

MATERIAL SAFETY DATA SHEET

1 IDENTIFICATION

Product name :JP-K90
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

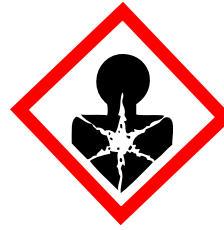
2 HAZARDS IDENTIFICATION

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 :Not available
Carcinogenicity :Category 2
Toxic to reproduction :Category 1
Effects on or via lactation :Not identified
Specific target organ systemic toxicity
(Single exposure) :Category 1 Sensory system
:Category 1 Systemic toxicity
:Category 1 Central nervous system
:Category 2 Kidney
:Category 3 Respiratory system
(Repeated exposure) :Category 1 Central nervous system
:Category 1 Lungs
:Category 1 Peripheral nervous system
Aspiration toxicity :Category 2
Hazardous to the aquatic environment
-Acute hazard :Not available
-Chronic hazard :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.

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 damage fertility or the unborn child
- Causes damage to Sensory system, systemic toxicity and central nervous system-single exposure
- May cause damage to kidney-single exposure
- May cause respiratory irritation-single exposure
- Causes damage to liver, central nervous system, organum auditus, bellows:inhalation and peripheral 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, 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.

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.

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	80-90	78-93-3
Carbon black	2-5	1333-86-4

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
Carbon black	:3.5mg/cm ³
ACGIH STEL(ppm)	
2-butanone	:300
Carbon black	:Not identified

9 Physical and chemical properties

Appearance	
Physical state	:Liquid
Color	:Black
Odor	:Solvent odor
Boiling point	:80 (2-butanone)
Flash point	:-5.3 (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	:0.86(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	:

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

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.

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))

Carbon black

Not identified

Not identified

Not identified

Skin corrosion/irritation;

2-butanone

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

Carbon black

Not identified

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.

Carbon black

Not identified

Respiratory or skin sensitization;

2-butanone

Not identified

Carbon black

Not identified

Germ cell mutagenicity;

2-butanone

Not available

Carbon black

Not identified

Carcinogenicity;

2-butanone

Not available

Carbon black

Not identified

Reproductive toxicity;

2-butanone

Not available

Carbon black

Not identified

STOST-single exposure;

2-butanone

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

Carbon black

Not identified

STOST-repeated exposure;

2-butanone

Category 1(Central nervous system,Peripheral nervous system)

Carbon black

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.

Aspiration hazard.

2-butanone
 Category 1 Vapor concentrations above exposure.
 Carbon black
 Not identified

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
 Carbon black
 Not identified

Persistence and degradability:

2-butanone
 None known
 Carbon black
 None known

Bioaccumulative potential:

2-butanone
 None known
 Carbon black
 None known

Mobility in soil:

2-butanone
 None known
 Carbon black
 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

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.

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.