

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
Revision date 22-Feb-2024  
Revision Number 8.07

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Acetylacetone
Product Code	013-00493,017-00496

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

Acute toxicity - Oral

Acute toxicity - Dermal

Acute toxicity - Inhalation (Vapors)

Serious eye damage/eye irritation

Germ cell mutagenicity

Specific target organ toxicity (single exposure)

Category 1 central nervous system

Category 3 Respiratory irritation

Acute aquatic toxicity

Chronic aquatic toxicity

Category 3

Category 4

Category 3

Category 3

Category 2B

Category 2

Category 1, Category 3

Category 3

Category 3

## Pictograms



Signal word

Danger

## Hazard statements

H226 - Flammable liquid and vapour

H320 - Causes eye irritation

H302 - Harmful if swallowed

H311 - Toxic in contact with skin

H331 - Toxic if inhaled

H341 - Suspected of causing genetic defects

H335 - May cause respiratory irritation

H412 - Harmful to aquatic life with long lasting effects

H402 - Harmful to aquatic life

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

## Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid release to the environment
- 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
- Keep cool

**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 SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- In case of fire: Use suitable extinguishing media for extinction

**Precautionary statements-(Storage)**

- Store locked up
- Store in a well-ventilated place. Keep container tightly closed

**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** Substance

**Formula** CH<sub>3</sub>COCH<sub>2</sub>COCH<sub>3</sub>

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Acetylacetone	99.0	100.12	(2)-562	*	123-54-6

**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.

**Recovery, 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.

**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
Acetylacetone 123-54-6	N/A	N/A	TWA: 25 ppm Skin

### 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

<b>Color</b>	Colorless - slightly yellow
<b>Turbidity</b>	clear
<b>Appearance</b>	liquid

### Odor

### Melting point/freezing point

-23 °C

### Boiling point, initial boiling point and boiling range

141 °C

### Flammability

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:

1.7 v/v%

### Flash point

39 °C

### Auto-ignition temperature:

340 °C

### Decomposition temperature:

no data available

### pH

no data available

### Viscosity (coefficient of viscosity)

no data available

### Dynamic viscosity

no data available

### Solubilities

Ethanol and Diethyl ether : Very soluble. water : free soluble .

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

no data available

### Vapour pressure

no data available

### Specific Gravity / Relative density

0.971 - 0.976 g/mL

### Vapour density

3.45 (air = 1)

### 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

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

## Section 11: TOXICOLOGICAL INFORMATION

#### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetylacetone	764 mg/kg( Rat,male ) 578 mg/kg( Rat,female )	1375 mg/kg( Rat,male ) 790 mg/kg( Rat,femalil )	1224 ppm ( Rat ) 4 h

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

#### Serious eye damage/ irritation

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

#### Respiratory or skin sensitization

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

#### Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Acetylacetone	Based on the NITE GHS classification results.

#### Carcinogenicity

Chemical Name	Carcinogenicity source information
Acetylacetone	Based on the NITE GHS classification results.

#### Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Acetylacetone	Based on the NITE GHS classification results.

#### STOT-single exposure

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

#### STOT-repeated exposure

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

#### Aspiration hazard

Chemical Name	Aspiration Hazard source information
Acetylacetone	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

#### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Acetylacetone	N/A	LC50: <i>Lepomis macrochirus</i> 60.1 mg/L 96 h	EC50: <i>Daphnia magna</i> 34.4 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
Acetylacetone	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	UN2310
Proper shipping name:	Pentane-2,4-dione
UN classification	3
Subsidiary hazard class	6.1
Packing group	III
Marine pollutant	Not applicable

## IMDG

UN number	UN2310
Proper shipping name:	Pentane-2,4-dione
UN classification	3
Subsidiary hazard class	6.1
Packing group	III
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	UN2310
Proper shipping name:	Pentane-2,4-dione
UN classification	3
Subsidiary hazard class	6.1
Packing group	III
Environmentally Hazardous Substance	Not applicable

## Section 15: REGULATORY INFORMATION

## Japanese regulations

Fire Service Act	Category IV, Class II petroleum, dangerous grade 3
Poisonous and Deleterious Substances Control Law	Not applicable
Industrial Safety and Health Act	Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57)

<b>Industrial Safety and Health Act (2024~)</b>	Notifiable Substances (Law Art.57-2)
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
<b>Civil Aeronautics Law</b>	【2024.4.1~】Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)
<b>Pollutant Release and Transfer Register Law (2023.4.1-)</b>	Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Class 1 - No.</b>	Flammable Liquids (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
<b>Export Trade Control Order</b>	Class 1
	568
	Not applicable

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-)
Acetylacetone 123-54-6 ( 99.0 )	-	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 Disclaimer

The following contents were revised. Regulatory information.

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**