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Revision 2022.11.03

## Safety Data Sheet (SDS)

### Section 1 – CHEMICALS AND COMPANY IDENTIFICATION

|                        |   |
|------------------------|---|
| Chemical Identifier    | Ink-1062K/Ink-K62   |
| Product Code           | 1062K/JP-K62  |
| Reference Number       | 9   |
| Name of Supplier       | Hitachi Industrial Equipment Systems Co.,Ltd.                           |
| Address                | 1-1 Higashitaga-cho 1-chome,Hitachi-shi, Ibaraki-ken,<br>316-8502 Japan |
| Company Contact        | IJP ink Group, Marking Systems and Hoist Systems Division               |
| Phone Number           | +81-294-36-8682   |
| Fax Number             | +81-294-36-8975   |
| Mail Address           | ogino-masahiko@hitachi-ies.co.jp  |
| Emergency Phone Number | +81-294-36-8682   |
| Recommended Use        | Industrial ink jet printers   |

### Section 2 – HAZARDS IDENTIFICATION

#### GHS Classification of the Chemical

|                 |   |
|-----------------|---|
| Physicochemical | Flammable liquids Category 2  |
| Health Hazards  | Acute toxicity (Inhalation: vapour) Category 4<br>Skin corrosion/irritation Category 2<br>Serious eye damage/eye irritation Category 2A<br>Specific target organ toxicity (single exposure) Category 2(kidney)<br>Specific target organ toxicity (single exposure) Category 3 (narcotic effect respiratory tract irritation)<br><br>Specific target organ toxicity (repeated exposure) Category 1 (central nervous system peripheral nervous system)<br><br>Other hazards than mentioned above are Not classified or Classification not possible. |

#### GHS Label Elements

##### Pictograms



|                   |   |
|-------------------|---|
| Signal Word       | Danger  |
| Hazard Statements | H225 Highly flammable liquid and vapour<br>H315 Causes skin irritation<br>H319 Causes serious eye irritation<br>H332 Harmful if inhaled<br>H335 May cause respiratory irritation<br>H336 May cause drowsiness or dizziness<br>H371 May cause damage to kidney<br>H372 Causes damage to central nervous system, peripheral nervous system through prolonged or repeated exposure |

##### Precautionary Statements

|            |  |
|------------|--|
| Prevention | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.(P210)<br><br>Keep container tightly closed.(P233)<br>Ground and bond container and receiving equipment.(P240)<br>Use explosion-proof electrical, ventilating and lighting equipment.(P241)<br>Use non-sparking tools.(P242) |
|------------|--|

|          |  |
|----------|--|
|          | Take action to prevent static discharges.(P243)  |
|          | Do not breathe<br>dust/fume/gas/mist/vapours/spray.(P260)  |
|          | Avoid breathing<br>dust/fume/gas/mist/vapours/spray.(P261)   |
|          | Wash hand thoroughly after handling.(P264)   |
|          | Wash eye thoroughly after handling.(P264)  |
|          | Do not eat, drink or smoke when using this<br>product.(P270)   |
|          | Use only outdoors or in a well-ventilated area.(P271)  |
|          | Wear protective gloves/protective clothing/eye<br>protection/face protection.(P280)  |
| Response | IF ON SKIN: Wash with plenty of soap and<br>water.(P302+P352)  |
|          | IF ON SKIN or hair: Take off immediately all<br>contaminated clothing. Rinse skin with water or<br>shower.(P303+P361+P353)                             |
|          | IF INHALED: Remove person to fresh air and keep<br>comfortable for breathing.(P304+P340)   |
|          | IF IN EYES: Rinse cautiously with water for several<br>minutes. Remove contact lenses, if present and easy to<br>do. Continue rinsing.(P305+P351+P338) |
|          | IF exposed or concerned: Call a doctor.(P308+P311)   |
|          | Call a doctor if you feel unwell.(P312)  |
|          | Get medical advice and attention if you feel<br>unwell.(P314)  |
|          | Specific treatment.(P321)  |
|          | If skin irritation occurs: Get medical<br>advice/attention.(P332+P313)   |
|          | If eye irritation persists: Get medical<br>advice/attention.(P337+P313)  |
|          | Take off contaminated clothing and wash it before<br>reuse.(P362+P364)   |
|          | In case of fire: Use appropriate media to<br>extinguish.(P370+P378)  |
| Storage  | Store in a well-ventilated place. Keep container tightly<br>closed.(P403+P233)   |
|          | Store in a well-ventilated place. Keep cool.(P403+P235)  |
|          | Store locked up.(P405)   |
| Disposal | Dispose of contents and container in accordance with<br>local, regional and national regulations (to be<br>specified).(P501)                           |

Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Distinction of Substance or Mixture Mixture

| Chemical Name or Generic Name | Concentration or Its Ranges (%) | Formula         | ENCS No./ISHL No.               |                                 | CAS RN       |
|-------------------------------|---------------------------------|-----------------|---------------------------------|---------------------------------|--------------|
|                               |                                 |                 | ENCS No.                        | ISHL No.                        |              |
| Methyl ethyl ketone           | 70-80%                          | CH3CH2CO<br>CH3 | (2)-542                         | Registered                      | 78-93-3      |
| Chromium and its compounds    | 1-10%                           | -               | Registered(<br>Trade<br>secret) | Registered(<br>Trade<br>secret) | Trade secret |

Section 4 – FIRST AID MEASURES

|            |  |
|------------|--|
| Inhalation | IF INHALED: Remove to fresh air and keep at rest in a<br>position comfortable for breathing. |
|            | IF exposed or concerned: Call a doctor.  |

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|   |  |
|---|--|
| Skin Contact  | <p>IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>IF ON SKIN: Wash with plenty of soap and water.</p> <p>If skin irritation occurs: Get medical advice and attention.<br/>Specific treatment.</p>                                     |
| Eye Contact   | <p>IF exposed or concerned: Call a doctor.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>If eye irritation persists: Get medical advice/attention.</p>  |
| Ingestion   | <p>IF exposed or concerned: Call a doctor.<br/>Rinse mouth.</p> <p>IF SWALLOWED: Call a doctor if you feel unwell.</p> <p>IF exposed or concerned: Call a doctor.</p>  |
| <b>Section 5 – FIRE FIGHTING MEASURES</b>                           |  |
| Suitable Extinguishing Media  | <p>Use extinguishing agent suitable for type of surrounding fire.</p> <p>When dust occurs, use dry sand.<br/>Cylindric water.</p>  |
| Unsuitable Extinguishing Media                                      |  |
| Specific Hazards in Case of Fire                                    | <p>Risk of producing harmful gases such as carbon monoxide. Avoid inhalation of smoke or gases.</p>  |
| Specific Fire Fighting  | <p>Fight fire from upwind position if possible<br/>Keep away from sources of ignition and use appropriate extinguishing media.<br/>Prohibit unauthorized staff from entering the area around the fire.<br/>Keep unnecessary people away.</p>   |
| Special Protective Equipment and Precautions for Fire Fighters      | <p>Use goggles in combination with dust mask, and another protections as appropriate to situation.</p>   |
| <b>Section 6 – ACCIDENTAL RELEASE MEASURES</b>                      |  |
| Personal Precautions, Protective Equipment and Emergency Procedures | <p>Use goggles in combination with dust mask, and another protections as appropriate to situation.</p>   |
| Environmental Precautions   | <p>Large spills :Evacuate area.<br/>Ensure adequate ventilation.<br/>Do not discharge into the drains, surface waters or ground water directly.</p>  |
| Methods and Equipment for Containment and Cleaning Up               | <p>small spill : absorb with material such as non-combustible material wash thoroughly after handling</p>  |
| Prevention Measures for Secondary Accidents                         | <p>Large spills: Dike spills and dispose of in safe area.<br/>Keep away from sources of ignition and prepare extinguishing media.<br/>Risk of slipping. Spilled material forms slippery floor.</p> <p>Do not recklessly walk on the spillage.</p>  |
| <b>Section 7 – HANDLING AND STORAGE</b>                             |  |
| Handling  | Technical Measures   |
|   | <p>Provide ventilation system and use necessary personal protective equipment as described in "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION".</p> <p>Ground/bond container and receiving equipment.<br/>Use only non-sparking tools.<br/>Use explosion-proof electrical/ventilating/lighting.</p> |

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|         |  |  |
|---------|--|--|
|         |  | Take precautionary measures against static discharge.  |
|         |  | Use local exhaust ventilation in case of production of fume or mist.<br>Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. |
|         | Precautions for Safe Handling                            | Keep cool.<br>Do not breathe dust/fume/gas/mist/vapours/spray.<br>Wear protective gloves/eye protection/face protection.<br>Do not eat, drink or smoke when using this product.        |
|         | Prevents Handling of Incompatible Substances or Mixtures | Wash hands thoroughly after handling.<br>Use only outdoors or in a well-ventilated area.<br>Refer to "Section 10 – STABILITY AND REACTIVITY".  |
| Storage | Conditions for Safe Storage                              | Refer to "Section 10 – STABILITY AND REACTIVITY".<br>Store locked up.<br>Store container tightly closed in well-ventilated place.  |

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

|                            | Japan Administration Level | Exposure Limits (Japan Society for Occupational Health) | Exposure Limits (ACGIH)   |
|----------------------------|----------------------------|---|---------------------------|
| Methyl ethyl ketone        | 200ppm                     | 200ppm(590mg/m <sup>3</sup> )                           | TWA 200 ppm, STEL 300 ppm |
| Chromium and its compounds | –                          | 0.5mg/m <sup>3</sup> as Cr <sup>3+</sup>                | –                         |

|                               |  |   |
|-------------------------------|--|---|
| Engineering Controls          |  | Use local exhaust ventilation in case of production of fume or mist.<br>Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.<br><br>Use explosion-proof electrical equipment and prevent from static electricity. |
| Personal Protective Equipment | Respiratory Protection<br>Hand Protection<br>Eye/Face Protection<br>Skin and Body Protection | If necessary, wear respiratory protection.<br>Wear protective gloves.<br>Wear eye protection/face protection.<br>Wear protective clothing.  |

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

|   |             |                   |
|---|-------------|-------------------|
| Physical State  |             | Liquid            |
| Form  |             | Liquid            |
| Colour  |             | Black             |
| Odour   |             | Solvent odor      |
| Melting Point/Freezing Point                              |             | No data available |
| Boiling Point or Initial Boiling Point and Boiling Ranges |             | 80 °C             |
| Flammability  |             | No data available |
| Lower and Upper Explosion Limit / Flammability Limit      | Lower Limit | 1.7vol%           |
|   | Upper Limit | 11.4vol%          |

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Flash Point 0.3°C (Tag Closed Cup)  
Auto-Ignition Temperature 404°C

Decomposition No data available  
Temperature

pH No data available

Kinematic Viscosity No data available

Solubility No data available

Partition Coefficient : n- No data available  
Octanol/Water

Vapour Pressure 9.493kPa (20°C)

Density and/or Relative 0.897  
Density

Relative Gas Density No data available

Particle Characteristics No data available

as Methyl ethyl ketone

Melting Point/Freezing -86.4°C  
Point

Boiling Point or Initial 79.6°C  
Boiling Point and Boiling  
Ranges

Density and/or Relative 0.8061  
Density

#### Section 10 – STABILITY AND REACTIVITY

Reactivity Does not react dangerously under normal conditions.

Chemical Stability Stable under normal conditions of use.

Possibility of Hazardous Flammable  
Reaction

Conditions to Avoid There is a risk of explosion due to impacts, friction, flame and other  
source of ignition.

Incompatible Substances or No data available  
Mixtures

Hazardous Decomposition No data available  
Products

Other Data No data available

#### Section 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity Oral Unable to classify due to insufficient data.

Dermal Unable to classify due to insufficient data.

Inhalation (gas) Does not fall under gas based on GHS definitions.

(vapour)

Classified as Category 4 since ATE is 2500 to  
(dust and mist)

Unable to classify due to insufficient data.

Skin Corrosion/Irritation Classified as Category 2 since the sum of Category 2  
ingredients is more than 10%.

Serious Eye Damage/Eye Classified as Category 2A since the sum of Eye  
Irritation Category 2 ingredients is more than 10%.

Respiratory Sensitization Classification not possible since lots of the  
concentrations of unknown ingredients.

Skin Sensitization Classification not possible since lots of the  
concentrations of unknown ingredients.

Germ Cell Mutagenicity Classification not possible since lots of the  
concentrations of unknown ingredients.

Carcinogenicity Unable to classify due to insufficient data.

Reproductive Toxicity (Reproductive toxicity)

Unable to classify due to insufficient data.

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|   |                               |  |
|---|-------------------------------|--|
|   |                               | (Reproductive toxicity, effects on or via lactation)   |
| Specific Target Organ Toxicity (Single Exposure)          |                               | Unable to classify due to insufficient data.<br>Classified as Category 2(kidney) since one of the Category 2(kidney) ingredients is more than 10%.   |
|   |                               | Classified as Category 3(narcotic effect) since the sum of Category 3(narcotic effect) ingredients is more than 20%.   |
| Specific Target Organ Toxicity (Repeated Exposure)        |                               | Classified as Category 3(respiratory tract irritation) since the sum of Category 3(respiratory tract irritation) ingredients is more than 20%.   |
|   |                               | Classified as Category 1(central nervous system) since one of the Category 1(central nervous system) ingredients is more than 10%.   |
|   |                               | Classified as Category 1(peripheral nervous system) since one of the Category 1(peripheral nervous system) ingredients is more than 10%.   |
| Aspiration Hazard   |                               | Classified as Classification not possible since the kinematic viscosity is unknown.  |
| <b>Section 12 – ECOLOGICAL INFORMATION</b>                |                               |  |
| Hazardous to the Aquatic Environment, Short-Term (Acute)  |                               | Classification not possible since lots of the concentrations of unknown ingredients.   |
| Hazardous to the Aquatic Environment, Long-Term (Chronic) |                               | Classification not possible since lots of the concentrations of unknown ingredients.   |
| Ecotoxicity   |                               | No data available  |
| Persistence   |                               | No data available  |
| Bioaccumulative Potential                                 |                               | No data available  |
| Mobility in Soil  |                               | No data available  |
| Hazardous to the Ozone Layer                              |                               | Unable to classify due to insufficient data.   |
| <b>Section 13 – DISPOSAL CONSIDERATIONS</b>               |                               |  |
| Residual waste  |                               | Because waste materials such as liquid waste, paper towels used to wipe it up, or empty containers are flammable combustible materials, the section on “specially controlled industrial waste(Flammable waste oil)” from the Waste Management and Public Cleaning Law (Waste Management Law) is applicable.  |
|   |                               | Either appropriately process in accordance with Waste Management and Public Cleaning Law, or commission a contractor licensed for transport or disposal of industrial waste requiring special management.  |
|   |                               | Do not let wastewater, etc. used for cleaning machinery or containers flow directly onto the ground or in to the culverts. For waste materials generated by wastewater treatment, incineration, etc. either carry out processing in accordance with the Waste Management and Public Cleaning Law and related laws and regulations, or commission a licensed vendor to do so. |
|   |                               | When incinerating of waste materials, etc., do not use an incinerator without cleaning equipment, as harmful gas will be generated.  |
|   |                               | Clarify the contents of waste materials and entrust disposal to a waste disposal company.  |
| Contaminated container                                    |                               | Empty containers should be treated as industrial wastes and not allowed to contain waste.  |
| <b>Section 14 – TRANSPORT INFORMATION</b>                 |                               |  |
| International Regulations                                 | Regulatory Information by Sea | Conform to the provisions of IMO.  |

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|                                    |  |   |
|------------------------------------|--|---|
|                                    | UN No.   | 1210  |
|                                    | Proper Shipping Name                                       | PRINTING INK RELATED MATERIAL                           |
|                                    | Class  | 3   |
|                                    | Packing Group  | II  |
|                                    | Marine Pollutant   | Not applicable  |
|                                    | Liquid Substance   | Not applicable  |
|                                    | Transported in Bulk  |   |
|                                    | According to<br>MARPOL 73/78,<br>Annex II, the IBC<br>Code |   |
|                                    | Regulatory<br>Information by Air                           | Conform to the provisions of ICAO/IATA.                 |
| Regulations in Japan               | UN No.   | 1210  |
|                                    | Proper Shipping Name                                       | PRINTING INK RELATED MATERIAL                           |
|                                    | Class  | 3   |
|                                    | Packing Group  | II  |
|                                    | Regulatory<br>Information by Road                          | Complies with the Fire Service Act.                     |
|                                    | Regulatory<br>Information by Sea                           | Conform to the provisions of the Ship Safety Law.       |
|                                    | UN No.   | 1210  |
|                                    | Proper Shipping Name                                       | PRINTING INK RELATED MATERIAL                           |
|                                    | Class  | 3   |
|                                    | Packing Group  | II  |
|                                    | Marine Pollutant   | Not applicable  |
|                                    | Liquid Substance   | Not applicable  |
|                                    | Transported in Bulk  |   |
|                                    | According to<br>MARPOL 73/78,<br>Annex II, the IBC<br>Code |   |
|                                    | Regulatory<br>Information by Air                           | Conform to the provisions of the Civil Aeronautics Law. |
| Emergency Response Guide<br>Number | UN No.   | 1210  |
|                                    | Proper Shipping Name                                       | PRINTING INK RELATED MATERIAL                           |
|                                    | Class  | 3   |
|                                    | Packing Group  | II  |
|                                    |  | 130   |

## Section 15 – REGULATORY INFORMATION

|   |  |
|---|--|
| Industrial Safety and Health<br>Act                 | Ordinance on the Prevention of Organic Solvent Poisoning<br>Paragraph 1 Article 1 part 4 (Second-class organic solvents, etc.),<br>Enforcement Ordinance 2 of Appendix 6<br>the standards for work environment monitoring Article 65 part 2-1<br><br>Dangerous or Harmful Substances Subject to Be Indicated their<br>Names, etc.<br>(Article 57 part 1 ,Order Article 18 part 1 and 2, Attached Table9)<br><br>Hazardous Substances to be notified in terms of Whose Names,etc<br>(Article 57 part 2 ,Order Article 18 part 2-1and part 2, Attached<br>Table9)<br>Chromium and its compounds (excluding Chromic acid,<br>Dichromic acid and its salts)(Number: 142) (1%-10%)<br>Methyl ethyl ketone (Number: 570) (70%-80%)<br>Materials for special medical examinations and current handling<br>workers(Industrial Safety and Health Act66 2 and Order for<br>Enforcement of Industrial Safety and Health Act Article 22 (i)) |
| Poisonous and Deleterious<br>Substances Control Act | Not applicable   |

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|   |  |
|---|--|
| Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof | Not applicable   |
| Fire Service Act  | Hazardous Materials Category IV inflammable liquids Class I petroleum non water-soluble Packing Group II                   |
| Water Pollution Prevention Act  | Specified substances (article 2, paragraph 4 of the Act, article 3 of the Enforcement Ordinance)                           |
| Narcotics and Psychotropics Control Act   | raw materials for Narcotics or Psychotropics(Appended Table IV part 9, Order Article 4)                                    |
| Foreign Exchange and Foreign Trade Act  | Import Trade Control Order Appended Table I part 16<br><br>Import Trade Control Order Appended Table II (Import Approval ) |
| Ship Safety Law   | Flammable liquids(Order Article 3,Appended Table I)  |
| Aviation Law  | Flammable liquids(Order Article 194,Appended Table I)  |

## Section 16 – OTHER INFORMATION

|  |   |
|--|---|
| Industrial Safety and Health Act   | Second-class organic solvents, etc.contain more than 5% of Second-class organic solvents.<br><br>In the “15. Applicable laws” column, the materials for which label and SDS will be mandated are also listed. (Substance without a decree number.) Reiwa based on 0111 No. 1 from the Kiankahatsu, on January 11, 2022. )<br>2-butanone and methyl ethyl ketone, MEK and ethyl methyl ketone are the same substances.   |
| Act on the Regulation of Manufacture and Evaluation of Chemical Substances | We have a Priority Assessment Chemical Substance posting threshold of 0.1% or more.<br><br>The posting of a Priority Assessment Chemical Substance in SDS is as of November 2019 as an effort.  |
| Foreign Exchange and Foreign Trade Act                                     | In law, printing inks are not approved for export   |
| Fire Service Act   | The flash point of Class I petroleum is less than 21 ° c.   |
| Poisonous and Deleterious Substances Control Act                           | The deleterious substances is only applicable to the material, and the mixture is non-applicable.   |
| RoHS Specified Substance Concentration                                     | Cd<100ppm Pb, Hg, Cr(VI), PBB, PBDE, DEHP, DBP, BBP, DIBP <1000ppm  |
| Allowable concentration Standards  | TLV-TWA: Threshold Limit Values-Time Weighted Average STEL (Short Term Exposure Limit<br>JIS Z7253:2019   |
| Cited Literature   | 1) International Chemical Safety Cards<br>2) National Institute of Technology and Evaluation (NITE), Japan<br><br>3) Site for Safe Workplace by Ministry of Health, Labour and Welfare, Japan<br>4) EZSDS (JCDB)  |
| Additional Information about This Product:                                 | To the best of our knowledge, the information contained herein 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. |

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