SAFETY DATA SHEET

Acetone — Laboratory Reagent, Analytical Reagent, HPLC and Electronic grades

Prepared in accordance with 29 CFR 1910.1200 (OSHA Hazard Communication Standard, 2024 amendment / GHS Rev. 7), UN GHS, US DOT 49 CFR Parts 171–180 and Canada HPR (SOR/2015-17)

SDS number	**HP-SDS-20200-US-01**
Version / Revision	Version 1.0
Issue date	01 November 2026
Supersedes	Not applicable (first issue)
Review due	01 November 2029, or earlier if new hazard information becomes available
Companion sheet	A GB/EU sheet for supply by Highpuris Ltd will be issued separately. Do not substitute one sheet for the other — the classification is the same but the exposure limits, supply restrictions and legal references are not.

1 SECTION 1: IDENTIFICATION

1.1 Product identifier

Product name	**Acetone**
Product description	Acetone (propan-2-one), assay ≥ 99.0 % w/w (Laboratory Reagent), ≥ 99.5 % w/w (Analytical Reagent), ≥ 99.8 % w/w (HPLC) or ≥ 99.9 % w/w (Electronic grade). All grades carry the same hazard classification and transport description.
Synonyms	2-Propanone; Dimethyl ketone; Propan-2-one; β-Ketopropane; Acétone
CAS number	67-64-1
EC (EINECS) number	200-662-2
EU Index number	606-001-00-8
REACH registration number	Not applicable to supply in the United States. A REACH registration (or coverage under a registrant's supply chain) is required before placement in the EU/EEA or Northern Ireland; UK REACH applies to Great Britain.
Molecular formula	C_3H_6O (CH_3COCH_3)
Molecular weight	58.08 g/mol
Highpuris product code	**20200** — the 9-digit catalogue SKUs below are built as product code · grade · pack
Pack sizes covered	500 mL, 1 L and 2.5 L glass bottles (GL45), 4 L bottles, 5 L HDPE containers, 20 L and 25 L containers and 200 L HDPE drums, in UN-certified multi-unit shipping cases

Catalogue SKUs covered by this SDS

Grade	Assay	Pack size and SKU
Laboratory Reagent	≥ 99.0 %	500 mL **202000123** · 1 L **202000141** · 2.5 L **202000142** · 5 L **202000144** · 25 L **202000162** · 200 L **202000164**
Analytical Reagent	≥ 99.5 %	500 mL **202000223** · 1 L **202000241** · 2.5 L **202000242** · 5 L **202000244**
HPLC	≥ 99.8 %	1 L **202000641** · 2.5 L **202000642** · 4 L **202000643**
Electronic	≥ 99.9 %	1 L **202000841** · 2.5 L **202000842** · 5 L **202000844** · 20 L **202000861**

1.2 Relevant identified uses of the substance and uses advised against

- **Identified uses:** laboratory analytical reagent; solvent for extraction, dissolution, recrystallisation and cleaning of laboratory glassware; HPLC and UV-spectroscopy solvent; sample preparation and rinsing in trace-analysis, semiconductor and electronics laboratories (Electronic grade); further formulation and repackaging by professional users.
- **Uses advised against:** not for food, drug, cosmetic, medicinal, pesticide, biocidal, household or consumer use. Not intended for use by the general public. Not to be used in any application resulting in human ingestion or direct dermal application.

1.3 Details of the supplier of the safety data sheet

Supplier	**Highpuris LLC** 9920 Pacific Heights Blvd, Suite 150 San Diego, CA 92121-4361 United States of America
Telephone	+1 (401) 288-1196
E-mail (SDS contact)	admin@highpuris.com · noreply@highpuris.com
Website	www.highpuris.com

1.4 Emergency telephone number

24-hour emergency (USA / Canada)	**CHEMTREC 1-800-424-9300**
24-hour emergency (international)	**CHEMTREC +1 703-527-3887** (collect calls accepted)
CHEMTREC contract number	**CCN 1024800** — Highpuris LLC, registered August 2026. Quote this number when calling; it must appear with the emergency telephone number on shipping papers under 49 CFR 172.604
Non-emergency (business hours)	+1 (401) 288-1196, 09:00 – 17:00 Pacific Time, Monday to Friday

2 SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture

Classification under 29 CFR 1910.1200 (OSHA HCS 2024), UN GHS Rev. 7, EU CLP (EC) No 1272/2008 and Canada HPR:

Hazard class	Category	Hazard statement
Flammable liquids	Category 2	H225 — Highly flammable liquid and vapor
Serious eye damage / eye irritation	Category 2	H319 — Causes serious eye irritation
Specific target organ toxicity — single exposure	Category 3 (central nervous system; narcotic effects)	H336 — May cause drowsiness or dizziness

Hazards not otherwise classified (HNOC): repeated exposure may cause skin dryness or cracking (EU supplemental statement EUH066). The harmonised EU classification for acetone (Index No. 606-001-00-8) is Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, with supplemental hazard statement EUH066. No specific concentration limits are assigned.

2.2 GHS label elements

Hazard pictograms — required on the label and on every shipped container:



GHS02 — Flame



GHS07 — Exclamation mark

Pictograms must be a square set on a point, with a black symbol on a white ground and a red border wide enough to be clearly visible. Minimum size is one-fifteenth of the label surface area and never smaller than 10 mm × 10 mm (16 mm × 16 mm where the package holds more than 3 L). Where the corresponding DOT transport label is displayed on the outer packaging, the duplicate GHS pictogram may be omitted from that outer packaging under 29 CFR 1910.1200(f)(5); all pictograms remain required on the inner container label.

Signal word	**DANGER**

Hazard statements	H225 — Highly flammable liquid and vapor. H319 — Causes serious eye irritation. H336 — May cause drowsiness or dizziness. EUH066 — Repeated exposure may cause skin dryness or cracking.

Precautionary statements — Prevention

- P210 — Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 — Keep container tightly closed.
- P240 — Ground and bond container and receiving equipment.
- P241 — Use explosion-proof electrical, ventilating and lighting equipment.
- P242 — Use non-sparking tools.
- P243 — Take action to prevent static discharges.
- P261 — Avoid breathing dust, fume, gas, mist, vapors or spray.
- P264 — Wash face, hands and any exposed skin thoroughly after handling.
- P271 — Use only outdoors or in a well-ventilated area.
- P280 — Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statements — Response

- P303 + P361 + P353 — IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304 + P340 — IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 — IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 — Call a POISON CENTER or doctor if you feel unwell.
- P337 + P313 — If eye irritation persists: Get medical advice or attention.
- P370 + P378 — In case of fire: use carbon dioxide, dry chemical or alcohol-resistant foam to extinguish.

Precautionary statements — Storage and disposal

- P403 + P235 — Store in a well-ventilated place. Keep cool.
- P405 — Store locked up.
- P501 — Dispose of contents and container to an approved waste disposal plant in accordance with federal, state, provincial and local regulations.

2.3 Other hazards which do not result in classification

- Highly flammable: flash point −20 °C (−4 °F), closed cup, so the liquid gives off ignitable vapour at all normal ambient temperatures. Vapour is heavier than air (vapour density 2.0), can travel along floors and drains to a distant ignition source and flash back. Explosive vapour–air mixtures form between approximately 2.1 and 13 vol % in air.
- Static electricity: transfer, pouring, filling and splashing can generate static charge capable of igniting the vapour. Ground and bond all metal containers and equipment.
- Acetone reacts with hydrogen peroxide in the presence of acid to form shock-, friction- and heat-sensitive organic peroxides (acetone peroxides). Never mix or contaminate acetone with peroxide-containing or oxidising waste streams.
- Reacts violently with strong oxidising agents (nitric acid, chromic acid, perchlorates, permanganates) and, in the presence of base, with chloroform and other halogenated compounds, with the evolution of heat.
- Defats the skin on prolonged or repeated contact (dryness, cracking, dermatitis). Dissolves or softens many plastics, elastomers, coatings and adhesives.
- The substance does not meet PBT or vPvB criteria under REACH Annex XIII and is not an identified endocrine disruptor.

2.4 Unknown acute toxicity

Not applicable. Acute toxicity data are available for the substance; no component of unknown acute toxicity is present.

3 SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance — single component. All Highpuris grades are ≥ 99.0 % acetone; the balance is water. Trace impurities are controlled to the grade specification and are not present at levels that alter the classification.

Chemical name	CAS No.	EC No.	Conc. (% w/w)	GHS classification of the ingredient
Acetone	67-64-1	200-662-2	≥ 99.0 – 100	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336
Water	7732-18-5	231-791-2	≤ 1.0	Not classified

EU Index number for acetone: 606-001-00-8. Annex VI carries supplemental hazard statement EUH066 for the substance; no specific concentration limits (SCLs) or M-factors are assigned.

Impurities and stabilising additives: none deliberately added.

4 SECTION 4: FIRST-AID MEASURES

4.1 Description of first-aid measures

General. Move the casualty out of the danger area. Rescuers must protect themselves and eliminate all ignition sources. Remove contaminated clothing and footwear immediately. If symptoms persist, call a physician. Show this Safety Data Sheet to the attending physician.
Inhalation. Remove the casualty to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, give artificial respiration — use a bag-valve mask or other mechanical device rather than mouth-to-mouth. Obtain medical attention if symptoms such as headache, dizziness, drowsiness or nausea occur or persist. Keep under observation; pulmonary oedema may follow inhalation of high vapour concentrations.
Skin contact. Wash off immediately with plenty of water for at least 15 minutes, removing contaminated clothing, shoes and jewellery while flushing. If skin irritation persists, call a physician. Wash contaminated clothing before re-use; contaminated clothing is a fire hazard until dry.
Eye contact. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses if present and easy to do; do not interrupt rinsing to do so. Get medical attention.
Ingestion. Clean the mouth with water and drink plenty of water afterwards. Do NOT induce vomiting — aspiration of the liquid into the lungs is a risk. Do not give anything by mouth to a drowsy, convulsing or unconscious person. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

- Inhalation: headache, dizziness, drowsiness, tiredness, nausea and vomiting; irritation of the nose and throat. High vapour concentrations may cause central nervous system depression and may cause pulmonary oedema.
- Eyes: serious irritation with redness, pain and lacrimation; vapour may also cause irritation.
- Skin: irritation; prolonged or repeated contact defats the skin and may cause dryness, cracking and dermatitis.
- Ingestion: may be harmful if swallowed — gastrointestinal irritation, nausea, vomiting and central nervous system depression with drowsiness.
- Systemic: symptoms of over-exposure may include headache, dizziness, tiredness, nausea and vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically and supportively. No specific antidote.
- After significant inhalation or ingestion, monitor for central nervous system depression, respiratory depression and delayed pulmonary oedema.
- Eye exposure: examine for corneal injury and refer to an ophthalmologist if irritation or visual disturbance persists.
- Epinephrine (adrenaline) and other sympathomimetic amines should be used with caution after exposure to solvent vapours, owing to possible myocardial sensitisation.

5 SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

- Suitable: water spray, carbon dioxide, dry chemical or alcohol-resistant foam. Water mist may be used to cool closed containers and to disperse vapour.
- Unsuitable: water may be ineffective in extinguishing the fire — do NOT use a solid water jet, which may spread the burning liquid. Ordinary (non-alcohol-resistant) foam breaks down on contact with the polar, water-miscible solvent.

5.2 Special hazards arising from the substance or mixture

- Highly flammable liquid (flash point −20 °C / −4 °F, closed cup). Risk of ignition. Vapour is heavier than air, may travel along the ground to a distant source of ignition and flash back. Vapour–air mixtures are explosive between approximately 2.1 and 13 vol %.
- Autoignition temperature 465 °C (869 °F).
- Containers may explode violently when heated owing to pressure build-up.
- Hazardous combustion products: carbon monoxide, carbon dioxide, formaldehyde and methanol.
- Sensitivity to mechanical impact and static discharge: no information available; treat vapour–air mixtures as ignitable by static discharge.

5.3 Advice for fire-fighters

- Wear a positive-pressure, pressure-demand self-contained breathing apparatus (MSHA/NIOSH-approved or equivalent) and full protective gear.
- Evacuate and isolate the area. Approach from upwind. Stay out of low areas where vapour may collect.
- Use water spray or fog to cool fire-exposed containers; withdraw immediately if a rising sound from a venting safety device or discolouration of a tank occurs. If a tank, rail car or tank truck is involved in a fire, isolate for 800 m (0.5 mile) in all directions.
- Prevent run-off water from entering drains and watercourses; collect contaminated fire-fighting water separately for disposal.
- Refer to ERG 2024 Guide 127 (Flammable liquids — polar / water-miscible).

6 SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel. Evacuate the area and remove all sources of ignition — no smoking, flares, sparks, flames or switching of electrical equipment in the immediate area. Move upwind and restrict access. Ensure adequate ventilation. Avoid contact with liquid and breathing of vapour. Take precautionary measures against static discharges. Alert the site emergency response team.

For emergency responders. Do not attempt response without suitable PPE: chemical splash goggles with face shield, butyl rubber gloves, flame-resistant chemically resistant clothing and boots, and a NIOSH-approved respirator or SCBA where vapour concentrations are unknown or exceed exposure limits. Use only intrinsically safe equipment, explosion-proof ventilation and spark-proof tools. Ventilate confined spaces before entry. Initial isolation of at least 50 m (150 ft) in all directions for a spill or leak is recommended per ERG Guide 127; increase the distance for large spills.

6.2 Environmental precautions

- Should not be released into the environment. Prevent entry into drains, sewers, surface water, groundwater and soil. Dyke or bund the spill.
- Vapour may accumulate in drains, sumps and basements and form explosive atmospheres; the liquid is miscible with water and mobile in soil.
- Report releases as required by law. Under CERCLA, a release of 5,000 lb (2,270 kg; approximately 760 US gal) or more of acetone in a 24-hour period must be reported immediately to the National Response Center (1-800-424-8802).

6.3 Methods and material for containment and cleaning up

- Remove all sources of ignition. Stop the leak if it can be done without risk. Upright leaking containers and transfer the contents to a sound, labelled, closed container.
- Soak up with inert absorbent material — dry sand, earth, vermiculite, diatomaceous earth or a proprietary solvent absorbent. Do NOT use combustible absorbents such as sawdust, paper or cloth in quantity.
- Collect the absorbed material with spark-proof tools into labelled, closed, suitable containers for disposal. Keep contaminated absorbent away from ignition sources — it remains flammable.
- Large spills: contain with a dyke or boom; vapour-suppressing alcohol-resistant foam may be applied to reduce the vapour hazard; transfer liquid with explosion-proof, grounded pumps to suitable containers.
- Wash the residual area with water only after the bulk has been removed, collecting the wash water for disposal. Do not flush to drain.
- Ventilate the area thoroughly and monitor for flammable atmosphere before releasing the area.

6.4 Reference to other sections

See Section 8 for exposure controls and personal protection, and Section 13 for disposal considerations.

7 SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

- Handle only in a chemical fume hood or under local exhaust ventilation. Ensure adequate ventilation, especially in confined areas. Avoid breathing vapour or mist.
- Keep away from open flames, hot surfaces and sources of ignition. No smoking. Use explosion-proof electrical, ventilating and lighting equipment and only non-sparking tools.
- To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Ground and bond containers and receiving equipment when transferring; take precautionary measures against static discharges. Use transfer equipment of metal, PTFE, PP, HDPE or glass — avoid polystyrene, PVC, polycarbonate and acrylic components, which are attacked.
- Wear the personal protective equipment specified in Section 8 at all times when handling. Do not get in eyes, on skin or on clothing. Avoid ingestion and inhalation.
- Do not eat, drink or smoke in the handling area. Wash face, hands and exposed skin thoroughly after handling.
- Keep the container tightly closed when not in use. Do not return unused material to the original container. Do not mix or contaminate with peroxides, oxidising acids or oxidiser-containing waste.
- Ensure an emergency eyewash station and safety shower are within 10 seconds' unobstructed travel of the work area.
- Empty containers retain product residue and flammable vapour and remain hazardous — do not cut, weld, drill, grind or reuse; do not pressurise.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Flammables area. Keep containers tightly closed in a dry, cool, well-ventilated place away from direct sunlight, heat, sparks and flame. Keep locked up or in an area accessible only to authorised, trained personnel. Store in accordance with NFPA 30 / 29 CFR 1910.106 (Class IB flammable liquid), using approved flammable-liquid storage cabinets or rooms and observing the quantity limits that apply.

Recommended temperature	Cool; preferably 15 – 25 °C (59 – 77 °F). Because the flash point is far below ambient temperature, ignition-source control and grounding are required at all storage temperatures.
Containment	Store on a liquid-tight, bunded or kerbed floor with secondary containment of at least 110 % of the largest container. Provide grounding for metal containers and explosion-proof lighting and ventilation.
Suitable materials	Original supplier packaging: borosilicate or soda-lime glass with PTFE-faced closures; HDPE (UN-approved packaging, limited-duration contact), PTFE, PP, stainless steel and carbon steel.
Unsuitable materials	Polystyrene, PVC, ABS, polycarbonate, acrylic (PMMA) and other plastics attacked by ketones; natural rubber, nitrile, neoprene and fluoroelastomer (FKM/Viton) seals; many paints, coatings and adhesives.
Incompatible storage	Segregate from strong oxidising agents (nitric acid, chromic acid, perchlorates, permanganates, peroxides, hydrogen peroxide), strong reducing agents, strong bases, halogenated compounds (chloroform), alkali metals and amines.
Shelf life	Indefinite when stored as specified in unopened original packaging; Electronic and HPLC grades should be opened only in a clean environment and kept tightly closed, as water uptake and trace contamination can no longer be guaranteed against the released specification once opened.

7.3 Specific end use(s)

Laboratory reagent, chromatography and cleaning solvent. No further specific guidance beyond the identified uses in Section 1.2.

8 SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits — acetone (CAS 67-64-1)

Source	Type	Value
OSHA PEL (29 CFR 1910.1000, Table Z-1)	8-hour TWA	1,000 ppm (2,400 mg/m³)
OSHA vacated 1989 PEL (not enforceable; informational)	TWA / STEL	750 ppm (1,800 mg/m³) / 1,000 ppm (2,400 mg/m³)
NIOSH REL	10-hour TWA	250 ppm (590 mg/m³)
ACGIH TLV	8-hour TWA / STEL	250 ppm / 500 ppm
NIOSH IDLH	Immediately dangerous to life or health	2,500 ppm (10 % of the lower explosive limit)
Cal/OSHA PEL (8 CCR 5155)	8-hour TWA / STEL	500 ppm / 750 ppm
Mexico OEL (NOM-010-STPS)	TWA / STEL	500 ppm / 750 ppm
EU IOELV (Directive 2000/39/EC)	8-hour TWA	500 ppm (1,210 mg/m³)
ACGIH BEI (biological exposure index)	Acetone in urine, end of shift	25 mg/L

8.2 Exposure controls

Appropriate engineering controls

- Use in a certified chemical fume hood, or under local exhaust ventilation captured at the point of generation. Ensure adequate ventilation, especially in confined areas.
- Provide general dilution ventilation sufficient to keep airborne concentrations below the exposure limits and well below the lower explosion limit. Exhaust ducting, fans and lighting must be explosion-proof; ground and bond all metal equipment.
- Safety shower and eyewash station must be immediately available and close to the workstation (ANSI/ISEA Z358.1).

Eye and face protection

- Chemical splash goggles conforming to ANSI/ISEA Z87.1 / 29 CFR 1910.133 or EN 166, worn together with a face shield whenever there is any risk of splashing, pouring or pressurised release. Ordinary safety spectacles are not adequate. Contact lenses should not be worn when handling large quantities.

Skin and body protection

- Gloves: butyl rubber is the preferred material, with multilayer laminate (EVOH/PE) gloves also suitable for extended contact. Nitrile, latex, PVC and neoprene give poor or short protection against acetone — nitrile is acceptable only for incidental splash and must be removed and replaced immediately on contact. Breakthrough times are manufacturer- and thickness-specific; confirm performance with the glove supplier for the specific task.

- Body: flame-resistant laboratory coat or antistatic coveralls; a chemically resistant, antistatic apron or suit for bulk transfer, drumming and spill response. Avoid synthetic clothing that readily generates static.
- Feet: closed, antistatic, chemically resistant footwear.

Respiratory protection

- Not normally required where work is carried out in an effective fume hood. Where the exposure limits may be exceeded or irritation or other symptoms are experienced, use a NIOSH/MSHA- or EN 149-approved respirator within its assigned protection factor, with a low-boiling organic solvent filter (EN 14387 Type AX, brown, conforming to EN 371). Acetone has a poor warning-property to cartridge-service-life ratio; follow a cartridge change-out schedule.
- For unknown concentrations, oxygen-deficient atmospheres, emergency response or concentrations at or above 2,500 ppm (IDLH), use a positive-pressure self-contained breathing apparatus or a supplied-air respirator with escape bottle.
- Respirator use requires a written programme under 29 CFR 1910.134, including medical evaluation, fit testing and training.

Environmental exposure controls

- Should not be released into the environment. Do not discharge to drains or watercourses. Route vent gases through condensers or carbon adsorption where necessary. Handle in accordance with good industrial hygiene and safety practice.

9 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Value
Physical state	Liquid
Colour	Colourless
Odour	Sweet
Odour threshold	19.8 ppm
Melting point / freezing point	−95 °C (−139 °F)
Softening point	No data available
Boiling point / initial boiling point	56 °C (132.8 °F)
Flammability	Highly flammable liquid and vapour (Category 2). Classified on the basis of test data.
Lower / upper explosion limit	2.1 vol % / 13 vol % in air
Flash point	−20 °C (−4 °F), closed cup
Auto-ignition temperature	465 °C (869 °F)
Decomposition temperature	No meaningful value available; stable under normal conditions
pH	7 (neutral)
Kinematic / dynamic viscosity	Dynamic viscosity 0.32 mPa·s at 20 °C
Solubility (water)	Soluble — miscible with water in all proportions
Solubility (other)	No information available from the manufacturer; miscible with ethanol, diethyl ether, chloroform and most organic solvents
Partition coefficient n-octanol/water (log Kow)	−0.24
Vapour pressure	24.7 kPa (247 mbar; 185 mmHg) at 20 °C
Density / relative density	0.790 g/cm³ (relative density 0.79)
Bulk density	Not applicable (liquid)
Relative vapour density	2.0 (air = 1) — vapour is heavier than air and will collect in low areas
Particle characteristics	Not applicable (liquid)
Molecular weight	58.08 g/mol
Evaporation rate	5.6 (n-butyl acetate = 1)
Refractive index	1.358 – 1.359
Oxidising properties	Not oxidising
Explosive properties	Not explosive; vapours may form explosive mixtures with air

Property	Value
Concentration	≥ 99.0 % w/w (Laboratory Reagent); ≥ 99.5 % w/w (Analytical Reagent); ≥ 99.8 % w/w (HPLC); ≥ 99.9 % w/w (Electronic)

9.2 Other information

No additional physical or chemical hazard information. Test data above relate to acetone unless otherwise stated.

10 SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Reactive hazard: none known under normal conditions of use, based on information available. Reacts vigorously with strong oxidising agents and forms unstable organic peroxides with hydrogen peroxide in the presence of acid, as detailed below.

10.2 Chemical stability

Stable under normal conditions and under the recommended storage and handling conditions. Vapour–air mixtures are ignitable by static discharge and other ignition sources at ambient temperature. Hazardous polymerisation does not occur.

10.3 Possibility of hazardous reactions

- None under normal processing. Violent reactions can occur with the incompatible materials listed below.
- Violent or explosive reaction with strong oxidising agents — nitric acid (especially with sulfuric acid), chromic acid, perchlorates, permanganates and peroxides.
- Contact with hydrogen peroxide, particularly in the presence of acid, forms shock-, friction- and heat-sensitive acetone peroxides (explosion hazard).
- Exothermic, potentially violent reaction with chloroform and other halogenated compounds in the presence of strong base; reaction with alkali metals liberates hydrogen.
- Reacts with strong reducing agents, strong bases and amines, generating heat; aldol condensation may be catalysed by strong bases.

10.4 Conditions to avoid

Heat, flames and sparks, hot surfaces and other ignition sources; static discharge; direct sunlight; incompatible products; open or poorly closed containers.

10.5 Incompatible materials

Class	Examples
Oxidising agents	Nitric acid, chromic acid, perchlorates, permanganates, peroxides, hydrogen peroxide, hypochlorites
Reducing agents	Strong reducing agents, metal hydrides
Bases and amines	Sodium and potassium hydroxide, ammonia, aliphatic and aromatic amines
Halogenated compounds	Chloroform and other halogenated solvents (especially in the presence of base)
Alkali metals	Sodium, potassium, lithium and their alloys
Construction materials	Polystyrene, PVC, ABS, polycarbonate, acrylics, natural rubber, nitrile and fluoroelastomer seals; many coatings and adhesives

10.6 Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO_2), formaldehyde and methanol on heating or in a fire.

11 SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in 29 CFR 1910.1200(c) / GHS

Likely routes of exposure: inhalation of vapour, skin and eye contact, and accidental ingestion.

Endpoint	Data and conclusion
Acute toxicity — oral	LD_{50} (rat): 5,800 mg/kg bw. May be harmful if swallowed. Not classified (above the Category 4 cut-off of 2,000 mg/kg).
Acute toxicity — dermal	LD_{50} (rabbit): > 15,800 mg/kg bw; LD_{50} (rat): > 7,400 mg/kg bw. Not classified.

Endpoint	Data and conclusion
Acute toxicity — inhalation	LC_{50} (rat, 4 h): 76 mg/L (vapour). Not classified; narcotic effects at high concentrations are covered by the STOT SE classification.
Skin corrosion / irritation	Based on available data, the classification criteria are not met. May cause irritation; prolonged or repeated skin contact defats the skin and may produce dryness, cracking and dermatitis (EUH066).
Serious eye damage / irritation	Irritating to eyes (rabbit, OECD 405); vapour may cause irritation. Classified Eye Irritation Category 2.
Respiratory or skin sensitisation	Not a skin sensitiser (guinea pig maximisation test, GPMT: non-sensitising) and not a respiratory sensitiser. Not classified.
Germ cell mutagenicity	Negative in the bacterial reverse mutation (Ames) test (OECD 471) and in the in vitro mammalian cell gene mutation test (OECD 476). Not classified.
Carcinogenicity	Not listed by IARC, NTP, ACGIH, OSHA or Mexico as a carcinogen. Not classified.
Reproductive toxicity	Based on available data, the classification criteria are not met. Not classified.
STOT — single exposure	Category 3. Target organ: central nervous system (CNS). Narcotic effects — may cause drowsiness or dizziness (H336).
STOT — repeated exposure	Not classified. Rat, 90 days, oral (OECD 408): NOAEL = 900 mg/kg; no target organs known.
Aspiration hazard	Based on available data, the classification criteria are not met.

11.2 Other information

Target organs: central nervous system, eyes, skin and respiratory tract. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; inhalation of high vapour concentrations may cause pulmonary oedema. Toxicologically synergistic products reported by the manufacturer: chloroform; acetonitrile; ethanol; trichloroethylene; bromodichloromethane; dibromochloromethane; N-nitrosodimethylamine; 1,1,2-trichloroethane; styrene; 2,5-hexanedione; carbon tetrachloride; 1,2-dichlorobenzene. Endocrine disrupting properties: this product does not contain any known or suspected endocrine disruptors.

The toxicological properties have not been fully investigated in all endpoints; the assessment above is based on the manufacturer's test data for acetone.

12 SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Endpoint	Value
Fish — acute	LC_{50} (Oncorhynchus mykiss, rainbow trout, 96 h): 5,540 mg/L. LC_{50} (Alburnus alburnus, bleak, 96 h): 11,000 mg/L. LC_{50} (Leuciscus idus, ide, 48 h): 11,300 mg/L. LC_{50} (Salmo gairdneri, 24 h): 6,100 mg/L.
Aquatic invertebrates — acute	EC_{50} (water flea, Daphnia, 48 h): 8,800 mg/L; 12,700 mg/L; 12,600 mg/L.
Algae	NOEC (freshwater algae, 96 h): 430 mg/L.
Microorganisms	EC_{50} (Microtox, 15 min): 14,500 mg/L.

Acetone has low acute toxicity to aquatic organisms; effects occur only at concentrations far above those expected from controlled use. Releases of large quantities may nonetheless deplete oxygen during biodegradation.

12.2 Persistence and degradability

Persistence is unlikely based on information available. Acetone is readily biodegradable and is also removed from water by volatilisation.

12.3 Bioaccumulative potential

No bioaccumulation data available from the manufacturer. Not expected to bioaccumulate: log Kow = −0.24 and complete water miscibility indicate a very low potential.

12.4 Mobility in soil

Will likely be mobile in the environment due to its volatility; miscible with water and with low adsorption to soil, it can migrate to groundwater if spilled in quantity.

12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for PBT or vPvB under REACH Annex XIII.

12.6 Other adverse effects

Germany water hazard class WGK 1 (slightly hazardous to water). Not an ozone-depleting substance. Acetone is excluded from the US EPA definition of volatile organic compounds (40 CFR 51.100(s)) because of its negligible photochemical reactivity; state and local VOC rules may differ. This product

does not contain components meeting the definition of per- and polyfluoroalkyl substances (PFAS).

13 SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste under 40 CFR 261 and must consult federal, state, regional and local hazardous waste regulations to ensure complete and accurate classification.
- Dispose of surplus and non-recyclable material to an approved waste disposal plant via a licensed hazardous-waste contractor, preferably by incineration or fuel blending in a permitted facility. Do not discharge to sewers, drains or watercourses.
- Collect waste acetone in labelled, grounded, closed containers of compatible material. Never mix with oxidising acids, peroxide-containing or other oxidiser-bearing waste streams, which can form explosive acetone peroxides or react violently.
- Empty containers retain product residue and flammable vapour and remain hazardous. Do not cut, weld, braze, drill, grind or expose to heat, flame or sparks.
- Triple-rinse containers with a suitable solvent, collecting the rinsate as hazardous waste, before offering for recycling or reconditioning; otherwise dispose of the container as unused product. Deface or remove the label from a properly cleaned container.
- Dispose of the container in accordance with local regulations. RCRA "empty" criteria are set out in 40 CFR 261.7.

13.2 Waste codes

RCRA (40 CFR 261): discarded unused product exhibits the ignitability characteristic (flash point < 60 °C) — EPA hazardous waste number D001 — and, as an unused commercial chemical product when discarded, is U-listed — U002 (acetone). Spent acetone used as a solvent may also fall under F003 (spent non-halogenated solvents). Not a P-listed waste. European waste catalogue: EWC code 16 05 06* (laboratory chemicals consisting of or containing hazardous substances) or 07 01 04* (other organic solvents, washing liquids and mother liquors). Final code allocation is the responsibility of the waste producer. Basel Convention: Annex I Y42 (organic solvents excluding halogenated solvents) when exported as waste.

14 SECTION 14: TRANSPORT INFORMATION

This product is a regulated dangerous good in all modes of transport.

14.1 Common transport classification (all modes)

UN number / UN ID number	UN 1090
UN proper shipping name	Acetone
Transport hazard class	Class 3 — Flammable liquids
Subsidiary hazard	None
Packing group	II
Label(s) required	Class 3 "Flammable liquid" (red) on every package
Environmental hazards	Not classified as a marine pollutant under the IMDG Code and not an environmentally hazardous substance under ADR/RID.
Special precautions for user	Transport upright, secured against movement, away from foodstuffs. Keep away from heat, sparks and ignition sources. Segregate from oxidisers (Class 5.1), strong bases and peroxides. Ground and bond during loading and unloading; use only non-sparking tools and explosion-proof equipment.
Transport in bulk (MARPOL Annex II / IBC Code)	Acetone is listed in Chapter 17 of the IBC Code. Not applicable to packaged goods; consult the ship's Certificate of Fitness for the pollution category and ship type required for bulk carriage.

Transport hazard label(s) required on the package:



Class 3 — Flammable liquid

Minimum 100 mm × 100 mm on each side, set on a point, with a solid inner line 5 mm inside the edge (49 CFR 172.407). Reduced-size labels are permitted only where the package is too small to bear a full-size label. Where a subsidiary hazard label is required, it is displayed next to the primary label.

14.2 US DOT — 49 CFR (road, rail and domestic transport)

Hazardous materials table entry	Acetone — 3, UN1090, PG II
Label codes	3
Special provisions (49 CFR 172.102)	IB2, T4, TP1
Packaging — exceptions	49 CFR 173.150
Packaging — non-bulk	49 CFR 173.202
Packaging — bulk	49 CFR 173.242
Quantity limitation — passenger aircraft/rail	5 L
Quantity limitation — cargo aircraft only	60 L
Vessel stowage	Location E
Limited quantity	Authorised under 49 CFR 173.150(b): inner packagings not exceeding 1.0 L, package gross mass not exceeding 30 kg. Limited quantity marking required in place of labels.
Reportable quantity (RQ)	5,000 lb (2,270 kg) of acetone — approximately 760 US gal of product. Acetone is a CERCLA hazardous substance (listed via RCRA waste number U002). Where a single package contains an RQ or more, the letters "RQ" must appear on the shipping paper and package marking.
ERG 2024 guide number	127 — Flammable liquids (polar / water-miscible)
Emergency response telephone	Required on the shipping paper under 49 CFR 172.604 — see Section 1.4
Placarding	FLAMMABLE placard required for bulk packagings and for non-bulk shipments where the aggregate gross weight of Table 2 materials is 454 kg (1,001 lb) or more.

14.3 IMDG Code (sea)

UN number / class / PG	UN 1090, Class 3, PG II
Proper shipping name	ACETONE
EmS (emergency schedules)	F-E (fire) and S-D (spillage)
Segregation group	None assigned
Marine pollutant	No
Limited quantity	1 L
Excepted quantity	E2
Stowage and segregation	Stowage category B. Segregate from oxidising agents (Class 5.1); keep "away from" sources of heat. Refer to the IMDG Code edition in force for the stowage category and segregation table.

14.4 IATA DGR / ICAO Technical Instructions (air)

UN number / class / PG	UN 1090, Class 3, PG II
Proper shipping name	Acetone
Passenger and cargo aircraft	Packing Instruction 353 — maximum net quantity 5 L per package
Cargo aircraft only	Packing Instruction 364 — maximum net quantity 60 L per package
Limited quantity (passenger aircraft)	Packing Instruction Y341 — maximum net quantity 1 L per package
Excepted quantity code	E2
ERG code (ICAO)	3L
Note	Packing instruction numbers change between editions of the IATA Dangerous Goods Regulations. Verify against the edition in force on the date of shipment before completing the Shipper's Declaration.

14.5 ADR / RID / ADN (European road, rail and inland waterway)

UN number / class / PG	UN 1090, Class 3, PG II
Classification code	F1 — flammable liquids, without subsidiary hazard

Labels	3
Tunnel restriction code	(D/E)
Hazard identification number (Kemler)	33
Transport category / limited quantity	Transport category 2; limited quantity 1 L
Packing instructions	P001, IBC02
Note	Verify against the ADR/RID edition in force before shipment.

14.6 Shipping documentation example

UN1090, Acetone, 3, PG II — followed by the number and type of packages, total quantity, packaging authorisation, emergency response telephone number and, where applicable, the "RQ" designation and limited-quantity marking.

The shipper is responsible for confirming that packaging is UN-performance tested and marked to the required standard, that all personnel involved are trained and certified under 49 CFR 172 Subpart H (and IATA/IMDG equivalents), and that the classification remains valid under the regulatory edition in force on the date of shipment.

15 SECTION 15: REGULATORY INFORMATION

15.1 United States federal regulations

Regulation	Status
TSCA (15 U.S.C. §2601 et seq.)	Acetone, CAS 67-64-1, is listed on the TSCA Chemical Substance Inventory with an "active" designation. No TSCA section 12(b) export notification requirement applies. Not subject to a section 5(a)(2) significant new use rule and not a TSCA 6(h) PBT substance.
OSHA Hazard Communication (29 CFR 1910.1200)	Classified as a hazardous chemical. This SDS is prepared to the HCS 2024 amendment (GHS Rev. 7), for which the compliance date for substances was 19 May 2026.
OSHA flammable liquids (29 CFR 1910.106)	Category 2 flammable liquid (flash point −20 °C, boiling point 56 °C); Class IB flammable liquid under NFPA 30 (flash point below 73 °F and boiling point at or above 100 °F). Storage, dispensing and handling requirements apply.
OSHA PSM (29 CFR 1910.119, App. A)	Not a listed highly hazardous chemical.
CERCLA section 103 (40 CFR 302.4)	Hazardous substance (listed via RCRA waste number U002). Reportable quantity 5,000 lb (2,270 kg). Releases at or above the RQ in any 24-hour period must be reported immediately to the National Response Center, 1-800-424-8802.
EPCRA section 302 (40 CFR 355, App. A)	Not an extremely hazardous substance; section 302 emergency planning notification is not triggered by this product.
EPCRA sections 311 / 312 (40 CFR 370)	Reportable. Applicable hazard classes: flammable (liquids), serious eye damage or eye irritation (Category 2) and specific target organ toxicity — single exposure (Category 3). Reporting threshold 10,000 lb on site at any one time.
EPCRA section 313 (TRI, 40 CFR 372)	Not listed (acetone was delisted in 1995). No Toxics Release Inventory reporting requirement.
Clean Air Act section 112 / 112(r)	Not a listed hazardous air pollutant (delisted in 1995) and not a regulated substance under 40 CFR 68.130.
Clean Water Act section 311 (40 CFR 116/117)	Not a designated hazardous substance under the Clean Water Act; the reportable quantity of 5,000 lb arises under CERCLA only. Not a section 307 priority pollutant or toxic pollutant.
RCRA (40 CFR 261)	Discarded unused product exhibits the ignitability characteristic (D001) and is a U-listed commercial chemical product (U002). Not P-listed.
DEA / Chemical Diversion and Trafficking Act (21 CFR 1310)	List II regulated chemical (21 CFR 1310.02; DEA chemical code 6532). Regulated-transaction threshold 150 kg per transaction. Distributors, importers and exporters are subject to registration/reporting, recordkeeping and suspicious-order reporting requirements.
FDA / USDA	Not supplied as a food-grade, USP, FCC or NF material. Not for use in food, drug or cosmetic applications.
US Department of Homeland Security (6 CFR 27, App. A)	Not a chemical of interest.

15.2 United States state regulations

State list	Status
California Proposition 65	Acetone is not listed under the Safe Drinking Water and Toxic Enforcement Act of 1986. No Proposition 65 warning is required for this product.
California — other	Cal/OSHA PEL 500 ppm TWA / 750 ppm STEL. Not a CARB Toxic Air Contaminant.
Massachusetts Right-to-Know	Listed (Substance List, 105 CMR 670).
New Jersey Right-to-Know	Listed (Hazardous Substance List; substance list). Special Health Hazard Substance — flammable.
Pennsylvania Right-to-Know	Listed (Hazardous Substance List).
Rhode Island, Minnesota, Texas	Rhode Island and Minnesota: listed on the respective hazardous substance / right-to-know lists. Not listed: Illinois.

15.3 International regulations

Jurisdiction	Status
Canada	Classified under the Hazardous Products Regulations (SOR/2015-17) consistently with Section 2. Listed on the Domestic Substances List (DSL). Not subject to NPRI reporting.
European Union — CLP	Harmonised classification, Annex VI to Regulation (EC) No 1272/2008, Index No. 606-001-00-8: Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066. No specific concentration limits.
European Union — REACH	Registered substance. Not on the Candidate List of substances of very high concern and not subject to authorisation (Annex XIV). No Annex XVII restriction specific to acetone (the manufacturer sheet cross-refers generically to entry 75, which concerns tattoo inks and permanent make-up only). Supplier REACH registration number to be inserted before EU/EEA placement.
Seveso III (Directive 2012/18/EU)	Not named individually; captured under hazard category P5c (flammable liquids, Category 2 or 3 not covered by P5a/P5b): lower tier 5,000 t / upper tier 50,000 t.
Rotterdam / Stockholm / Montreal Conventions	Not listed under the PIC procedure, not a persistent organic pollutant and not an ozone-depleting substance.
Basel Convention	Annex I — Y42 (organic solvents excluding halogenated solvents) when exported as waste.
Chemical Weapons Convention	Not a scheduled chemical.
Chemical inventories	Listed on TSCA (USA), DSL (Canada), EC Inventory / REACH (EU), AICS/AIIC (Australia), IECSC (China), ENCS and ISHL (Japan), KECI (Korea; KE-29367), PICCS (Philippines), NZIoC (New Zealand), TCSI (Taiwan) and the Indian Chemical Inventory.
Mexico	Serious risk, Grade 3. OEL (NOM-010-STPS): TWA 500 ppm; STEL 750 ppm.
Germany	Water Hazard Class WGK 1 (slightly hazardous to water).

15.4 Chemical safety assessment

A chemical safety assessment has been carried out for acetone under REACH by the registrant consortium. No exposure scenarios are annexed to this SDS; users placing the substance on the EU/EEA market should obtain the extended SDS from the registrant.

16 SECTION 16: OTHER INFORMATION

16.1 Hazard rating systems

System	Rating	Notes
NFPA 704	Health 2 · Flammability 3 · Instability 0 · Special: none	Health rating taken from the manufacturer's NFPA values
HMIS® III	Health 2 · Flammability 3 · Physical hazard 0 · PPE: X	Health rating aligned with the manufacturer's NFPA value; PPE code to be assigned by the employer based on the task



Rating scale 0 = minimal, 4 = severe. These ratings are supplementary and are not a substitute for the GHS classification in Section 2.

16.2 Full text of hazard statements referred to in this SDS

- H225 — Highly flammable liquid and vapour.
- H319 — Causes serious eye irritation.

- H336 — May cause drowsiness or dizziness.
- EUH066 — Repeated exposure may cause skin dryness or cracking.

16.3 Abbreviations and acronyms

Abbreviation	Meaning
ACGIH	American Conference of Governmental Industrial Hygienists
ADR / RID / ADN	European agreements concerning the international carriage of dangerous goods by road / rail / inland waterway
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging
DNEL / PNEC	Derived no-effect level / predicted no-effect concentration
EmS	Emergency schedule (IMDG Code)
EPCRA	Emergency Planning and Community Right-to-Know Act
ERG	Emergency Response Guidebook (PHMSA / Transport Canada / SCT)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HCS	Hazard Communication Standard, 29 CFR 1910.1200
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA DGR	International Air Transport Association Dangerous Goods Regulations
IDLH	Immediately dangerous to life or health
IMDG	International Maritime Dangerous Goods Code
LC_{50} / LD_{50} / EC_{50}	Concentration / dose / effective concentration lethal or effective to 50 % of a test population
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PBT / vPvB	Persistent, bioaccumulative and toxic / very persistent and very bioaccumulative
PEL / REL / TLV	Permissible exposure limit / recommended exposure limit / threshold limit value
PG	Packing group
RCRA	Resource Conservation and Recovery Act
RQ / TPQ / TQ	Reportable quantity / threshold planning quantity / threshold quantity
SCBA	Self-contained breathing apparatus
STOT SE / RE	Specific target organ toxicity — single exposure / repeated exposure
TSCA	Toxic Substances Control Act
TWA / STEL	Time-weighted average / short-term exposure limit
WGK	Wassergefährdungsklasse (German water hazard class)
BEI	Biological exposure index (ACGIH)
DEA	US Drug Enforcement Administration
EUH	EU supplemental hazard statement
EWC	European waste catalogue
IOELV	Indicative occupational exposure limit value (EU)

16.4 Key references

- 29 CFR 1910.1200, OSHA Hazard Communication Standard, as amended by the final rule of 19 July 2024 (89 FR 44144), aligning with GHS Revision 7.
- 49 CFR Parts 171–180, US DOT Hazardous Materials Regulations; Hazardous Materials Table, 49 CFR 172.101.
- 2024 Emergency Response Guidebook, Guide 127.
- IMDG Code and IATA Dangerous Goods Regulations, editions in force.
- 40 CFR 302.4, 40 CFR 355 Appendix A, 40 CFR 370, 40 CFR 372, 40 CFR 68.130 and 40 CFR 261; 21 CFR 1310.
- Regulation (EC) No 1272/2008 Annex VI, Index No. 606-001-00-8; Regulation (EC) No 1907/2006 Annex II.
- NIOSH Pocket Guide to Chemical Hazards, acetone; ACGIH TLVs and BEIs, current edition.
- Manufacturer safety data sheet for acetone (US OSHA HCS 2024 format, revision 10, 18 December 2025) — source of the physical, toxicological and ecotoxicological test values reproduced here.
- ECHA registered substance dossier and PubChem CID 180, acetone.

16.5 Revision information

Version	1.0
Date of issue	01 November 2026
Reason for revision	First issue under Highpuris LLC for acetone. Content prepared in the 16-section format of 29 CFR 1910.1200, Appendix D, with full US DOT 49 CFR transport detail, IMDG / IATA / ADR classification, and the complete Highpuris catalogue SKU list for this product.
Sections revised	All — first issue
Prepared by	Regulatory Affairs, Highpuris LLC

16.6 Disclaimer

The information in this Safety Data Sheet is provided in good faith and is believed to be accurate as at the date of issue. It has been compiled from data on acetone published by regulatory authorities, manufacturers and recognised technical sources, and relates only to the specific material identified in Section 1. It does not constitute a warranty, express or implied, of merchantability, fitness for a particular purpose or of any other kind, and Highpuris LLC accepts no liability for loss or damage arising from the handling or use of the product. The material may present hazards in combination with other substances or in processes not described here. It is the responsibility of the user to determine the suitability of this information for their own particular purpose, to comply with all applicable laws and regulations, and to ensure that the material is handled only by adequately trained personnel. Transport classifications, exposure limits and regulatory listings change. This document must be reviewed against the regulatory editions in force at the date of each shipment.

— END OF SAFETY DATA SHEET —

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