

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	Acetone
Product code	013-00351, 013-00356 , 011-00357, 019-00353
CAS No	67-64-1
Formula	CH ₃ COCH ₃
Manufacturer	Wako Pure Chemical Industries, Ltd. 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
Supplier	Wako Pure Chemical Industries, Ltd. 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
Emergency telephone number	+81-6-6203-3741 / +81-3-3270-8571
Recommended uses and restrictions on use	For research purposes

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Flammable liquids

Category 2

Serious eye damage/eye irritation

Category 2B

Reproductive Toxicity

Category 2

Specific target organ toxicity (single exposure)

Category 3

Category 3 Respiratory tract irritation, Narcotic effects

Specific target organ toxicity (repeated exposure)

Category 1

Category 1 central nervous system, respiratory system,

Pictograms



Signal word

Danger

Hazard statements

H225 - Highly flammable liquid and vapor

H320 - Causes eye irritation

H361 - Suspected of damaging fertility or the unborn child

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

H372 - Causes damage to the following organs through prolonged or repeated exposure: central nervous system, respiratory 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 breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Keep away from heat/sparks/open flames/hot surfaces. — 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 or concerned: Get medical advice/attention
- 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 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.
- In case of fire: Use CO₂, dry chemical, or foam 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 CH₃COCH₃

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No.
Acetone	99.0	58.08	(2)-542	N/A	67-64-1

Impurities and/or Additives : Not applicable

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

Water spray (fog), Carbon dioxide (CO₂), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media

No information available

Special extinguishing method

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Protection of 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).

Storage

Safe storage conditions

Storage conditions Keep cool. Protect from sunlight

Safe packaging material Glass, Iron

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
Acetone 67-64-1	200ppm(470mg/m ³)	ISHL/ACL: 500 ppm	STEL: 500 ppm TWA: 250 ppm

Personal protective equipment

Respiratory protection	gas mask for organic gas
Hand protection	Impermeable protective gloves
Eye protection	protective eyeglasses or chemical safety goggles
Skin and body protection	Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form

Color	colorless
Turbidity	clear
Appearance	liquid
Odor	characteristic odor
pH	No data available
Melting point/freezing point	No data available
Boiling point, initial boiling point and boiling range	56 °C
Flash point	-18 °C
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits	
Upper :	13.0 vol%
Lower :	2.15 vol%
Vapour pressure	24.7
Vapour density	2.0
Specific Gravity / Relative density	0.789-0.792
Solubilities	water , Ethanol , ether : miscible .
n-Octanol/water partition coefficient:(log Pow)	-0.24
Auto-ignition temperature:	538 °C
Decomposition temperature:	No data available
Viscosity (coefficient of viscosity)	No data available
Dynamic viscosity	No data available

Section 10: STABILITY AND REACTIVITY

Stability

Stability	May be altered by light.
Reactivity	No data available

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 (CO₂)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone	5800 mg/kg (Rat)	> 7400 mg / kg (Rabbit)	32000 ppm (Rat) 4 h

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

Serious eye damage/ irritation

Chemical Name	Serious eye damage source information
Acetone	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory, Skin sensitization source information
Acetone	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	Mutagenic source information
Acetone	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Acetone	ACGIH : A4 (2001). EPA:D (IRIS (2003)) .

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Acetone	N/A	LC50: Fathead minnow > 100 mg/L 96 h	EC50:Daphnia magna 10294 - 17704 mg/L 48 h EC50:Daphnia magna 12600 - 12700 mg/L 48 h

Other data

Chemical Name	Aquatic toxicity -Acute- source information	Aquatic toxicity -Chronic- source information
Acetone	LC50(Pimephales promelas)>100mg/L/96h(EHC207、1998).	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	UN1090
Proper shipping name:	Acetone
UN classification	3
Subsidiary hazard class	
Packing group	II
Marine pollutant	Not applicable

IMDG

UN number	UN1090
Proper shipping name:	Acetone
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	UN1090
Proper shipping name:	Acetone
UN classification	3
Subsidiary hazard class	
Packing group	II
Environmentally Hazardous Substance	Not applicable

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELINCS	Listed
TSCA	Listed

Japanese regulations

Fire Service Act	Category IV, Class I petroleums, dangerous grade 2 water-soluble
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, Para.1,

	Enforcement Order Art.18)
	Notifiable Substances (Law Art.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.17
	Class 2 Organic Solvents (Enforcement Order Attached Table No.6-2, Ordinance on Prevention of Organic Solvent Poisoning Art.1, Para.1, Item 5)
	Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
	Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
	Priority Assessment Chemical Substances (Law Article 2, Para.5)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc	
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 Nortification 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	Not applicable
Export Trade Control Order	Appendix 2
Narcotics and Psychotropics Control Law	

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 Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
 etc

Disclaimer

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 GHS Classification is acoording to JIS Z7252(2014). *JIS: Japanese Industrial Standards

End of Safety Data Sheet