

MATERIAL SAFETY DATA SHEET

1 IDENTIFICATION

Product name :JP-K70
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	:Category 5
Acute toxicity - dermal	:Not identified
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 identified
Germ cell mutagenicity	:Category 1
Carcinogenicity	:Not identified
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

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

GHS label elements

Hazard symbols:

**Signal word:** Danger**Hazard statement and precautionary statement:**

- Highly flammable liquid and vapour
- May be harmful if swallowed
- 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.
- 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.

Storage

- Store in cool/well-ventilated place. Store locked up.

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

- 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	50-60	78-93-3
Ethanol	20-30	64-17-5
Chrome -Complex Dye	5-10	TSCA Registered

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.

Special protective equipment and precautions for fire fighters;

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

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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
Ethanol	:1000
Chrome -Complex Dye	:None known

ACGIH STEL(ppm)	
2-butanone	:300
Ethanol	:No data
Chrome -Complex Dye	:None known

9 Physical and chemical properties

Appearance	
Physical state	:Liquid
Color	:Black
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)
Vapor density (Air = 1)	:2.41 (2-butanone)
Relative density	:0.87(20)
Solubility (Water)	:29g/100mL (20)(2-butanone)
Partition coefficient: n-octanol/water	:0.29 (2-butanone)
Auto-ignition temperature	:505 (2-butanone)
Decomposition temperature	:No data

10 Stability and reactivity

Stability: The product is stable.
Conditions and materials to avoid: Not available

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Hazardous decomposition products: These products are carbon oxides

11 Toxicological information

Acute toxicity;

2-butanone

LD50(oral,rat): 2737mg/kg(TXAPA9 19, 699, 1971)

LCLo(ihl,rat): 23500mg/m³/8H(AIHAAP 20, 364, 1959)

LD50(skin,rabbit): 6480mg/kg(SHELL* MSDS-5390-4)

TCLo(ihl,human): 1000mg/m³(VCVGK* -, 417, 1994)

LDLo(oral,human): 714.3mg/kg(VCVGK* -, 417, 1994)

Ethanol

TDLo(oral,man): 700mg/kg(NTOTDY 8,77,1986)

LD50(oral,rat): 9000mg/kg(VCVGK* -, 93, 1984)

LC50(ihl,rat): 20000ppm/10H(NPIRI* 1,44,1974)

TCLo(ihl,human): 2500mg/m³/20M(VCVGK* -, 93,1984)

Chrome -Complex Dye

Oral >5000 (Rat LD50 (mg/kg))

Dermal >2000 (Rat LD50 (mg/kg))

Inhalation None known

Skin corrosion/irritation;

2-butanone

Skin; rabbit; 402mg/24H; Mild(TXAPA9 19, 276, 1971)

Ethanol

Skin; rabbit; 20mg/24H; Moderate(85JCAE -, 189, 1986)

Chrome -Complex Dye

No (Rabbit test-OECD404 1981)

Serious eye damage/irritation;

2-butanone

Eye; rabbit; 80mg(TXAPA9 19, 276, 1971)

Ethanol

rabbit; 100mg/4S; Moderate(FCTOD7 20,573,1982)

Chrome -Complex Dye

No (Rabbit test-84/449/EEC B.5)

Respiratory or skin sensitization;

2-butanone

Ethanol

Not available

Chrome -Complex Dye

No (Guinea pig test-84/449/EC B.6)

Germ cell mutagenicity;

2-butanone

Reverse mutation assay in *S.typhimuriun* and *E.coli*; Negative

Sex chromosome loss and nondisjunction; *S.cerevisiae*; 33800ppm(MUREAV 149, 339, 1985)

Ethanol

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

DNA damage; *S.cerevisiae*; 850mmol/L(MUREAV 326,165,1995)
 Mutation in microorganisms; *S.typhimurium*; 11pph(ENVRAL 52, 225, 1990)
 Cytogenetic analysis; human; lymphocyte; 2.5pph/24H(MUREAV 537, 117, 2003)
 Chrome -Complex Dye
 None known

Carcinogenicity;

2-butanone
 Not available
 Ethanol
 TDLo(ori,mouse): 320mg/kg/50W-I(CALEDQ 13,345,1981)
 Chrome -Complex Dye
 None known

Reproductive toxicity;

2-butanone
 TCLo(ihl,rat): 2900mg/m3(female 6-10 D preg); Specific Developmental Abnormalities -
 craniofacial(VCVGK* -, 418, 1994)
 Ethanol
 TDLo(ori,woman): 250mg/kg(37 W preg); Effects on Embryo or Fetus - other effects to
 embryo(AJOGAH 145,251,1983)
 TDLo(ori,rat): 22.5gm/kg(female 11-20 D preg); Specific Dvelopmental Abnormalities - Central
 Nervous Systems(NETEEC 24, 719, 2002)
 Chrome -Complex Dye
 None known

STOST-single exposure;

2-butanone
 The influence of the central nervous system, rat/mouse(EHC 143, 1992; PATTY 4th, 1994;
 IRIS 2003)
 The influence of kidney, oral, rat(DFGOT vol 12,1999; IRIS 2003; ATSDR 1992)
 The respiratory tract irritation, human (ACGIH 7th, 2001; DFGOT vol 12,1999; PATTY 4th,
 1994; ATSDR 1992)
 Ethanol
 Human ihl, 5000ppm(9,4mg/L), respiratory tract irritation and confusion(ACGIH 2001)
 Chrome -Complex Dye
 None known

STOST-repeated exposure;

2-butanone
 The sensory paralysis of hand and arm, human(EHC 143, 1992; DFGOT vol 12, 1999; IRIS 2003)
 The dmade of central nervous system, human(DFGOT vol 12, 1999; IRIS 2003)
 Ethanol
 Not available
 Chrome -Complex Dye
 None known

Aspiration hazard.

2-butanone
 Not available
 Ethanol

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Not available
Chrome -Complex Dye
None known

12 Ecological information

Toxicity:

2-butanone

LD50(ori,rat): 2737mg/kg(TXAPA9 19, 699, 1971)

LCLo(ihl,rat): 23500mg/m3/8H(AIHAAP 20, 364, 1959)

LD50(skin,rabbit): 6480mg/kg(SHELL* MSDS-5390-4)

TCLo(ihl,human): 1000mg/m3(VCVGK* -, 417, 1994)

LDLo(ori,human): 714.3mg/kg(VCVGK* -, 417, 1994)

Ethanol

TDLo(ori,man): 700mg/kg(NTOTDY 8,77,1986)

LD50(ori,rat): 9000mg/kg(VCVGK* -, 93, 1984)

LC50(ihl,rat): 20000ppm/10H(NPIRI* 1,44,1974)

TCLo(ihl,human): 2500mg/m3/20M(VCVGK* -, 93,1984)

Chrome -Complex Dye

Oral >5000 (Rat LD50 (mg/kg))

Dermal >2000 (Rat LD50 (mg/kg))

Inhalation None known

Persistence and degradability:

2-butanone

Not available

Ethanol

This material is biodegradable.

Chrome -Complex Dye

None known

Bioaccumulative potential:

2-butanone

Not available

Ethanol

Not available

Chrome -Complex Dye

None known

Mobility in soil:

2-butanone

Not available

Ethanol

Not available

Chrome -Complex Dye

None known

13 Disposal considerations

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

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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

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

To the best of our knowledge, the information contained here in 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 contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.