ACETONE

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Previous revision date: 03/31/2024, Revision date: 01/13/2026, Version: 2.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product identification	:	Substance
Substance name	:	ACETONE
EC-No.	:	200-662-2
CAS-No.	:	67-64-1
REACH registration No.	:	01-2119471330 49
Formula	:	C3H6O
Chemical structure	:	

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals
Manufacture of substances.
Solvent.

1.2.2. Uses advised against

Cleaning, Solvent

1.3. Details of the supplier of the safety data sheet

Manufacturer
Rabigh Refining and Petrochemical Company
PO Box 101, Rabigh 21911, Kingdom of Saudi Arabia
T +966 12 425 0390, 800 440 9000
SDSGroup@petrorabigh.com

1.4. Emergency telephone number

Emergency number :

Asia Pacific (except China):	CareChem 24 +65 3158 1074	English, Cantonese, Indonesian, Japanese, Korean, Malay, Mandarin, Thai, Vietnamese
China (Off-land):	CareChem 24 +4001206011	English, Mandarin
US, Canada: Outside above area:	ChemTrec 1-202-464-2554 +703-527-3887	English
Europe, America, Middle East, Africa (Europe & English Speaking):	CareChem 24 +44 (0) 1235 239 670	English, Albanian, Bulgarian, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Serb-Croat, Slovak, Spanish, Swedish, Turkish, Ukrainian
Middle East & Africa (Arabic speaking):	CareChem 24 +65 3158 1074	English, Arabic, French

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids (Category 2)	H225
Serious eye damage/eye irritation (Category 2A)	H319
Specific target organ toxicity, single exposure; Narcotic effects (Category 3)	H336

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

Signal word (CLP) : Danger

Hazard statements (CLP) :

H225: Highly Flammable
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

Precautionary statements (CLP) :

P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard information (EU):
 EUH066: Repeated exposure may cause skin dryness or cracking

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : ACETONE
CAS-No. : 67-64-1
EC-No. : 200-662-2

Name	Product identifier	%
Acetone	CAS-No.: 67-64-1 EC-No.: 200-662-2	100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to

breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. Rinse skin with water/shower. Take off immediately all contaminated clothing.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. 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.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : For the development of any overt signs of toxicity in humans, accidental exposures to extremely large amounts of acetone by inhalation of vapor or ingestion of liquid are necessary (e. g. several thousand ppm of acetone vapor).

Symptoms/effects after skin contact : Corrosive, causes burns and is readily absorbed through the skin leading to toxicological effects.

Symptoms/effects after eye contact : Irritant. Repeated exposure may cause skin dryness or cracking, due to defatting properties. No indication for sensitizing properties in humans.

Symptoms/effects after ingestion : Gastric and intestinal problems.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Extinguishing powder, alcohol resistant foam, carbon dioxide, water fog.

Unsuitable extinguishing media : Do not use a full water jet

5.2. Special hazards arising from the substance or mixture

Highly flammable. Explosive mixtures with air may even form at room temperature. Beware of reignition. In case of fire may be liberated: Carbon monoxide and carbon dioxide.

5.3. Advice for firefighters

Special protective equipment for firefighters: Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: •2YE

Do not be exposed to high temperature. Danger of bursting and explosion. Use fine water spray to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely. Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

Fire class: B

Mixtures with 4% acetone mixed with 96% water still have a flash point of 54 °C.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Remove persons not involved upwind. Wear a self-contained breathing apparatus and chemical protective clothing. Solvent-resistant protective clothing recommended.

6.2. Environmental precautions

Plug leak if safely possible. Do not allow to enter drains, surface waters, basements, or pits. When released into the environment, alert police, and fire brigade. Seal all low-level rooms. Danger of explosion.

6.3. Methods and material for containment and cleaning up

In case of spills of large quantities: Dam spills and pump to remove. Explosion protection required. Absorb leftover product with non-flammable liquid-binding material (e.g. earth, sand, vermiculite or ground sand stone) and place in closed containers for disposal. Flowing water: Dilution occurs quickly. In case of large spills/leaks inform appropriate local, state, and federal spill reporting authorities. Standing water: Seal off. Remove all sources of ignition.

Additional information: Remove all sources of ignition. Vapors spread at floor level. Cover drainage holes and evacuate basement. Dilute with plenty of water. Use only explosion-protected equipment/instruments.

Liquid: Very highly flammable. Liquid evaporates very quickly.

Vapors: Very highly flammable.

Vapors form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may backflash over great distances when ignited. Ignition by hot surfaces, sparks, and open flames.

Solubility in water: complete

Mixtures with 4% acetone mixed with 96% water still have a flash point of 54 °C in case of important spills, risk of ignition of the acetone-water mixture. Potentially explosive mixtures with air may form above the water surface.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Provide adequate ventilation, and local exhaust as needed. Provide room air exhaust at ground level. Concentrated vapors are heavier than air. Avoid the formation of aerosol. Do not breathe vapor. Use only explosion-protected equipment/instruments. Do not use air pressure.

Precautions against fire and explosion : Exposure to temperatures exceeding 50 °C will increase pressure: resulting in danger of bursting or explosion. Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharge. Beware of reignition. Potentially explosive mixture may form within partially empty containers. Emergency cooling must be provided in case of a fire in the vicinity. Do not weld.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers : Keep container dry. Keep container tightly closed in a cool, well-ventilated place. Protect from direct sunlight.

Steel, stainless steel, and aluminum are stable container materials. Copper may be attacked.

Unsuitable container/equipment material: May attack plastics.

Hints on joint storage: Do not store together with combustible or self-igniting materials or any highly flammable solids. Peroxide may form when a product is exposed to light and air.

Further details: Potentially explosive mixture may form within partially empty containers.

For outdoor storage: Use only equipment approved for use in 1 zone.
For indoor storage: Use only equipment approved for use in 2 zone.
Storage class: 3 Flammable liquids

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Acetone (67-64-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Acetone
ACGIH OEL TWA [ppm]	250 ppm

ACGIH OEL STEL [ppm]	500 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irritation, CNS impairment. Notations: A4; BEI
ACGIH chemical category	A4-Not Classifiable Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	Acetone
BEI	25 mg/l Acetone in urine, Sampling time: end of shift.
Regulatory reference	ACGIH 2023

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

DNEL Long-term, workers, dermal: 186 mg/kg bw/d.

DNEL Short-term, workers, inhalative: 2420 mg/m³

DNEL Long-term, workers, inhalative: 1210 mg/m³

DNEL Long-term, consumers, oral: 62 mg/kg bw/d.

DNEL Long-term, consumers, dermal: 62 mg/kg bw/d.

DNEL Long-term, consumers, inhalative: 200 mg/m³

PNEC: PNEC water (freshwater): 10.6 mg/L.

PNEC water (marine water): 1.06 mg/L.

PNEC water (intermittent release): 21 mg/L.

PNEC sediment (freshwater): 30.4 mg/kg dwt.

PNEC sediment (marine water): 3.04 mg/kg dwt.

PNEC soil: 33.3 mg/kg dwt.

PNEC sewage treatment plant: 100 mg/L.

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the workstation.

8.2.2. Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:

Tightly sealed safety glasses according to EN 166.

8.2.2.2. Skin protection

Skin and body protection:
Use solvent-resistant protective clothing.

Hand protection:
Wear protective gloves. Wear suitable gloves tested to EN374

8.2.2.3. Respiratory protection

Respiratory protection:
For short exposures or in case of accident: Filter apparatus, type AX (EN 371). Have a breathing apparatus that is not dependent on the circulating air ready for emergencies.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Clear, Colorless
Odour	:	Sweet mint-like
Odour threshold	:	20 ppm
Melting point/ Freezing point	:	-94.7 ºC
Boiling point	:	56º C at 1.0134 hPa
Flammability	:	Not available
Explosive limits	:	Not available
Lower explosion limit	:	2.5 vol %
Upper explosion limit	:	13 vol %
Flash point	:	20 °C (Closed Cup)
Auto-ignition temperature	:	465 °C
Decomposition temperature	:	Not available
pH	:	5 - 6
Viscosity	:	0.32 mPa · s (dynamic)
Solubility	:	Completely soluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	- 0.24
Vapor pressure	:	239.2 hPa (180 mmHg) at 20 ° C 245.3 hPa at 25 ° C 533.3 hPa at 39.5 ° C
Vapor pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	Not available
Relative vapor density at 20°C	:	0.79
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Acetone reacts in the presence of bases. Vapors form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may backflash over great distances when ignited. May become electrostatically charged.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

Highly flammable. Concentrated vapors are heavier than air. Forms explosive mixtures with air, also in empty, uncleaned containers. May produce, when being mixed with chloridized hydrocarbons and exposed to light, strongly irritating chloric acetone.

10.5. Incompatible materials

Attacks many plastics and rubbers. On contact with barium hydroxide, sodium hydroxide and many other alkaline materials condensation may occur. Avoid contact with strong oxidizing agents, alkalis, and amines.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Acetone (67-64-1)	
LD50 oral rat	1800 - 5800 mg/kg
LD50 dermal rabbit	20000 mg/kg
LD50 Inhalation - Rat	76 mg/l

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes eye irritation.

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : May cause genetic defects.
Carcinogenicity ACGIH : A4
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

Acetone (67-64-1)	
LC50 - Rainbow trout	5540 mg/l (Exposure time: 96 h)
LC50 – Daphnia pulex	8800 mg/l (Exposure time: 48 h)
LC50 - Bluegill	8300 mg/l (Exposure time: 96 h)
EC50 48h – Water flea	12700 mg/l

12.2. Persistence and degradability

Acetone (67-64-1)	
Persistence and degradability	91% Readily biodegradable (OECD Test Guideline 301B)

12.3. Bioaccumulative potential

Acetone (67-64-1)	
Bioaccumulative potential	Bioaccumulation is unlikely

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose of in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Molten: UN 1090	UN 1090	UN 1090	UN 1090	UN 1090
Solid: -	-	-	-	-
14.2. UN proper shipping name				
UN 1090, ACETONE	UN 1090, ACETONE	UN 1090, ACETONE	UN 1090, ACETONE	UN 1090, ACETONE
Transport document description				
No data available	No data available	No data available	No data available	No data available
14.3. Transport hazard class(es)				
3	3	3	3	3
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

No data available

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No data available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Effective concentration for 50 percent of test population (median effective concentration)
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)
LD50	Lethal dose for 50 percent of test population (median lethal dose)
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)

Abbreviations and acronyms:	
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Sources of Key data : Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (et sequens).

Other information : None.

Petro Rabigh Company identification number : PR-0001

Full text of H- and EUH-statements:	
H225	Highly Flammable
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Safety Data Sheet (SDS), EU

SDS Disclaimer

The information contained herein is, to the best of our knowledge and belief, accurate and reliable as of the date of publication. It is provided solely for the purpose of guidance on the safe handling, use, processing, storage, transportation, disposal, and release of the material described. This document does not constitute a warranty, express or implied, nor does it establish a legally binding specification of quality or performance. The data and recommendations relate exclusively to the specific substance identified and may not be applicable if the material is used in combination with other substances or in processes not expressly indicated. Users are responsible for ensuring that their activities comply with all applicable laws, regulations, and standards, and for determining the suitability of the information provided for their purposes. No liability is assumed for any loss, damage, or injury resulting from abnormal use of the material or from failure to adhere to the guidance herein. Continuous review of safety information is advised, as regulatory requirements and scientific knowledge may evolve over time.