

# MATERIAL SAFETY DATA SHEET

## 1 IDENTIFICATION

Product name	:CL-04
Name of company	:Hitachi Industrial Equipment Systems Co., Ltd
Address	:1-1,Higashitaga-cho 1-chome, Hitachi-shi, Ibaraki-ken, Japan
Tel	:+81-294-36-8682
Fax	:+81-294-36-8975
Recommended use of the chemical and restrictions on use	:Printing Ink for industrial Marking

## 2 HAZARDS IDENTIFICATION

Physico-chemical endpoints	:Flammable liquid Category 2
Acute toxicity - oral	:Not available
Acute toxicity - dermal	:Not available
Acute toxicity - inhalation (air)	:Not identified
Acute toxicity - inhalation (vapors)	:Not identified
Acute toxicity - inhalation (dust, mist)	:Not identified
Skin corrosion/irritation	:Category 2
Eye damage/irritation	:Category 2
Sensitization - respiratory	:Not identified
Sensitization - skin	:Not available
Germ cell mutagenicity	:Category 1
Carcinogenicity	:Not available
Toxic to reproduction	:Category 1
Effects on or via lactation	:Not identified
Specific target organ systemic toxicity (Single exposure)	:Category 1
(Repeated exposure)	:Category 1
Aspiration toxicity	:Not available
Hazardous to the aquatic environment	
-Acute hazard	:Not available
-Chronic hazard	:Not available

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**GHS label elements**

Hazard symbols: Flame, Exclamation mark, Health hazard



**Signal word:** Danger

**Hazard statement and precautionary statement:**

- Flammable liquid and vapour
- Causes skin irritation
- Causes eye irritation
- May cause genetic defects
- May damage fertility or the unborn child
- Causes damage to organs-single exposure
- Causes damage to organs through prolonged or repeated exposure.
- :Not identified

**Precautionary statements:**

- Keep out of reach of children. Read label before use. If medical advice is needed: Have product container or label at hand.

**Prevention**

- Keep away from ignition sources such as heat/sparks/open flame— No smoking.
- Take precautionary measures against static discharge.
- Wear protective gloves and eye/face protection as specified by the competent authority.
- Do not breathe dust/mist/vapors.
- Use only in a well-ventilated area. Call a doctor/physician if you feel unwell.
- Do not eat, drink or smoke when using this product.
- Avoid contact during pregnancy/while nursing.
- Wash hands thoroughly after handling.

**Response**

- In case of fire, use dry chemical, CO<sub>2</sub>, water splay (fog) or foam for extinction.
- IF SWALLOWED: Call a doctor/physician if you feel unwell. Rinse mouth.
- IF ON SKIN: Gently wash with plenty of soap and water.
- Wash/Decontaminate removed clothing before reuse.
- If skin irritation occurs, seek medical advice/attention.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician.
- Collect spillage.

**Storage**

- Store in cool/well-ventilated place. Store locked up.
- Call a doctor/physician if exposed or you feel unwell.

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**Disposal**

- Waste must be disposed of according to applicable regulations.

**3 Composition/information on ingredients****Substance or mixture;** mixture**Composition;**

Chemical name	concentration (%)	CAS number
Ethanol	65-75	64-17-5
Triethylamine	1-2	121-44-8

**4 First-aid measures****Inhalation;**

Remove the victim from the contamination immediately to fresh air. Keep the victim warm and quiet and arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

**Skin contact;**

Remove all contaminated clothing, shoes and socks from the affected areas as quickly as possible. Wash the affected area under running water using a mild soap. If irritation persists, arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

**Eye contact;**

Gently rinse the affected eyes with clean water for at least 15 minutes. Remove contact lenses if easily possible. and refer for medical attention.

**Ingestion;**

Never give anything by mouth to someone who is unconscious or convulsing. If the victim is responsive, give him one or two glasses of water. And refer for medical attention.

**5 Fire-fighting measures****Suitable extinguishing media;**

Use dry chemical, CO<sub>2</sub>, water splay (fog) or foam.

**Fire fighting procedures;**

Use water spray to cool fire-exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors.

Avoid spraying water directly into storage containers due to danger of boil over.

**Unusual fire/explosion hazard;**

Flammable liquid, can release vapors that form flammable mixtures at temperatures at or above the flashpoint.

**Special protective equipment and precautions for fire fighters;**

Fire fighters should wear boots, overalls, gloves, eye and face protection and breathing apparatus.

**6 Accidental release measures**

Shut off all sources of ignition; No smoking or flames in area. Absorb spill with inert material (e.g., dry sand or earth), then place in closed containers using non-sparking tools. Flush residual spill

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(area) with copious amounts of water.

## 7 Handling and storage

### Handling;

Use only in the well-ventilated areas.

Make available in the work area emergency shower and eyes wash.

Avoid contact with skin or eyes.

### Storage;

Close up the container and keep it in dark cool(0~20 ) place.

Keep away from combustible materials and sources of ignition.

## 8 Exposure controls/personal protection

### Exposure guidelines;

ACGIH TLV-TWA (ppm)

Ethanol :1000

Triethylamine :1

ACGIH STEL(ppm)

Ethanol :No data

Triethylamine :3; skin notation

## 9 Physical and chemical properties

Appearance

Physical state :Liquid

Color :Clear

Odor :Solvent odor

Boiling point : 78.3

Flash point :19.0 (closed cup)

Upper/lower flammability or explosive limits :Lower 1.2 vol%, Upper 19 vol%

Vapor pressure : 5.9kPa (20 )(ethanol)

Relative density (Air = 1) :None known

Relative density :0.87(20 )

Solubility (Water) :None known

Partition coefficient: n-octanol/water :None known

Auto-ignition temperature :423

Decomposition temperature :No measurement

## 10 Stability and reactivity

Stability: The product is stable.

Conditions and materials to avoid: Not available

Hazardous decomposition products: These products are carbon oxides

## 11 Toxicological information

### Acute toxicity;

Ethanol

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Not available:Oral 6.2 ~ 17.8 (Rat LD50 (g/kg))  
Not identified:Dermal No data  
Not available:Inhalation 31600 ( Vaper) (Rat LC50(ppm/4h))

Triethylamine

LD50(oral,rat): 460mg/kg(AMIHBC 4, 119, 1951)

LD50(skin,rabbit): 570?L/kg(AMIHBC 4, 119, 1951)

TCLo(ihl,human): 6500?g/m3/4H(OEMEEM 56, 1, 1999)

**Skin corrosion/irritation;**

Ethanol

Not identified

Triethylamine

Skin; rabbit, Open; 365mg; Mild(UCDS\*\* 3/23/1970)

**Serious eye damage/irritation;**

Ethanol

Category 2A

Triethylamine

Not identified

**Respiratory or skin sensitization;**

Ethanol

Not identified

Triethylamine

Not identified

**Germ cell mutagenicity;**

Ethanol

Category 1B

Triethylamine

Cytogenetic analysis; rat; ihl; 1mg/m3(GISAAA 36(11), 9, 1971)

**Carcinogenicity;**

Ethanol

Not available Oral 6.2 ~ 17.8 (Rat LD50 (g/kg))

Triethylamine

Not available

**Reproductive toxicity;**

Ethanol

Category 1A

Triethylamine

Not available

**STOST-single exposure;**

Ethanol

Category 3(Respiratory)

Triethylamine

Not identified

**STOST-repeated exposure;**

Ethanol

Category 1(Liver) 2(Nervous system)

Triethylamine

Not identified

**Aspiration hazard.**

Ethanol

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Not identified  
Triethylamine  
Not identified

## 12 Ecological information

### Toxicity:

Ethanol

trout 24h-LC50(g/L):11.2

Carp 96h-LC50 (g/L):18 ~ 13.4

Creek Chub 24h-C50(g/L):7

Guppy 7d-LC50(g/L):11

Triethylamine

LC50(fathead minnow): 43.7mg/L/96hr ( BASF AG Ludwigshafen)

LC50(orange-red killifish): 24mg/L/96hr

LC50(daphnids): 34mg/L/48hr

### Persistence and degradability:

Ethanol

None known

Triethylamine

This material is not biodegradable.

### Bioaccumulative potential:

Ethanol

None known

Triethylamine

This material is low bioaccumulatable.

### Mobility in soil:

Ethanol

None known

Triethylamine

Not identified

## 13 Disposal considerations

Scrap materials may be disposed by licensed contractor or burn in an approved incinerator.

Do not dump into sewer, on the ground or into any body of water.

Follow national and local regulations.

## 14 Transport information

Follow all regulations in your country.

UN Number	:1210
UN Proper Shipping Name	:Printing ink, flammable
Transport hazard class	:Class 3(Flammable liquid)
Packing Group	:
Environmental hazards	:No

## 15 Regulatory information

Follow all regulations in your country.

Content of RoHS Directive material Cd<100ppm Pb, Hg, Hexavalent Cr, PBB, PBDE<1000ppm

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## 16 References

- 1) Solvent, dye MSDS
- 2) Results of Eco-toxicity tests of chemicals conducted by Ministry of the Environment in Japan (-2006)
- 3) International Chemical Safety Cards

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