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Safety Data Sheet (SDS)

Section 1 – CHEMICALS AND COMPANY IDENTIFICATION

Chemical Identifier	Ink-K86/Ink-1086K
Product Code	JP-K86/2086K
Reference Number	21
Name of Supplier	Hitachi Industrial Equipment Systems Co.,Ltd.
Address	1-1 Higashitaga-cho 1-chome,Hitachi-shi, Ibaraki-ken, 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	Serious eye damage/eye irritation Category 2A Reproductive toxicity Category 2 Specific target organ toxicity (single exposure) Category 3 (narcotic effect respiratory tract irritation)
	Specific target organ toxicity (repeated exposure) Category 1 (respiratory apparatus digestive tract central nervous system)
	Specific target organ toxicity (repeated exposure) Category 2 (nervous system)
Environmental Hazards	Hazardous to the aquatic environment, short-term (acute) Category 2 Hazardous to the aquatic environment, long-term (chronic) Category 3 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 H319 Causes serious eye irritation H335 May cause respiratory irritation H336 May cause drowsiness or dizziness H361 Suspected of damaging fertility or the unborn child H372 Causes damage to respiratory apparatus, digestive tract, central nervous system through prolonged or repeated exposure H373 May cause damage to nervous system through prolonged or repeated exposure H401 Toxic to aquatic life H412 Harmful to aquatic life with long lasting effects

Precautionary Statements

Prevention	Obtain special instructions before use.(P201)
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As far as we know, the information that is listed here is accurate. However, the above-mentioned suppliers or their subsidiaries shall not be liable for the accuracy or completeness of the information described above.

	<p>Do not handle until all safety precautions have been read and understood.(P202)</p> <p>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.(P210)</p> <p>Keep container tightly closed.(P233)</p> <p>Ground and bond container and receiving equipment.(P240)</p> <p>Use explosion-proof electrical, ventilating and lighting equipment.(P241)</p> <p>Use non-sparking tools.(P242)</p> <p>Take action to prevent static discharges.(P243)</p> <p>Do not breathe dust/fume/gas/mist/vapours/spray.(P260)</p> <p>Avoid breathing dust/fume/gas/mist/vapours/spray.(P261)</p> <p>Wash hand thoroughly after handling.(P264)</p> <p>Wash eye thoroughly after handling.(P264)</p> <p>Do not eat, drink or smoke when using this product.(P270)</p> <p>Use only outdoors or in a well-ventilated area.(P271)</p> <p>Avoid release to the environment.(P273)</p> <p>Wear protective gloves/protective clothing/eye protection/face protection.(P280)</p>
Response	<p>IF ON SKIN or hair: Take off immediately all contaminated clothing. Rinse skin with water or shower.(P303+P361+P353)</p> <p>IF INHALED: Remove person to fresh air and keep comfortable for breathing.(P304+P340)</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.(P305+P351+P338)</p> <p>IF exposed or concerned: Get medical advice/attention.(P308+P313)</p> <p>Call a doctor if you feel unwell.(P312)</p> <p>Get medical advice and attention if you feel unwell.(P314)</p> <p>If eye irritation persists: Get medical advice/attention.(P337+P313)</p> <p>In case of fire: Use appropriate media to extinguish.(P370+P378)</p>
Storage	<p>Store in a well-ventilated place. Keep container tightly closed.(P403+P233)</p> <p>Store in a well-ventilated place. Keep cool.(P403+P235)</p>
Disposal	<p>Store locked up.(P405)</p> <p>Dispose of contents and container in accordance with local, regional and national regulations (to be specified).(P501)</p>

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	5-10	CH ₃ CH ₂ CO CH ₃	(2)-542	Registered	78-93-3
Chromium and its compounds	3-5	-	Registered(Trade secret)	Registered(Trade secret)	-

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Acetone	70-75	CH3COCH3	(2)-542	Registered	67-64-1
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Section 4 – FIRST AID MEASURES

Inhalation
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
 IF exposed or concerned: Get medical advice and attention.

Skin Contact
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF ON SKIN: Wash with plenty of soap and water.
 If skin irritation occurs: Get medical advice and attention.
 IF exposed or concerned: Get medical advice and attention.

Eye Contact
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention.
 IF exposed or concerned: Get medical advice and attention.

Ingestion
 Rinse mouth.
 IF SWALLOWED: Call a doctor if you feel unwell.
 IF exposed or concerned: Get medical advice and attention.

Section 5 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media
 Use extinguishing agent suitable for type of surrounding fire.
 When dust occurs, use dry sand.

Unsuitable Extinguishing Media
 Cylindric water.

Specific Hazards in Case of Fire
 Risk of producing harmful gases such as carbon monoxide. Avoid inhalation of smoke or gases.

Specific Fire Fighting
 Fight fire from upwind position if possible
 Keep away from sources of ignition and use appropriate extinguishing media.
 Prohibit unauthorized staff from entering the area around the fire.
 Keep unnecessary people away.

Special Protective Equipment and Precautions for Fire Fighters
 Use goggles in combination with dust mask, and another protections as appropriate to situation.

Section 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
 Use goggles in combination with dust mask, and another protections as appropriate to situation.

Environmental Precautions
 Large spills :Evacuate area.
 Ensure adequate ventilation.
 Do not discharge into the drains, surface waters or ground water directly.

Methods and Equipment for Containment and Cleaning Up
 No information available

Prevention Measures for Secondary Accidents
 Keep away from sources of ignition and prepare extinguishing media.

Section 7 – HANDLING AND STORAGE

Handling	Technical Measures	Provide ventilation system and use necessary personal protective equipment as described in "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION".
		<p>Ground/bond container and receiving equipment. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting.</p> <p>Take precautionary measures against static discharge.</p> <p>Use local exhaust ventilation in case of production of fume or mist. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.</p>
	Precautions for Safe Handling	<p>Keep cool.</p> <p>Do not breathe dust/fume/gas/mist/vapours/spray.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.</p>
	Prevents Handling of Incompatible Substances or Mixtures	Refer to "Section 10 – STABILITY AND REACTIVITY".
Storage	Conditions for Safe Storage	<p>Refer to "Section 10 – STABILITY AND REACTIVITY".</p> <p>Store locked up. Store container tightly closed in well-ventilated place.</p>

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

	Japan Administration Level	Exposure Limits (Japan Society for Occupational Health)	Exposure Limits (ACGIH)
Acetone	500ppm	200ppm(470mg/m3)	TWA 250 ppm, STEL 500 ppm
Methyl ethyl ketone	200ppm	200ppm(590mg/m3)	TWA 200 ppm, STEL 300 ppm
Chromium and its compounds	-	0.5mg/m3 as Cr3+	-

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

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Form	Liquid
Colour	Black
Odour	Solvent odor
Melting Point/Freezing Point	-94.6°C(as Acetone)

As far as we know, the information that is listed here is accurate. However, the above-mentioned suppliers or their subsidiaries shall not be liable for the accuracy or completeness of the information described above.

Boiling Point or Initial Boiling Point and Boiling Ranges		56.5°C(as Acetone)
Flammability Lower and Upper Explosion Limit / Flammability Limit	Lower Limit	Flammability 1.2vol% (as Acetone)
	Upper Limit	13vol% (as Acetone)
Flash Point		-20°C (Tag Closed Cup)
Auto-Ignition Temperature		538 °C (as Acetone)
Decomposition Temperature		No data available
pH		No data available
Kinematic Viscosity		3.3mm ² /s
Partition Coefficient : n-Octanol/Water		0.24 (as Acetone)
Vapour Pressure		24.7kPa (20°C)(as Acetone)
Density and/or Relative Density		0.84
Relative Gas Density		2.00 (Air=1, as Acetone)
Particle Characteristics		No data available

as Acetone

Melting Point/Freezing Point -94.6°C

Boiling Point or Initial Boiling Point and Boiling Ranges 56.5°C

Flash Point -20°C

Vapour Pressure 180.3mmHg(20°C)

Density and/or Relative Density 0.7898(20°C, 4°C)

as Methyl ethyl ketone

Melting Point/Freezing Point -86.4°C

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

Density and/or Relative Density 0.8061

Section 10 – STABILITY AND REACTIVITY

Reactivity		Does not react dangerously under normal conditions.
Chemical Stability		Stable under normal conditions of use.
Possibility of Hazardous Reaction		Flammable
Conditions to Avoid		There is a risk of explosion due to impacts, friction, flame and other source of ignition.
Incompatible Substances or Mixtures		No data available
Hazardous Decomposition Products		No data available
Other Data		No data available

Section 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity	Oral	Classification not possible since lots of the concentrations of unknown ingredients.
	Dermal	Classification not possible since lots of the concentrations of unknown ingredients.
	Inhalation	(gas) Does not fall under gas based on GHS definitions. (vapour)

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	Classification not possible since lots of the concentrations of unknown ingredients. (dust and mist)
Skin Corrosion/Irritation	Unable to classify due to insufficient data. Classified as Category 3 since the sum of $10 \times$ (Category 1 + 1A + 1B + 1C) + Category 2 ingredients is more than 10%.
Serious Eye Damage/Eye Irritation	Classification not possible since lots of the concentrations of unknown ingredients. Classified as Category 2A since the sum of Eye Category 2A + Eye Category 2B 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 Reproductive Toxicity	Unable to classify due to insufficient data. (Reproductive toxicity) Classified as Category 2 since one of the Category 2 ingredients is more than 3.0%. (Reproductive toxicity, effects on or via lactation)
Specific Target Organ Toxicity (Single Exposure)	Unable to classify due to insufficient data. Classified as Category 3(narcotic effect) since the sum of Category 3(narcotic effect) ingredients is more than 20%. Classified as Category 3(respiratory tract irritation) since the sum of Category 3(respiratory tract irritation) ingredients is more than 20%. *Category 2(kidney) ingredients is contained 1.0 to 10%.
Specific Target Organ Toxicity (Repeated Exposure)	Classified as Category 2(nervous system) since one of the Category 1(nervous system) ingredients is 1.0 to 10%. Classified as Category 1(respiratory apparatus) since one of the Category 1(respiratory apparatus) ingredients is more than 10%. Classified as Category 1(digestive tract) since one of the Category 1(digestive tract) ingredients is more than 10%. Classified as Category 1(central nervous system) since one of the Category 1(central nervous system) ingredients is more than 10%.
Aspiration Hazard	Unable to classify due to insufficient data.

Section 12 – ECOLOGICAL INFORMATION

Hazardous to the Aquatic Environment, Short-Term (Acute)	Classified as Category 2 since the sum of ($M \times 10 \times$ Category 1) + Category 2 ingredients is .
Hazardous to the Aquatic Environment, Long-Term (Chronic)	Classified as Category 3 since the sum of ($M \times 100 \times$ Category 1) + ($10 \times$ Category 2) + Category 3 ingredients is .
Ecotoxicity	No data available
Persistence	No data available
Bioaccumulative Potential	No data available
Mobility in Soil	No data available

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Hazardous to the Ozone Layer

Unable to classify due to insufficient data.

Section 13 – DISPOSAL CONSIDERATIONS

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 containers Empty containers should be treated as industrial wastes and not allowed to contain waste.

Section 14 – TRANSPORT INFORMATION

International Regulations

Regulatory

Conform to the provisions of IMO.

Information by Sea

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

MARPOL 73/78,

Annex II, the IBC

Code

Regulatory

Conform to the provisions of ICAO/IATA.

Information by Air

UN No.

1210

Proper Shipping Name

PRINTING INK RELATED MATERIAL

Class

3

Packing Group

II

Regulations in Japan

Regulatory

Complies with the Fire Service Act.

Information by Road

Regulatory

Conform to the provisions of the Ship Safety Law.

Information by Sea

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

MARPOL 73/78,

Annex II, the IBC

Code

	Regulatory Information by Air	Conform to the provisions of the Civil Aeronautics Law.
	UN No.	1210
	Proper Shipping Name	PRINTING INK RELATED MATERIAL
	Class	3
	Packing Group	II
Emergency Response Guide Number		130
Section 15 – REGULATORY INFORMATION		
Industrial Safety and Health Act		Ordinance on the Prevention of Organic Solvent Poisoning Paragraph 1 Article 1 part 4 (Second-class organic solvents, etc.), Enforcement Ordinance 2 of Appendix 6 the standards for work environment monitoring Article 65 part 2-1 Dangerous or Harmful Substances Subject to Be Indicated their Names, etc. (Article 57 part 1 ,Order Article 18 part 1 and 2, Attached Table9) Dangerous Substances –Flammable substances(Order Article Appended Table 1 part 4) Hazardous Substances to be notified in terms of Whose Names,etc .(Article 57 part 2 ,Order Article 18 part 2-1and part 2, Attached Table9) Acetone (Number: 17) (70%–80%) Chromium and its compounds (excluding Chromic acid, Dichromic acid and its salts)(Number: 142) (less than 5%) Methyl ethyl ketone (Number: 570) (1%–10%) Materials for special medical examinations and current handling workers(Industrial Safety and Health Act66 2 and Order for Enforcement of Industrial Safety and Health Act Article 22 (i))
Poisonous and Deleterious Substances Control Act		Not applicable
Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof		Not applicable
Act on the Regulation of Manufacture and Evaluation of Chemical Substances		Mmonitoring chemical substances (Article 2, Paragraph 4 of the Act)
Fire Service Act		Priority Assessment Chemical Substances(Article 2 part 5) Hazardous Materials Category IV inflammable liquids Class I petroleums 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		Drug psychotropic Raw Materials (article 2 of the Act (7), Appendix 4)
Foreign Exchange and Foreign Trade Act		Import Trade Control Order Appended Table I part 16 Import Trade Control Order Appended Table II (Import Approval)
Ship Safety Law Aviation Law		Flammable liquids(Order Article 3,Appended Table I) 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.

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	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.) 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. 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 petroleums 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 JIS Z7253:2019
Cited Literature	1) International Chemical Safety Cards 2) National Institute of Technology and Evaluation (NITE), Japan 3) Site for Safe Workplace by Ministry of Health, Labour and Welfare, Japan 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.