - FLAMMABLE LIQUID

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]
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)
64-17-5	Ethyl alcohol	No	No	No
67-63-0	Isopropyl alcohol	No	No	Yes
71-23-8	1-Propanol	No	No	No
CAS #	Hazardous Components (Chemical Name)	Canadian NPRI	Canadian Toxic	Canadian DSL
64-17-5	Ethyl alcohol	Yes: Part 5		Yes
67-63-0	Isopropyl alcohol	Yes: Part 5		Yes
71-23-8	1-Propanol	No	No	Yes

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
64-17-5	Ethyl alcohol	TSCA: Yes - Inventory; CA PROP.65: No
67-63-0	Isopropyl alcohol	TSCA: Yes - Inventory; CA PROP.65: No
71-23-8	1-Propanol	TSCA: Yes - Inventory; CA PROP.65: No
CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
64-17-5	Ethyl alcohol	Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 5-153; Japan ISHL: No; Korea ECL: Yes - KE-13217; Philippines ICCS: Yes; Taiwan TCSCA: Yes; Singapore HSL: No; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 96: WGK 1; Switzerland Giffliste 1: Yes - G-1158; Switzerland INNS: No; REACH: Yes - 01-2119457610-43: Full, (P)
67-63-0	Isopropyl alcohol	Mexico INSQ: Yes - 1219; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 2-207; Japan ISHL: Yes - 2-(8)-319; Korea ECL: Yes - KE-29363; Philippines ICCS: Yes; Taiwan TCSCA: Yes; Singapore HSL: No; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 135: WGK 1; Switzerland Giffliste 1: Yes - G-1712; Switzerland INNS: No; REACH: Yes - 01-2119457558-25: Full, (P)
71-23-8	1-Propanol	Mexico INSQ: Yes - 1274; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 2-207; Japan ISHL: No; Korea ECL: Yes - KE-29362; Philippines ICCS: Yes; Taiwan TCSCA: Yes; Singapore HSL: No; Israel HSL: No; Germany WHCS: Yes - 176: WGK 1; Switzerland Giffliste 1: Yes - G-2043; Switzerland INNS: No; REACH: Yes - 01-2119486761-29: Full, (P)

Section 16. Other Information

Revision Date: 03/04/2022

Additional Information About No data available.

This Product:

Company Policy or

Disclaimer:

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