

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
Revision date 26-Feb-2024  
Revision Number 3.06

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	0.1vol% Formic Acid-Acetonitrile
Product Code	062-04721,068-04723

**Supplier** FUJIFILM Wako Pure Chemical Corporation  
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan  
Phone: +81-6-6203-3741  
Fax: +81-6-6203-2029

**Emergency telephone number** +81-6-6203-3741 / +81-3-3270-8571

**Recommended uses** For research use only

**Restrictions on use** Seek expert judgment when using for purposes other than those recommended.

## Section 2: HAZARDS IDENTIFICATION

## GHS classification

## Classification of the substance or mixture

## Flammable liquids

Category 2

## Acute toxicity - Dermal

Category 3

## Acute toxicity - Inhalation (Vapors)

Category 4

## Serious eye damage/eye irritation

Category 2A

## Specific target organ toxicity (single exposure)

Category 1

Category 1 respiratory system, central nervous system

## Specific target organ toxicity (repeated exposure)

Category 2

Category 2 liver, blood system, respiratory system, kidneys, central nervous system

## Pictograms



## Signal word

Danger

## Hazard statements

H225 - Highly flammable liquid and vapor

H319 - Causes serious eye irritation

H311 - Toxic in contact with skin

H332 - Harmful if inhaled

H370 - Causes damage to the following organs: respiratory system, central nervous system

H373 - May cause damage to the following organs through prolonged or repeated exposure: liver, blood system, respiratory system, kidneys, central nervous system

## Precautionary statements-(Prevention)

- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- Keep container tightly closed

- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ ventilating / lighting / equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge
- Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary statements-(Response)**

- IF exposed: Call a POISON CENTER or doctor/physician
- 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
- Call a POISON CENTER or doctor/physician if you feel unwell
- Wash contaminated clothing before reuse
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell
- In case of fire: Use suitable extinguishing media for extinction

**Precautionary statements-(Storage)**

- Store locked up
- Store in a well-ventilated place. Keep cool

**Precautionary statements-(Disposal)**

- Dispose of contents/container to an approved waste disposal plant

**Others**

**Other hazards** Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Mixture

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Acetonitrile	99.80	41.05	(2)-1508	*	75-05-8
Formic acid	0.10	46.03	(2)-670	*	64-18-6

**Note on ISHL No.:** \* in the table means announced chemical substances.

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

### Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder, Sand

**Unsuitable extinguishing media**

No information available

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Vapors may form explosive mixtures with air

**Special extinguishing method**

No information available

**Special protective actions for fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

**Environmental precautions**

To be careful not discharged to the environment without being properly handled waste water contaminated.

**Methods and materials for contaminant and methods and materials for cleaning up**

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

**Recoverly, neutralization**

No information available

**Secondary disaster prevention measures**

Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

**Handling****Technical measures**

Highly flammable. Avoid contact with high temperature objects, spark, and strong oxidizing agents. Use with local exhaust ventilation.

**Precautions**

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

**Safety handling precautions**

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**Storage****Safe storage conditions****Storage conditions**

Keep container protect from light, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed. Store locked up.

**Safe packaging material**

Glass

**Incompatible substances**

Strong oxidizing agents

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls**

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

**Exposure limits**

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Acetonitrile	N/A	N/A	TWA: 20 ppm

75-05-8			Skin
Formic acid 64-18-6	TWA: 5 ppm OEL TWA: 9.4 mg/m <sup>3</sup> OEL	N/A	STEL: 10 ppm TWA: 5 ppm

Chemical Name	Concentration standard value set by the Minister of Health, Labor and Welfare (8hr)	Concentration standard value set by the Minister of Health, Labor and Welfare (Short-Term)
Acetonitrile 75-05-8	10 ppm	N/A

**Personal protective equipment**

<b>Respiratory protection</b>	gas mask for organic gas ( JIS T 8152 )
<b>Hand protection</b>	chemical protective gloves ( JIS T 8116 )
<b>Eye protection</b>	protective eyeglasses or chemical safety goggles (JIS T 8147)
<b>Skin and body protection</b>	Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

If this product is classified as "Chemical Substances Hazardous to Skin, etc.", use appropriate protective equipment to them.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Form**

**Color** colorless

**Turbidity** clear

**Appearance** liquid

**Odor**

characteristic odor

**Melting point/freezing point**

no data available

**Boiling point, initial boiling point and boiling range**

no data available

**Flammability**

Highly flammable liquid and vapor

**Evaporation rate:**

no data available

**Flammability (solid, gas):**

no data available

**Upper/lower flammability or explosive limits**

**Upper:**

no data available

**Lower:**

no data available

**Flash point**

9.5 °C

**Auto-ignition temperature:**

524 °C

**Decomposition temperature:**

no data available

**pH**

no data available

**Viscosity (coefficient of viscosity)**

no data available

**Dynamic viscosity**

no data available

**Solubilities**

water , Alcohols : miscible .

**n-Octanol/water partition coefficient:(log Pow)**

no data available

**Vapour pressure**

no data available

**Specific Gravity / Relative density**

no data available

**Vapour density**

no data available

**Particle characteristics**

no data available

## Section 10: STABILITY AND REACTIVITY

**Stability**

**Reactivity** no data available

**Chemical stability** May be altered by light.

**Hazardous reactions**

None under normal processing

**Conditions to avoid**

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark

**Incompatible materials**

Strong oxidizing agents

**Hazardous decomposition products**Cyanide, Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>)**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetonitrile	>2,000 mg/kg ( Rat )	978.8 mg/kg ( Rabbit )	16,000 ppm ( Rat ) 4 h
Formic acid	700 mg/kg ( Rat )	N/A	7.4 mg/L ( Rat )

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Acetonitrile	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Acetonitrile	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

**Skin irritation/corrosion**

Chemical Name	Skin corrosion/irritation source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

Chemical Name	Serious eye damage/irritation source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

**Respiratory or skin sensitization**

Chemical Name	Respiratory or Skin sensitization source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Acetonitrile 75-05-8	-	-	A4	-

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

**STOT-single exposure**

Chemical Name	STOT -single exposure- source information
Acetonitrile	Based on the NITE GHS classification results.

Formic acid	Based on the NITE GHS classification results.
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**STOT-repeated exposure**

Chemical Name	STOT -repeated exposure- source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
Acetonitrile	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Acetonitrile	EC50 : <i>Pseudokirchneriella subcapitata</i> >700 mg/L 72 h	LC50 : <i>Oryzias latipes</i> >100 mg/L 96 h	LC50 : <i>Daphnia magna</i> >100 mg/L 96 h
Formic acid	ErC50 : <i>Desmodesmus</i> 30.2 mg/L 72 h	LC50 : <i>Danio rerio</i> 1560 mg/L 96 h	EC50 : <i>Daphnia magna</i> 540 mg/L 48 h

**Other data**

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Acetonitrile	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Formic acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

**Persistence and degradability** No information available

**Bioaccumulative potential** No information available

**Mobility in soil** No information available

**Hazard to the ozone layer** No information available

## Section 13: DISPOSAL CONSIDERATIONS

**Waste from residues**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated container and contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## Section 14: TRANSPORT INFORMATION

**ADR/RID**

UN number UN1648  
 Proper shipping name: ACETONITRILE  
 UN classification 3  
 Subsidiary hazard class  
 Packing group II  
 Marine pollutant Not applicable

**IMDG**

UN number UN1648  
 Proper shipping name: ACETONITRILE  
 UN classification 3

Subsidiary hazard class  
Packing group II  
Marine pollutant (Sea) Not applicable  
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

**IATA**

UN number UN1648  
Proper shipping name: ACETONITRILE  
UN classification 3  
Subsidiary hazard class  
Packing group II  
Environmentally Hazardous Substance Not applicable

## Section 15: REGULATORY INFORMATION

**Japanese regulations**

**Fire Service Act** Category IV, Class I petroleums, dangerous grade 2 water-soluble  
**Poisonous and Deleterious Substances Control Law** Deleterious Substances 2nd. Grade  
**Industrial Safety and Health Act** Notifiable Substances (Law Art.57-2)  
Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)  
Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57)  
**Industrial Safety and Health Act (2024-)** **【2024.4.1~】** Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)  
**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc** Priority Assessment Chemical Substances (Law Article 2, Para.5)  
**Regulations for the carriage and storage of dangerous goods in ship** Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)  
**Civil Aeronautics Law** Flammable Liquids (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)  
**Marine Pollution Prevention Law** Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Z  
**Pollutant Release and Transfer Register Law (2023.4.1-)** Not applicable  
**Export Trade Control Order** Not applicable  
**Air Pollution Control Law** Hazardous Air Pollutants

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law (2023.4.1-)
Acetonitrile 75-05-8 ( 99.80 )	Applicable	Applicable	-

## Section 16: OTHER INFORMATION

**Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
IATA dangerous Goods Regulations  
RTECS:Registry of Toxic Effects of Chemical Substances  
Japan Industrial Safety and Health Association GHS Model SDS  
Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.

Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
etc

**Record of SDS revisions**

The following contents were revised. Regulatory information.

**Disclaimer**

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z 7252:2019. \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**