

MATERIAL SAFETY DATA SHEET

1 IDENTIFICATION

Product name :JP-T71
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

Classification of the substance or mixture :mixture
Physico-chemical endpoints :Flammable liquid category 2
Acute toxicity - oral :Category 5
Acute toxicity - dermal :Not available
Acute toxicity - inhalation (vapors) :Category 5
Acute toxicity - inhalation (dust, mist) :Not identified
Skin corrosion/irritation :Category 2
Eye damage/irritation :Category 2
Sensitization - respiratory :Not identified
Sensitization - skin :Not identified
Germ cell mutagenicity :Category 1
Carcinogenicity :Category 2
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 :Category 2
Hazardous to the aquatic environment
-Acute hazard :Not available
-Chronic hazard :Not identified

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GHS label elements

Hazard symbols: Flame, Exclamation mark, Health hazard



Signal word: Danger

Hazard statement and precautionary statement:

- Highly flammable liquid and vapour
- May be harmful if swallowed
- May be harmful if inhaled
- Causes skin irritation
- Causes eye irritation
- May cause genetic defects
- Suspected of causing cancer
- May damage fertility or the unborn child
- Causes damage to organs-single exposure
- Causes damage to organs through prolonged or repeated exposure.
- May be harmful if swallowed and enters airways

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, CO₂, 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.

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Storage

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

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
2-butanone	60-70	78-93-3
Cyclohexanone	10-20	108-94-1
Chrome -Complex Dye	5-10	TSCA Registered
Ethanol	1-10	64-17-5
Phenol	<1	108-95-2

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, CO₂, water spray (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.

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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 (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)

2-butanone	:200
Cyclohexanone	:25(skin)
Chrome -Complex Dye	:None known
Ethanol	:1000
Phenol	:5(skin)

ACGIH STEL(ppm)

2-butanone	:300
Cyclohexanone	:None known
Chrome -Complex Dye	:None known
Ethanol	:No data
Phenol	:None known

9 Physical and chemical properties

Appearance	
Physical state	:Liquid
Color	:Violet
Odor	:Solvent odor
Boiling point	: 78.3
Flash point	:-4.2 (closed cup)
Upper/lower flammability or explosive limits	:Lower 1.1 vol%, Upper 19 vol% (2-butanone)
Vapor pressure	: 9.5kPa (20)
Relative density (Air = 1)	:2.41 (2-butanone)
Relative density	:0.88(20)
Solubility (Water)	:29g/100mL (20)(2-butanone)
Partition coefficient: n-octanol/water	:0.29 (2-butanone)
Auto-ignition temperature	:404

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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;

2-butanone

Category 5:Oral 5520(Rat LD50 (mg/kg))

Not available:Dermal > 8000(Rabbit LD50 (mg/kg))

Category 5:Inhalation 11700 (Vaper) (Rat LC50(ppm/4h))

Cyclohexanone

LD50(oral,rat): 1800mg/kg

LD50(skin,rabbit): 1mL/kg

TCLo(oral,rat): 512mg/kg

Chrome -Complex Dye

Not identified:Oral No data

Not identified:Dermal No data

Not identified:Inhalation No data

Ethanol

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))

Phenol

LD50(oral,rat): 512mg/kg

LD50(skin,rat): 1500mg/kg

LC50(inhalation): 316mg/m³/4H

Skin corrosion/irritation;

2-butanone

Category 2:Frequent/prolonged contact may irritate and cause dermatitis. Low order of toxicity.

Cyclohexanone

TCLo(inhalation,human): 0.09mg/m³

Chrome -Complex Dye

Not identified

Ethanol

Not identified

Phenol

Skin; rabbit; 500mg/24H; Severe

Skin; rabbit; 100mg; Mild

Serious eye damage/irritation;

2-butanone

Category 2B:Eye contact:severely irritating. If not removed promptly, will injure eye tissue, which may result in permanent damage.

Cyclohexanone

Eye; rabbit; 250?g/24H; Severe(85JCAE -,289,1986)

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Chrome -Complex Dye

Not identified

Ethanol

Category 2A

Phenol

Eye; rabbit; 5mg; Severe

Respiratory or skin sensitization;

2-butanone

Not identified

Cyclohexanone

Skin; rabbit; 500mg; Mild; Open(UCDS**)

Skin; human; 50%/48H; Mild(ADVEA4 27, 189, 1992)

Chrome -Complex Dye

Not identified

Ethanol

Not identified

Phenol

Not available

Germ cell mutagenicity;

2-butanone

Not available

Cyclohexanone

Mutation in microorganisms; S.typhimurium; cells; 20?L/L(EJMBA2 18,213,1983)

Cytogenetic analysis; human; lymphocyte; 5?g/L(GISAAA 46(5), 76, 1981)

Mutation in mammalian somatic cells; hamster; ovary; 7500?L/L(ENMUDM 7(Suppl 3), 60, 1985)

Chrome -Complex Dye

Not identified

Ethanol

Category 1B

Phenol

Micronucleus test; hamster; ovary; 175mg/L(EMMUEG 26,240,1995)

Cytogenetic analysis; hamster; embryo; 100?mol/L(MUREAV 373,113,1997)

Mutation in microorganisms; S.typhimurium; 40?mol/plate(MUREAV 90, 91, 1981)

Reverse mutation assay in S.typhimurium and E.coli; Negative

Carcinogenicity;

2-butanone

Not available

Cyclohexanone

None known

Chrome -Complex Dye

Not identified

Ethanol

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

Phenol

TDLo(skin,mouse): 16gm/kg/40W-I(CNREA8 19,413,1959)

Reproductive toxicity;

2-butanone

Not available

Cyclohexanone

None known

Chrome -Complex Dye

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Not identified

Ethanol

Category 1A

Phenol

TDLo(ori,rat): 300mg/kg(6-15D preg); Fertility - post - implantation mortality(NTIS** PB83-247726)

STOST-single exposure;

2-butanone

Category 1(Central nervous system),Category 2(Kidney),Category 3(Respiratory)

Cyclohexanone

None known

Chrome -Complex Dye

Not identified

Ethanol

Category 3(Respiratory)

Phenol

Human, The influence of heart and blood: dyspnea, kidney trauma, convulsion, strong acidosis;(CERI, NITE hazard report, No.32,2005),Human, arrhythmia and pulsus infrequens(ATSDR??1998)

STOST-repeated exposure;

2-butanone

Category 1(Central nervous system,Peripheral nervous system)

Cyclohexanone

None known

Chrome -Complex Dye

Not identified

Ethanol

Category 1(Liver) 2(Nervous system)

Phenol

Human; The increasing of??death rate by cardiovascula disease(CERI, NITE report???No.32, 2005),Huma; Non-conjugation type new born high bilirubin blood disease(EHC 161, 2000)

Aspiration hazard.

2-butanone

Category 1 Vapor concentrations above exposure

Cyclohexanone

None known

Chrome -Complex Dye

Not identified

Ethanol

Not identified

Phenol

:Not available

LD50 (50% Lethal Dose)、LC50 (50% Lethal Concentration)

12 Ecological information

Toxicity:

2-butanone

killifish 96h-LC50(mg/L):>100

killifish 14d-LC50 (mg/L):100

killifish 14d-NOEC (mg/L):100

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Cyclohexanone

None known:None known

Chrome -Complex Dye

None known

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

Phenol

LC50(orange-red killifish)::25mg/L/96hr

LC50(daphnids)::3.1mg/L/48hr(EU-RAR 2002)

Persistence and degradability:

2-butanone

None known

Cyclohexanone

This material is biodegradable.

Chrome -Complex Dye

None known

Ethanol

None known

Phenol

This material is biodegradable.

Bioaccumulative potential:

2-butanone

None known

Cyclohexanone

:Not available

Chrome -Complex Dye

None known

Ethanol

None known

Phenol

:Not available

Mobility in soil:

2-butanone

None known

Cyclohexanone

None known

Chrome -Complex Dye

None known

Ethanol

None known

Phenol

Not available

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.

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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

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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