Issue 2005.08.31 Revision 2024.10.01

Safety Data Sheet (SDS)

Section 1 - CHEMICALS AND COMPANY IDENTIFICATION

Ink-1027K/Ink-K27 Chemical Identifier Product Code 1027K/JP-K27

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

+81-294-36-8682

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

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

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

Emergency Phone

Number

Recommended Use

Industrial ink jet printers

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

Health Hazards

Flammable liquids Category 2

Acute toxicity (Inhalation: vapour) Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Reproductive toxicity Category 1B

Specific target organ toxicity (single exposure) Category 1 (visual organ, kidney, central nervous system, systemic

toxicity)

Specific target organ toxicity (single exposure) Category

3(narcotic effect, respiratory tract irritation)

Specific target organ toxicity (repeated exposure) Category 1 (visual organ, nervous system, central

nervous system)

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

H315 Causes skin irritation H319 Causes serious eye irritation

H332 Harmful if inhaled

H335 May cause respiratory irritation H336 May cause drowsiness or dizziness H360 May damage fertility or the unborn child H370 Causes damage to visual organ, kidney, central

nervous system, systemic toxicity

H372 Causes damage to visual organ, nervous system, central nervous system through prolonged or repeated

exposure

Precautionary Statements

Obtain special instructions before use.(P201) Prevention

Response

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)

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)

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

Storage

Distinction of Substance or

Mixture

Mixture

Chemical Name or Generic	Concentration or Its	Formula	ENCS No./ISHL No.		CAS RN
Name	Ranges (wt%)		ENCS No.	ISHL No.	
Methyl ethyl ketone	55-65	CH3CH2CO CH3	(2)-542	Registered	78-93-3
Chromium and its compounds	5–10	-	Trade	Registered(Trade secret)	Trade secret
Methanol	5-15	CH3OH	(2)-201	Registered	67-56-1

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

fire.

When dust occurs, use dry sand.

Unsuitable Extinguishing Cylindric water.

Media

Specific Hazards in Case of Risk of producing harmful gases such as carbon Fire 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 Use goggles in combination with dust mask, and another

Equipment and Precautions protections as appropriate to situation. for Fire Fighters

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.

Methods and Equipment for small spill : absorb with material such as non-containment and Cleaning combustible materialwash thoroughly after handling

Up

Large spills: Dike spills and dispose of in safe area.

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

extinguishing media.

Risk of slipping. Spilled material forms slippery floor.

Do not recklessly walk on the spillage.

Section 7 - HANDLING AND STORAGE

Handling

Storage

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

fume or mist.

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.

Prevents Handling of

Incompatible Substances or Mixtures Refer to "Section 10 - STABILITY AND REACTIVITY".

Conditions for Safe

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
Chromium and its compounds	Not listed	0.5mg/m3 as Cr3+	Not listed
Methanol	200ppm	200ppm(260mg/m3)(skin)	TWA 200 ppm, STEL 250 ppm (Skin)

	Concentration standards specified by the Minister of Health, Labour and Welfare			
	Concentration standard value for 8-hours exposure	Concentration standard value for short- term exposure/ceiling		
Methyl ethyl ketone	Not listed	Not listed		
Chromium and its compounds	Not listed	Not listed		
Methanol	Not listed	Not listed		

Engineering Controls

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.

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

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 No data available

Point

Boiling Point or Initial 79.6 °C

Boiling Point and Boiling

Ranges

Flammability Lower and Upper Explosion Lower Limit

Limit / Flammability Limit

No data available

No data available

Upper Limit No data available

Flash Point -6°C (Tag Closed Cup) Auto-Ignition Temperature No data available

Decomposition Temperature No data available

рΗ No data available Kinematic Viscosity No data available

Solubility Insoluble in the following materials: Cold water.

Partition Coefficient : n-No data available

Octanol/Water

Vapour Pressure No data available 0.894

Density and/or Relative

Density

Relative Gas Density No data available Particle Characteristics No data available

as Methyl ethyl ketone

-86.4°C Melting Point/Freezing

79.6°C **Boiling Point or Initial**

Boiling Point and Boiling

Ranges

Density and/or Relative

Density as Methanol

0.8061

Melting Point/Freezing

Density and/or Relative

Point

64.1°C, 59.4°C(610mmHg), 39.9°C(260mmHg), 15°C

Boiling Point or Initial Boiling Point and Boiling

Ranges

 $0.866(-59^{\circ}C/4^{\circ}C), 0.81(0^{\circ}C/4^{\circ}C), 0.8006(10^{\circ}C/4^{\circ}C),$

Does not react dangerously under nomal conditions.

Stable under normal conditions of use.

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

Section 10 - STABILITY AND REACTIVITY

Reactivity Chemical Stability Possibility of Hazardous

Reaction

Conditions to Avoid

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

Flammable

-93.9°C

(73mmHg)

Incompatible Substances or No data available

Hazardous Decomposition **Products**

Skin Sensitization

Other Data No data available

Section 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity Oral Classified as Not classified since ATE is over more than

No data available

Classified as Not classified since ATE is over more than Dermal

2000(mg/kg).

Inhalation

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

Category 2 ingredients is more than 10%. Irritation Respiratory Sensitization Classification not possible since lots of the

concentrations of unknown ingredients.

concentrations of unknown ingredients.

Classification not possible since lots of the

Germ Cell Mutagenicity Classification not possible since lots of the

concentrations of unknown ingredients.

Unable to classify due to insufficient data. Carcinogenicity

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 1(visual organ) since one of the Toxicity (Single Exposure) Category 1(visual organ) ingredients is more than 10%.

> Classified as Category 1(kidney) since one of the Category 1(kidney) 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%.

Classified as Category 1(systemic toxicity) since one of the Category 1(systemic toxicity) ingredients is more

than 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%.

Specific Target Organ Toxicity (Repeated Exposure) Classified as Category 1(visual organ) since one of the Category 1(visual organ) ingredients is more than 10%.

Classified as Category 1(nervous system) since one of the Category 1(nervous system) 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

Classified as Classification not possible since the kinematic viscosity is unknown.

Section 12 - ECOLOGICAL INFORMATION

Hazardous to the Aquatic Environment, Short-Term

(Acute)

Hazardous to the Aquatic Environment, Long-Term

(Chronic) Ecotoxicity

Persistence Bioaccumulative Potential

Mobility in Soil

Hazardous to the Ozone

Laver

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

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. 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 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.

by Sea

UN No. 12

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 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)

Chromium and its compounds (excluding chromic acid and chromate and dichromate and dichromate) (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 Table9)

Methanol (Number: 560) (Trade Secrets)

Methyl ethyl ketone (Number: 570) (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))

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

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

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

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)

Chromium and its compounds (excluding hexavalent chromium compounds) (Trade Secrets)

Not applicable

Not applicable

Industrial Safety and Health Act(after 2024/4/1)

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

Fire Service Act

Water Pollution Prevention Act Narcotics and Psychotropics Control Act Foreign Exchange and Foreign Trade Act

Ship Safety Law Aviation Law

Section 16 - OTHER INFORMATION

Hazardous Materials Category IV inflammable liquids Class I petroleums non water-soluble Packing Group II

Specified substances (article 2, paragraph 4 of the Act, article 3 of the Enforcement Ordinance)

raw materials for Narcotics or Psychotropics(Appended Table IV part 9, Order Article 4)

Import Trade Control Order Appended Table I part 16

Import Trade Control Order Appended Table ${\,{\rm I}\hspace{-.1em}I}$ (Import Approval)

Flammable liquids(Order Article 3,Appended Table I) Flammable liquids(Order Article 194,Appended Table I)

Industrial Safety and Health Act Second-class organic solvents, etc.contain more than 5% of Second-class organic solvents.

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.

Act on the Regulation of Manufacture and Evaluation of Chemical Substances

Act on the Regulation We have a Priority Assessment Chemical Substance posting threshold of Manufacture and 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 In law, printing inks are not approved for export Foreign Trade Act

Fire Service Act Poisonous and **Deleterious**

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.

Substances Control Act

Substances treated as equipment are exempt from this law. $\label{eq:cdlooppm} \mathsf{Pb},\,\mathsf{Hg},\,\mathsf{Cr}(\mathsf{V\!I}),\,\mathsf{PBB},\,\mathsf{PBDE},\,\mathsf{DEHP},\,\mathsf{DBP},\,\mathsf{BBP},\,\mathsf{DIBP}$ <1000ppm

RoHS Specified Substance Concentration

TLV-TWA: Threshold Limit Values-Time Weighted Average STEL

Allowable concentration Standards Cited Literature

(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)

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.