

# MATERIAL SAFETY DATA SHEET

## 1 IDENTIFICATION

Product name :JP-K88  
 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 (air) :Not identified  
 Acute toxicity - inhalation (vapors) :Not available  
 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 available  
 Toxic to reproduction :Category 1  
 Effects on or via lactation :Not identified  
 Specific target organ systemic toxicity  
 (Single exposure) :Category 1 Central nervous system  
 :Category 2 Kidney  
 :Category 3 Respiratory system  
 (Repeated exposure) :Category 1 Central nervous system  
 :Category 1 Peripheral nervous system  
 :Category 1 Liver  
 :Category 2 Nervous system  
 :Category 2  
 Aspiration toxicity :Category 2  
 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:**

- 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 central nervous system-single exposure
- May cause damage to kidney-single exposure
- May cause respiratory irritation-single exposure
- Causes damage to central nervous system, peripheral nervous system and liver through prolonged or repeated exposure
- May cause damage to organs nervous system 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, 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.

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- Collect spillage.

**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	65-75	78-93-3
Ethanol	15-25	64-17-5
Chrome -Complex Dye	<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, CO<sub>2</sub>, 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

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 :80 (2-butanone)

Flash point : -4.6 (closed cup)

Upper/lower flammability or explosive limits :Lower 1.8 vol%, Upper 11.5 vol% (2-butanone)

Vapor pressure :10.5kPa (20 ) (2-butanone)

Relative density (Air = 1) :2.41 (2-butanone)

Relative density :0.825-0.845 (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 measurement

**10 Stability and reactivity**

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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))

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))

Chrome -Complex Dye

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

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

Inhalation None known

### Skin corrosion/irritation;

2-butanone

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

Ethanol

Not identified

Chrome -Complex Dye

No (Rabbit test-OECD404 1981)

### 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.

Ethanol

Category 2A

Chrome -Complex Dye

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

### Respiratory or skin sensitization;

2-butanone

Not identified

Ethanol

Not identified

Chrome -Complex Dye

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

### Germ cell mutagenicity;

2-butanone

Not available

Ethanol

Category 1B

Chrome -Complex Dye

Not identified

### Carcinogenicity;

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2-butanone  
 Not available  
 Ethanol  
 Not available Oral 6.2 ~ 17.8 (Rat LD50 (g/kg))  
 Chrome -Complex Dye  
 Not identified

**Reproductive toxicity;**

2-butanone  
 Not available  
 Ethanol  
 Category 1A  
 Chrome -Complex Dye  
 Not identified

**STOST-single exposure;**

2-butanone  
 Category 1(Central nervous system),Category 2(Kidney),Category 3(Respiratory)  
 Ethanol  
 Category 3(Respiratory)  
 Chrome -Complex Dye  
 Not identified

**STOST-repeated exposure;**

2-butanone  
 Category 1(Central nervous system,Peripheral nervous system)  
 Ethanol  
 Category 1(Liver) 2(Nervous system)  
 Chrome -Complex Dye  
 None known

**Aspiration hazard.**

2-butanone  
 Category 1 Vapor concentrations above exposure  
 Ethanol  
 Not identified  
 Chrome -Complex Dye  
 None known

**12 Ecological information****Toxicity :**

2-butanone  
 killifish 96h-LC50(mg/L):>100  
 killifish 14d-LC50 (mg/L):100  
 killifish 14d-NOEC (mg/L):100  
 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  
 Chrome -Complex Dye  
 Carp LC50(mg/L):2

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Daphnia EC50(mg/L):1000(Darp.Mag Straus 1820 test)

**Persistence and degradability:**

2-butanone

None known

Ethanol

None known

Chrome -Complex Dye

None known

**Bioaccumulative potential:**

2-butanone

None known

Ethanol

None known

Chrome -Complex Dye

None known

**Mobility in soil:**

2-butanone

None known

Ethanol

None known

Chrome -Complex Dye

None known

### 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

### 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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