Issue 2015.12.03 Revision 2024.09.17

# Safety Data Sheet (SDS)

### Section 1 - CHEMICALS AND COMPANY IDENTIFICATION

Ink-1121K Chemical Identifier Product Code 1121K Reference Number

Name of Supplier Hitachi Industrial Equipment Systems Co., Ltd. 1-1 Higashitaga-cho 1-chome, Hitachi-shi, Ibaraki-ken, Address

316-8502 Japan

Department in Charge IJP ink Group, Marking Systems and Hoist Systems Division

+81-294-36-8682 Phone Number Fax Number +81-294-36-8975

Mail Address aida-kohhei@hitachi-ies.co.jp

Emergency Phone

Number

Recommended Use

Industrial ink jet printers

+81-294-36-8682

Restriction on Use If the product is to be used for applications other than those

recommended, seek the judgment of an expert/chemical substance

specialist, etc.

#### Section 2 - HAZARDS IDENTIFICATION GHS Classification of the Chemical

Physicochemical

Flammable liquids Category 2

Health Hazards Acute toxicity (Inhalation: vapour) Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Carcinogenicity Category 2 Reproductive toxicity Category 1B

Specific target organ toxicity (single exposure) Category 2(visual organ, kidney, systemic toxicity, central nervous system)

Specific target organ toxicity (single exposure) Category

3(narcotic effect, respiratory tract irritation)

Specific target organ toxicity (repeated exposure)

Category 1 (nervous system)

Specific target organ toxicity (repeated exposure) Category 2 (central nervous system, respiratory

apparatus, visual organ)

Other hazards than mentioned above are Not classified

or Classification not possible.

## **GHS Label Elements**

## **Pictograms**



Signal Word

Hazard Statements H225 Highly flammable liquid and vapour

H315 Causes skin irritation

H319 Causes serious eye irritation

H332 Harmful if inhaled

H335 May cause respiratory irritation H336 May cause drowsiness or dizziness

H351 Suspected of causing cancer

H360 May damage fertility or the unborn child H371 May cause damage to visual organ, kidney, systemic toxicity, central nervous system

H372 Causes damage to nervous system through prolonged or repeated exposure

H373 May cause damage to respiratory apparatus, visual organ, central nervous system through prolonged or repeated exposure

#### **Precautionary Statements**

Prevention

Obtain special instructions before use.(P201)
Do not handle until all safety precautions have been

read and understood.(P202)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.(P210)

Keep container tightly closed.(P233) Ground and bond container and receiving equipment.(P240)

Use explosion-proof electrical, ventilating and lighting equipment. (P241)

Use non-sparking tools.(P242)

Take action to prevent static discharges.(P243)

Do not breathe

dust/fume/gas/mist/vapours/spray.(P260)

Avoid breathing

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 product.(P270)

Use only outdoors or in a well-ventilated area.(P271)

Wear protective gloves/protective clothing/eye

protection/face protection.(P280)

Response

IF ON SKIN: Wash with plenty of soap and water.(P302+P352)

IF ON SKIN or hair: Take off immediately all contaminated clothing. Rinse skin with water or shower.(P303+P361+P353)

IF INHALED: Remove person to fresh air and keep comfortable for breathing.(P304+P340)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.(P305+P351+P338)

IF exposed or concerned: Call a doctor.(P308+P311)

IF exposed or concerned: Get medical advice/attention.(P308+P313)

Call a doctor if you feel unwell.(P312)
Get medical advice and attention if you feel unwell.(P314)

Specific treatment.(P321)

If skin irritation occurs: Get medical advice/attention.(P332+P313)

If eye irritation persists: Get medical advice/attention.(P337+P313)

Take off contaminated clothing and wash it before

reuse.(P362+P364)

In case of fire: Use appropriate media to

extinguish.(P370+P378)

Storage Store in a well-ventilated place. Keep container tightly

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

local, regional and national regulations (to be

specified).(P501)

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Distinction of Substance or

Mixture

Mixture

Chemical Name or Generic	Concentration or Its	Formula	ENCS No./I	SHL No.	CAS RN
Name	Ranges (wt%)		ENCS No.	ISHL No.	
Methyl ethyl ketone	75-less than 85	CH3CH2CO CH3	(2)-542	Registered	78-93-3
Carbon black	1-3	-	_	-	1333-86-4
n-Butyl acetate	1-3	CH3COOC H2CH2CH2 CH3	(2)-731	Registered	123-86-4
Methanol	1-3	CH3OH	(2)-201	Registered	67-56-1
Iodides	1-3	_	Trade secret	Trade secret	Trade secret

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: Call a doctor.

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.

Specific treatment.

IF exposed or concerned: Call a doctor.

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: Call a doctor.

Ingestion Rinse mouth.

IF SWALLOWED: Call a doctor if you feel unwell.

IF exposed or concerned: Call a doctor.

Section 5 - FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing agent suitable for type of surrounding

When dust occurs, use dry sand.

Cylindric water.

Unsuitable Extinguishing

Specific Hazards in Case of

Specific Fire Fighting

Special Protective Equipment and Precautions

for Fire Fighters

Risk of producing harmful gases such as carbon monoxide. Avoid inhalation of smoke or gases. 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.

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.

Large spills :Evacuate area. Ensure adequate ventilation.

**Environmental Precautions** Do not discharge into the drains, surface waters or

ground water directly. No information available

Methods and Equipment for Containment and Cleaning Uр

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".

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Use explosion-proof electrical/ventilating/lighting.

Take precautionary measures against static discharge.

Use local exhaust ventilation in case of production of

Facilities storing or utilizing this material should be

equipped with an eyewash facility and a safety shower.

Precautions for Safe

Handling

Keep cool.

Do not breathe dust/fume/gas/mist/vapours/spray.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye

protection/face protection. Refer to "Section 10 - STABILITY AND REACTIVITY".

Prevents Handling of

Incompatible Substances or Mixtures

Conditions for Safe

Storage

Storage

Refer to "Section 10 - STABILITY AND REACTIVITY".

Store locked up.

Store container tightly closed in well-ventilated place.

### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

	Japan Administration Level	Exposure Limits (Japan Society for Occupational Health)	
Methyl ethyl ketone	200ppm	200ppm(590mg/m3)	TWA 200 ppm, STEL 300 ppm
Carbon black	Not listed	【 Dust allowable concentration 】 (Second type dust) inhalative dust 1mg/m3 Total dust 4mg/m3	TWA 3 mg/m3(I), STEL -
n-Butyl acetate	150ppm	100ppm(475mg/m3)	TWA 50 ppm, STEL 150 ppm
Methanol	200ppm	200ppm(260mg/m3)(skin )	TWA 200 ppm, STEL 250 ppm (Skin)
Iodides	Not listed	Not listed	Not listed

Concentration standards specified by the Minister of Health, Labour and Welfard		
	Concentration standard value for short- term exposure/ceiling	

Methyl ethyl ketone	Not listed	Not listed
Carbon black	Not listed	Not listed
n-Butyl acetate	Not listed	Not listed
Methanol	Not listed	Not listed
Iodides	Not listed	Not listed

**Engineering Controls** Use local exhaust ventilation in case of production of

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Use explosion-proof electrical equipment and prevent

from static electrocity.

Personal Protective Equipment

Respiratory Protection Select and wear appropriate respiratory protective equipment based on risk assessments and other

measures.

Hand Protection

Wear appropriate protective equipment, including impervious or impermeable safety gloves, as

circumstances dictate.

Select and wear appropriate safety gloves based on risk

assessments and other measures.

Eye/Face Protection Select and wear appropriate face and eye protection

based on risk assessments and other measures.

Skin and Body Protection

Wear appropriate protective equipment such as impervious and impermeable protective clothing and

footwear, as circumstances dictate.

Select and wear appropriate protective clothing and footwear based on risk assessments and other

measures.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State Liquid Form Liquid Colour Black Odour Solvent odor

Melting Point/Freezing

-86.4°C (as 2-Butanone) 79.6 °C (as 2-Butanone)

Boiling Point or Initial Boiling Point and Boiling

Ranges

Flammability

Flammability Lower and Upper Explosion Lower Limit

1.8vol% (as 2-Butanone)

Limit / Flammability Limit

Upper Limit 11.5vol% (as 2-Butanone) Flash Point -7.3°C (Tag Closed Cup) Auto-Ignition Temperature 505°C (as 2-Butanone)

**Decomposition Temperature** No data available

No data available Kinematic Viscosity 3.4mm2/s

Solubility water: 29g/100mL (20°C) (as 2-Butanone)

Partition Coefficient : n-0.29(as 2-Butanone)

Octanol/Water

Vapour Pressure 10.5kPa (20°C) (as 2-Butanone)

Density and/or Relative

Density

Relative Gas Density 2.41 (Air=1, as 2-Butanone)

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

as n-Butyl acetate

Melting Point/Freezing -76.8°C

Point

Boiling Point or Initial 124~125°C

Boiling Point and Boiling

Ranges

Flash Point  $38^{\circ}\text{C}$  Density and/or Relative  $0.8826(20^{\circ}\text{C})$ 

Density as Methanol

Melting Point/Freezing -93.9°C

Point

Boiling Point or Initial 64.1°C, 59.4°C(610mmHg), 39.9°C(260mmHg), 15°C

Boiling Point and Boiling (73mmHg)

Ranges

Density and/or Relative 0.866(-59°C/4°C), 0.81(0°C/4°C), 0.8006(10°C/4°C),

Density 0.7910(20°C), 0.7964(15°C/15°C)

Section 10 - STABILITY AND REACTIVITY

Reactivity Does not react dangerously under nomal 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

Dermal

Section 11 - TOXICOLOGICAL INFORMATION

Skin Corrosion/Irritation

Acute Toxicity Oral Classification not possible since lots of the

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

Inhalation (gas)

Does not fall under gas based on GHS definitions.

(vapour)

Classified as Category 4 since ATE is 2500 to

20000(ppmV). (dust and mist)

Unable to classify due to insufficient data.

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 2A is more than 10%.

Respiratory Sensitization Unable to classify due to insufficient data.

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 Classified as Category 2 since one of the Category 2

ingredients is more than 1.0%.

Reproductive Toxicity (Reproductive toxicity)

Classified as Category 1B since one of the Category 1B

ingredients is more than 0.3%.

(Reproductive toxicity, effects on or via lactation)

Unable to classify due to insufficient data.

Specific Target Organ Classified as Category 2(kidney) since one of the Toxicity (Single Exposure) Category 2(kidney) ingredients is more than 10%.

Classified as Category 2(visual organ) since one of the Category 1(visual organ) ingredients is 1 to 10%.

Classified as Category 2(systemic toxicity) since one of the Category 1(systemic toxicity) ingredients is 1 to 10%

Classified as Category 2(central nervous system) since one of the Category 1(central nervous system) ingredients is 1 to 10%.

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%.

Classified as Category 1(nervous system) since one of the Category 1(nervous system) ingredients is more than 10%

Classified as Category 2(respiratory apparatus) since one of the Category 1(respiratory apparatus) ingredients is 1 to 10%.

Classified as Category 2(visual organ) since one of the Category 1(visual organ) ingredients is 1 to 10%.

Classified as Category 2(central nervous system) since one of the Category 1(central nervous system) ingredients is 1 to 10%.

Unable to classify due to insufficient data.

Section 12 - ECOLOGICAL INFORMATION

Hazardous to the Aquatic Environment, Short-Term

Aspiration Hazard

Specific Target Organ

Toxicity (Repeated

Exposure)

(Acute)

Hazardous to the Aquatic Environment, Long-Term

(Chronic)
Ecotoxicity

Bioaccumulative Potential

Mobility in Soil

Persistence

Hazardous to the Ozone

Layer

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

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

No data available No data available No data available

No data available

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 groundor in to the culverts.

For waste materials generated by wastewater treatment, incineration, etc. either carry out processingin 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 and packaging

Empty containers should be treated as industrial wastes and not

allowed to contain waste.

### Section 14 - TRANSPORT INFORMATION

International Regulations Regulatory Information Conform to the provisions of IMO.

by Sea

UN No. 121

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 Conform to the provisions of ICAO/IATA.

by Air

UN No. 1210

Proper Shipping Name PRINTING INK RELATED MATERIAL

Class 3 Packing Group II

Regulations in Japan Regulatory Information Complies with the Fire Service Act.

by Road or Rail

Regulatory Information Conform to the provisions of the Ship Safety Law.

y 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 Conform to the provisions of the Civil Aeronautics Law.

by Air

UN No. 1210

Proper Shipping Name PRINTING INK RELATED MATERIAL

Class 3
Packing Group II
130

Emergency Response Guide

Number

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 or Harmful Substances Subject to Be Indicated their Names, etc.

(Article 57 part 1, Order Article 18 part 1 and 2, Attached Table9)

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 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 2-1 and part 2, Attached Table9)

Hazardous Substances to be notified in terms of Whose Names,etc .(Article 57 part 2 ,Order Article 18 part 2-1 and part 2, Attached Table9)

Carbon black(Number: 130) (Trade Secrets) Methanol(Number: 560) (Trade Secrets)

Methyl ethyl ketone (Number: 570) (Trade Secrets)

Hazardous Substances to be notified in terms of Whose Names,etc .(Article 57 part 2 ,Order Article 18 part 2-1 and part 2, Attached Table9)

Iodine compounds (iodides)(Trade Secrets)
Hazardous Substances to be notified in terms of Whose Names,etc..(Article 57 part 2 ,Order Article 18 part 2-1and part 2, Attached Table 1)

酢酸ブチル(Number: 181) (Trade Secrets)

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))

Substances for which concentration reference values are set (Article 577-2, Paragraph 2 of the Safety and Health Regulations, Notification No. 177 of April 27, Reiwa 5, Public Notice No. 24 of April 27, Reiwa 5)

Chemical substances that damage the skin, etc., and harmful substances that absorb the skin (List of substances subject to Article 594–2, Paragraph 1 of the Safety and Health Regulations, 0531–9 issued on May 31, Reiwa 4, and 0704–1 and 5 of July 4, Reiwa 5)

Methanol Methyl ethyl ketone Not applicable

Not applicable

Poisonous and Deleterious Substances Control Act Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof Act on the Regulation of Manufacture and Evaluation of Chemical Substances

Priority Assessment Chemical Substances(Article 2 part 5)

Fire Service Act

Hazardous Materials Category IV inflammable liquids Class I

Narcotics and

petroleums non water-soluble Packing Group  ${\rm I\hspace{-.1em}I}$ raw materials for Narcotics or Psychotropics(Appended Table IV part

Psychotropics Control Act Foreign Exchange and Foreign Trade Act

9, Order Article 4) Import Trade Control Order Appended Table I part 16

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 Secondclass organic solvents.

Import Trade Control Order Appended Table II (Import Approval )

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. )

In the case where "composition and ingredient information" corresponds to the secret of the business, the description of the content is the conventional range display. However, it is possible to notify us separately by the method of information transmission agreed with the customer, such as a confidentiality agreement. For more information, please contact our sales representative.

2-butanone and methyl ethyl ketone, MEK and ethyl methyl ketone are the same substances

Carbon black is not subject to the law for the use of elements, there is no numbered gazette.

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 Trade Act

Foreign Exchange and In law, printing inks are not approved for export

Fire Service Act Poisonous and Deleterious Substances Control The flash point of Class I petroleums is less than 21  $^\circ\,$  c.

The deleterious substances is only applicable to the material, and the mixture is non-applicable.

RoHS Specified Substance Concentration

Substances treated as equipment are exempt from this law. Cd<100ppm Pb, Hg, Cr(VI), PBB, PBDE, DEHP, DBP, BBP, DIBP <1000ppm

Allowable concentration Standards Cited Literature

TLV-TWA: Threshold Limit Values-Time Weighted Average STEL (Short Term Exposure Limit

JIS Z7253:2019

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)

about This Product:

Additional Information 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.