

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:** TH-109
Product Name: TH-109
X Code: X(22,53)1371
- 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
Acute Toxicity: Inhalation, Category 3
Acute Toxicity: Oral, Category 3
Acute Toxicity: Skin, Category 3
Specific Target Organ Toxicity (single exposure), Category 1
- 2.2 Label Elements:**



GHS Signal Word: **Danger**

Hazard-determining components of labelling:

2- Butonone
Methanol

GHS Hazard Phrases:

H225 - Highly flammable liquid and vapor.
H301 - Toxic if swallowed.
H311 - Toxic in contact with skin.
H331 - Toxic if inhaled.
H370 - Causes damage to organs

GHS Precautionary Phrases:

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
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.

P308+311 - If exposed or concerned: Call a POISON CENTER/Doctor/...

P311 - Call a POISON CENTER or doctor/physician.

P330 - Rinse mouth.

P361+364 - Take off immediately all contaminated clothing and wash it before reuse.

GHS Storage and Disposal Phrases:

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
78-93-3	2- Butonone 01-2119457290-43-xxxx	80.0 -95.0 %	201-159-0 606-002-00-3	Flam. Liq. 2: H225 Eye Damage 2: H319 STOT (SE) 3: H336 EUH066
67-56-1	Methanol 01-2119392409-28	4.5 -15.0 %	200-659-6 603-001-00-X	Flam. Liq. 2: H225 Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Acute Tox.(I) 3: H331 STOT (SE) 1: H370

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. Take victim immediately to hospital. Consult a physician.
- In Case of Eye Contact:** Flush eyes with water as a precaution. 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:** No data available. Carbon oxides, Flash back possible over considerable distance. Container explosion may occur under fire conditions.
No data available.
- Flash Pt:** -2.99 C Method Used: Estimate
- Explosive Limits:** LEL: No data. UEL: No data.
- Autoignition Pt:** No data.
- 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:** Wear respiratory protection. 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. Use personal protective equipment.
- 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. 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 - 8 deg.C.
Store under inert gas. Hygroscopic.
Storage class 510)
- Other Precautions:** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated. 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
78-93-3	2- Butonone	ACGIH TLV	TLV: 200 ppm STEL: 300 ppm	
		Europe	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm)	
		France VL	TWA: 600 mg/m3 (200 ppm) STEL: 900 mg/m3 (300 ppm)	
		OSHA PELs	PEL: 200 ppm	
		Britain EH40	TWA: 600 mg/m3 (200 ppm) STEL: 899 mg/m3 (300 ppm)	Skin Absorption

67-56-1 Methanol	ACGIH TLV	TLV: 200 ppm STEL: 250 ppm	
	Europe	TWA: 260 mg/m ³ (200 ppm)	Skin Absorption
	France VL	TWA: 260 mg/m ³ (200 ppm) STEL: 1300 mg/m ³ (1000 ppm)	
	OSHA PELs	PEL: 200 ppm	
	Britain EH40	TWA: 266 mg/m ³ (200 ppm) STEL: 333 mg/m ³ (250 ppm)	Skin Absorption

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.): Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. 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.

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: Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. Impervious clothing.

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).

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

pH: No data.

Melting Point: -97.80 C - -86.99 C

Boiling Point: No data. - 80.00 C

Flash Pt: -2.99 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.	
Vapor Density (vs. Air = 1):	No data.	
Specific Gravity (Water = 1):	No data.	
Density:	0.7993 G/ML (6.67 - LB/GA)	
Solubility in Water:	No data.	
Octanol/Water Partition Coefficient:	No data.	
Autoignition Pt:	No data.	
Decomposition Temperature:	No data.	
Viscosity:	No data.	
Explosive Properties:	No data available.	
Oxidizing Properties:	No data available.	

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:	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. Exposure to moisture.
10.5 Incompatibility - Materials To Avoid:	Strong oxidizing agents. Oxidizing agents, Strong reducing agents.
10.6 Hazardous Decomposition or Byproducts:	Hazardous decomposition products formed under fire conditions. -Carbon oxides. No data available. In the event of fire: see section 5.

Section 11. Toxicological Information

**11.1 Information on
Toxicological Effects:**

Acute toxicity.
No data available.
Inhalation: Dermal. Germ cell mutagenicity. Reproductive toxicity. Aspiration hazard:
CAS# 78-93-3:
Acute toxicity, LD50, Intraperitoneal, Mouse, 616.0 MG/KG.
Result:
Lungs, Thorax, or Respiration: Sputum.
Biochemical: Metabolism (Intermediary): Other proteins.
Biochemical: Metabolism (intermediary): Effect on inflammation or mediation of inflammation.
- Shell Chemical Company. Unpublished Report., Vol/p/yr: -,6, 1961

Acute toxicity, LD50, Skin, Species: Rabbit, 6480. MG/KG.
Result:
Lungs, Thorax, or Respiration: Other changes.
Biochemical: Metabolism (intermediary): Effect on inflammation or mediation of inflammation.
- Shell Chemical Company., Vol/p/yr: MSDS-5390-,

Acute toxicity, LC50, Inhalation, Mouse, 32.00 MG/M3.
Result:
Brain and Coverings: Other degenerative changes.
Biochemical: Metabolism (intermediary): Effect on inflammation or mediation of inflammation.

Acute toxicity, LD50, Intraperitoneal, Species: Guinea pig, 2.000 GM/KG.
Result:
Immunological Including Allergic: Increase in humoral immune response.

CAS# 67-56-1:
Acute toxicity, LD50, Oral, Rat, 5628. MG/KG.
Result:
Behavioral: Food intake (animal).
Nutritional and Gross Metabolic: Weight loss or decreased weight gain.
- Gigena Truda i Professional'nye Zabolevaniya. (Labor Hygiene and Occupational Disease), V/O Mezhdunarodnaya Kniga, Moscow 113095 Russia, Vol/p/yr: 19(11),27, 1975

Acute toxicity, LD50, Intraperitoneal, Rat, 7529. MG/KG.
Result:
Lungs, Thorax, or Respiration: Acute pulmonary edema.
Blood: Changes in leukocyte (WBC) count.
Related to Chronic Data - death.
- EHP, Environmental Health Perspectives., U.S. Government Printing Office, Supt of Documents, Washington, DC 20402, Vol/p/yr: 61,321, 1985

Acute toxicity, LD50, Intravenous, Rat, 2131. MG/KG.
Result:
Kidney, Ureter, Bladder: Other changes in urine composition.

- EHP, Environmental Health Perspectives., U.S. Government Printing Office, Supt of Documents, Washington, DC 20402, Vol/p/yr: 61,321, 1985

Acute toxicity, LD50, Oral, Mouse, 7300. MG/KG.

Result:

Behavioral: Somnolence (general depressed activity).

Lungs, Thorax, or Respiration:Dyspnea.

- Toxicology., Elsevier Scientific Pub. Ireland, Ltd., POB 85, Limerick Ireland, Vol/p/yr: 25,271, 1982

Acute toxicity, LD50, Intraperitoneal, Mouse, 10765. MG/KG.

Result:

Effects on Embryo or Fetus: Fetal death.

Specific Developmental Abnormalities: Other developmental abnormalities.

- EHP, Environmental Health Perspectives., U.S. Government Printing Office, Supt of Documents, Washington, DC 20402, Vol/p/yr: 61,321, 1985

Acute toxicity, LD50, Subcutaneous, Mouse, 9800. MG/KG.

Result:

Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Effects on Newborn: Delayed effects.

- Toxicology and Applied Pharmacology, Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 18,185, 1971

Acute toxicity, LD50, Intravenous, Mouse, 4710. MG/KG.

Result:

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

- EHP, Environmental Health Perspectives., U.S. Government Printing Office, Supt of Documents, Washington, DC 20402, Vol/p/yr: 61,321, 1985

Acute toxicity, LD50, Oral, Species: Monkey., 7.000 GM/KG.

Result:

Behavioral: Muscle weakness.

Behavioral: Ataxia.

Behavioral: Coma.

- Toxicology and Applied Pharmacology, Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 3,202, 1961

Acute toxicity, LD50, Oral, Species: Rabbit, 14200. MG/KG.

Result:

Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

- FAO Nutrition Meetings Report Series., Vol/p/yr: 48A,105, 1970

Acute toxicity, LD50, Skin, Species: Rabbit, 15800. MG/KG.

Result:

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Specific Developmental Abnormalities: Musculoskeletal system.

- Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ.,

Bethlehem, PA 18015, Vol/p/yr: 1,74, 1974

Acute toxicity, LD50, Intraperitoneal, Species: Rabbit, 1826. MG/KG.

Result:

Specific Developmental Abnormalities: Other developmental abnormalities.

- EHP, Environmental Health Perspectives., U.S. Government Printing Office, Supt of Documents, Washington, DC 20402, Vol/p/yr: 61,321, 1985

Irritation or Corrosion: Skin corrosion/irritation. No data available. Serious eye damage/eye irritation no data available. Result: Tumorigenic:Tumors at site or application. No skin irritation . (OECD Test Guideline 404) Serious eye damage/eye irritation Eyes -Rabbit)
Irritating to eyes .

Sensitization: No data available.

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

Effects: 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.
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	2- Butonone	n.a.	n.a.	n.a.	n.a.
67-56-1	Methanol	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.
- 12.3 Bioaccumulative Potential:** 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:** 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
Acute Toxicity: Inhalation, Category 3 - Danger! Toxic if inhaled
Acute Toxicity: Oral, Category 3 - Danger! Toxic if swallowed
Acute Toxicity: Skin, Category 3 - Danger! Toxic in contact with skin
Specific Target Organ Toxicity (single exposure), Category 1 - Danger! Causes damage to organs {<target organs>}

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: 1210 **Packing Group:** 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 **Packing Group:** 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)
78-93-3	2- Butonone	No	Yes NA	No
67-56-1	Methanol	No	Yes NA	Yes

CAS #	Hazardous Components (Chemical Name)	Canadian NPRI	Canadian Toxic	Canadian DSL
78-93-3	2- Butonone	Yes: Part 5	No	Yes
67-56-1	Methanol	Yes: Part 5		Yes

California Proposition 65



WARNING

This product can expose you to chemicals including Methanol, which is known to the State of California to cause 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
78-93-3	2- Butonone	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

67-56-1 Methanol

CAA HAP,ODC: HAP: VHAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: Yes: RDTox.

CAS # Hazardous Components (Chemical Name)

78-93-3 2- Butonone

International Regulatory Lists

Mexico INSQ: Yes - 1193; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 2-542; Japan ISHL: No; Korea ECL: Yes - KE-24094; Philippines ICCS: Yes; Taiwan TCSCA: Yes; 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)

67-56-1 Methanol

Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 7-322; Japan ISHL: No; Korea ECL: Yes - KE-23193; Philippines ICCS: Yes; Taiwan TCSCA: Yes; Israel HSL: Yes - Cat.; Germany WHCS: Yes - 145: WGK 1; Switzerland Giftliste 1: Yes - G-2063; Switzerland INNS: No; REACH: Yes - 01-2119433307-44: Full, (P)

Section 16. Other Information

Revision Date: 03/03/2022

Additional Information About No data available.

This Product:

Company Policy or

Disclaimer:

The information and recommendations contained herein are, to the best of Hitachi's knowledge and belief, accurate and reliable as of the date issued. Because many factors may affect processing or application/use, HITACHI recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by Hitachi hereunder are given gratis and Hitachi assumes no obligation or liability for the description, designs, data and information given or results obtained. All such being given and accepted at your risk.