

Safety data sheet as per Commission Regulation (EU) 2020/878

Product: Acetone



SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name	Acetone
Chemical Name	Propan-2-one
CAS Number	67-64-1
EC Number	200-662-2

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

Relevant identified uses	Industrial Use: For manufacture, processing and distribution of substances and mixtures Professional use: Formulation into mixture- phenolic resins, coatings, adhesives, cleaning agents; Rubber production and processing, as a solvent; Use in oil field drilling and production operations, in polymer manufacturing, mining, functional fuels, de-icing and anti-icing applications, paint spraying, explosives manufacture Consumer use: Used in coatings, primers, cleaning agents, paints, inks, adhesives, de-icing and anti-icing of vehicles and similar equipment.
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Uses identified against Not for use other than those specified

1.3 Details of the supplier of the safety data sheet:

Manufacturer	Prasol Chemicals Limited Prasol House, Plot No.A-17/2/3, T.T.C. Industrial Area, Khairne M.I.D.C., Navi Mumbai - 400 710. Maharashtra, India.
Telephone	+91-22-69450600/ 61952500
Telefax	+91-22-61952577
e-mail address	sales@prasolchem.com; inquiry@prasolchem.com

1.4 Emergency telephone number

Telephone	+91-22-7045783555/ 7045790555
Language	English

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flammable Liquid	Category 2	H225	Highly flammable liquid and vapor
Eye Irritation	Category 2	H319	Causes serious eye irritation
Specific Target Organ Toxicity	Category 3	H336	May cause drowsiness or dizziness
		EUH066	Repeated exposure may cause skin dryness or cracking

Information concerning particular hazards for human and environment: No further information

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms



GHS02



GHS07

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

General	P103	Read label before use.
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, lighting equipment.
	P242	Use non-sparking tools.
	P243	Take action to prevent static discharge.
	P261	Avoid breathing fume, gas, mist, vapours and spray.
	P264	Wash hands thoroughly after handling.
	P271	Use only outdoors or in a well -ventilated area.

Safety data sheet as per Commission Regulation (EU) 2020/878

Product: Acetone



Response	P280	Use protective gloves and eye protection.
	P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
Storage	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 doctor if you feel unwell.
	P337+P331	If eye irritation persists: Get medical advice.
	P370+P378	In case of fire: Use CO ₂ , dry powder, foam or water spray to extinguish.
	P403+P233	Store in a well-ventilated place. Keep container tightly closed
	P403+P235	Store in a well-ventilated place. Keep cool.
Disposal	P405	Store locked up.
	P501	Dispose of contents and container in accordance with national regulations.

2.3 Other hazards

Not a PBT, vPVB substance according to the criteria of Annex XIII to REACH regulation

Not having endocrine disruptive properties as per criteria of Delegated Regulations (EC) 2017/2100 or (EC) 2018/605

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Name	Acetone/ Propan-2-one
CAS Number	67-64-1
EC Number	200-662-2
Molecular Formula	C ₃ H ₆ O
Molecular Weight	58.08

Ingredient	Classification	Concentration (%)	SCL, M-factor, ATE
Acetone	Flam. Liq, 2, Eye Irrit. 2, STOT SE 3 H225, H319, H336	99 -100	Not assigned

3.2 Mixtures not applicable

None of the ingredients present are classified as skin sensitisers 1A, respiratory sensitisers 1A, aspiration hazards and endocrine disruptors.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information	Take off all contaminated clothing immediately.
After inhalation	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If unconscious, evaluate the need for artificial respiration. Get immediate medical attention
After skin contact	Wash off with plenty of water immediately, seek medical advice if necessary.
After eye contact	Rinse with plenty of water immediately and seek medical advice.
After swallowing	Do not induce vomiting and seek medical advice immediately.
4.2 Most important symptoms and effects, both acute and delayed	General: Burning eyes and skin, fatigue, nausea, unconsciousness.

After inhalation	EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Headache. Dizziness. Coordination disorders. Narcosis. Impaired concentration. Respiratory difficulties.
After skin contact	Irritant. Repeated exposure may cause skin dryness or cracking, due to defatting properties. No indication for sensitising properties in humans.
After eye contact	Irritation of the eye tissue. Inflammation/damage of the eye tissue.
After swallowing	Vomiting. Nausea. Disturbances of consciousness
Chronic symptoms	Skin rash/inflammation
4.3 Indication of any immediate medical attention and special treatment needed	Combat acidosis. Monitor alkali reserves. Monitor breathing. If breathing becomes irregular or ceases, apply mouth-to-mouth resuscitation or artificial respiration immediately, where required supply oxygen
Attention:	Several hours latency period. In severe cases, pneumonia or a pulmonary edema may develop

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	CO ₂ , dry powder, foam or water spray
Unsuitable extinguishing media	water jet

Safety data sheet as per Commission Regulation (EU) 2020/878

Product: Acetone



5.2 Special hazards arising from the substance or mixture	Highly flammable. Explosive mixtures with air may even form at room temperature. Beware of re-ignition Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may back-flash over great distances when ignited. Ignition by hot surfaces, sparks and open flames. May form toxic carbon oxides if case of fire.
5.3 Advice for firefighters	Do not expose to high temperature. Danger of bursting and explosion. Use fine water spray to cool endangered containers. Move undamaged containers from immediate hazard area. 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. Mixtures with 4% acetone and 96% water still have a flash point of 54°C.
Hazchem Code	2YE

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	For small spills and large spills: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Clear spills immediately. Remove persons not involved upwind. .
For non-emergency personnel	Protective equipment: Gloves, Face shield, Protective clothing. Emergency procedures: Mark the danger area. No naked flames. Wash contaminated clothes.
For emergency responders	Protective equipment: Equip cleanup crew with proper protection. Emergency procedures: Ventilate area.
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	For containment: Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Explosion protection required For cleaning up: Soak up with inert absorbent material eg. sand, earth, vermiculite or powdered lime stone and keep in suitable, closed containers for disposal. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. 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.
6.4 Reference to other sections	Section 8 for information on personal protection equipment. Section 13 for disposal information

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling	Measures to prevent fire: Keep away from naked flames/heat. Use spark-/explosion proof appliances. Provide adequate ventilation, and local exhaust as needed. Provide room air exhaust at ground level. Concentrated vapours are heavier than air. Avoid the formation of aerosol. Do not breathe vapours. Use only explosion-protected equipment/instruments. Do not use air pressure.
Protective measures	Measures to prevent aerosol and dust generation: Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use.
Advice on general occupational hygiene	Measures to protect the environment: Keep container tightly closed. If possible, use material transfer, metering and blending plants that are closed. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
7.2 Conditions for safe storage, including any incompatibilities	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 re-ignition. Potentially
Technical measures and storage conditions	

Safety data sheet as per Commission Regulation (EU) 2020/878

Product: Acetone



	explosive mixture may form within partially empty containers. Emergency cooling must be provided for in case of a fire in the vicinity. Do not weld.
	Follow normal measures for preventive fire protection.
Packaging material	Steel, stainless steel, carbon steel, glass
Incompatible products	Copper may be attacked. May attack plastics. Strong bases. Strong acids, reducers, acid anhydrides
Storage conditions	Store in a cool, dry area. Ventilation at floor level. Store at ambient temperature. Keep container tightly closed in a dry and well-ventilated place. Residual vapours might explode on ignition; do not apply heat, cut, drill and grind or weld on or near the container.
Advice on common storage	Observe prohibition against storing together!
Storage stability	Stable under recommended storage conditions
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

Occupational Exposure Limit 1.210 mg/m³; (500 ppm) TWA

DNEL/DMEL (Workers)

Acute - local effects, inhalation 2420 mg/m³

Long-term - systemic effects, dermal 186 mg/kg bodyweight/day

Long-term - systemic effects, inhalation 1210 mg/m³

Long-term - local effects, inhalation Low hazard

DNEL/DMEL (General population)

Acute - local effects, inhalation Low hazard

Long-term - systemic effects, oral 62 mg/kg bodyweight/day

Long-term - systemic effects, inhalation 200 mg/m³

Long-term - systemic effects, dermal 62 mg/kg bodyweight/day

Long-term - local effects, inhalation Low hazard

PNEC (Water)

PNEC aqua (freshwater) 10.6 mg/l

PNEC aqua (marine water) 1.06 mg/l

PNEC (Sediment)

PNEC sediment (freshwater) 30.04 mg/kg dwt

PNEC sediment (marine water) 3.04 mg/kg dwt

PNEC (Soil)

PNEC soil 29.5 mg/kg dwt

PNEC (STP)

PNEC sewage treatment plant 100 mg/l

8.2 Exposure controls

Appropriate engineering controls Explosion protection required. Provide good ventilation and/or an exhaust system in the work area.

Personal protective equipment

Eye/ face protection closed goggles, face shield

Skin protection

Hand protection Butyl-rubber 0.5 mm > 480 min

Body protection Use solvent-resistant protective clothing.
Flame-retardant antistatic protective clothing; safety shoes

For respiratory protection Respiratory equipment with suitable filter or a self-contained respiratory apparatus.

For thermal hazards Flammable liquid; do not expose to heat

For Environmental exposure If possible use closed metering and blending plants. Do not inhale vapours / aerosols.
Avoid contact with skin and eyes. Remove immediately all contaminated clothing. Use disposable clothing if appropriate. 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 Colourless

Odour mildly pungent, somewhat aromatic

Safety data sheet as per Commission Regulation (EU) 2020/878

Product: Acetone



Odour threshold	20ppm
Melting point	-94.8°C
Boiling point	55.8-56.6°C (Flammable liquid Category 2 ; Bp >35°C)
Flammability (solid, gas)	highly flammable
Lower and upper explosion limit	2.2 -13.0% v/v
Flash point	-17°C (Closed cup) (Flammable liquid Category 2 ; Fp <23°C)
Ignition temperature	465°C
Decomposition temperature	no data available
pH	5-6
Viscosity at 20 °C	0.32 mPa.s
Relative density	0.79 at 20°C
Solubility in water	fully miscible at 20°C
Partition coefficient	-0.24 log Kow (n-octanol/water) at 20°C
Vapour pressure	240 hPa at 20°C
Relative vapour density	2 (air =1)
Particle characteristics	Not applicable (substance is a liquid)
9.2 Other information	
Explosive properties	no explosive properties based on chemical structure
Oxidizing properties	no oxidizing properties based on chemical structure
Evaporation rate	6 (nBuAc=1)
Heat of combustion	-1821kJ/mol (gas)
Heat of vaporization	31.3 kJ/mol

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may back-flash over great distances when ignited. May become electrostatically charged.
10.2 Chemical stability	Under storage at normal ambient temperatures (-40°C to +40°C), the product is stable. Unstable in the presence of incompatible materials. Hazardous polymerisation will not occur.
10.3 Possibility of hazardous reactions	No known hazardous reactions if used as directed. See Section 7 for further information
10.4 Conditions to avoid	Highly flammable. Concentrated vapours are heavier than air. Forms explosive mixtures with air, also in empty, uncleaned containers. May produce strongly irritating chloric acetone when being mixed with chloridized hydrocarbons and exposed to light.
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. See section 7.
10.6 Hazardous decomposition products	Thermal decomposition products- carbon monoxide, carbon dioxide and other pyrolysis products typical of burning organic material

SECTION 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity

LD50	oral	rat	5800 mg/kg bw	Non toxic
LC50	inhalation	3h, rat	132 mg/l	Relative low toxicity
LD50	Dermal	rabbit	>9.4 ml/kg bw	Non toxic
Mortality	Aspiration	rat	0.2ml	60%

Skin irritation

Mild skin irritation 24 h (rabbit)

Serious eye irritation

slightly irritating - 24 h (rabbit) **Category 2, H319**

Respiratory or skin sensitization

No sensitizing effects known

Germ cell mutagenicity

non mutagenic (Ames test)

Carcinogenicity

no indications for a carcinogenic potential

Reproductive toxicity

no adverse effect on reproduction (rat)

STOT-single exposure

Category 3 H336 respiratory tract irritation

STOT-repeated exposure

NOAEL 10000 ppm or 900mg/kg bw/day; rat (oral)

NOAEC 19000ppm, 8 weeks for rats (inhalation)

Dermal repeated dose toxicity not justified as acetone is highly volatile

Safety data sheet as per Commission Regulation (EU) 2020/878

Product: Acetone



Aspiration hazard	no data available
11.2 Information on other hazards	
Endocrine disrupting properties	No endocrine disrupting properties
Other information	No further information

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	
Aquatic toxicity	
Toxicity to fish	LC50 96h 7163mg/L <i>Pimephales promelas</i>
Toxicity to aquatic invertebrates	EC50 48h 8800 mg/L <i>Daphnia magna</i>
Toxicity to aquatic algae and cyanobacteria	NOEC 8d 530 mg/L <i>Microcystis aeruginosa</i>
Toxicity to microorganisms	EC50 30min 66.15mg sewage, domestic
12.2 Persistence and degradability	
Biodegradation	readily biodegradable (95% in 28days)
12.3 Bioaccumulative potential	Bioconcentration factor = 3; very low potential for bioaccumulation
12.4 Mobility in soil	log Kow=-0.24; acetone is miscible with water, has low log Kow and vapour pressure, and is readily biodegradable. It would be expected to partition predominantly into environmental waters, not to sorb on soil or sediment particles and not to be a candidate for long distance transport
12.5 Results of PBT and vPvB assessment	Not a PBT, vPvB substance according to the REACH regulation
12.6 Endocrine disrupting properties	No endocrine disrupting properties
12.7 Other adverse effects	No further information available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Observe all national, state and local environmental regulations.
Product disposal	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Packaging disposal	Clean container with water. Recover waste water for processing later. Destroy packaging by incineration at an approved waste disposal site.
Sewage disposal	Do not dispose in sewage.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	ICAO/IATA
14.1 UN Number	1090	1090	1090
14.2 UN proper shipping name	ACETONE	ACETONE	ACETONE
14.3 Transport hazard class	3	3	3
14.4 Packaging group	II	II	II
14.5 Environmental hazards	not environmentally hazardous, not a marine pollutant		
14.6 Special precautions for the user	Flammable liquid; Flash point -17°C (closed cup)		
Danger group (Kemmler)	33		
EmS Number	F-E, S-D		
Tunnel restriction code	D/E		
14.7 Maritime transport in bulk according to IMO instruments	Ship type: 3; Pollution Category: Z		

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
Major accident hazard	Seveso III P5a, P5b, P5c (Flammable liquids)
International Chemical Inventory Status	
USA (TSCA)	Listed (Tracking No. 4309)
Canada (DSL)	listed
Australia (AICS)	listed
Japan (MITI)	Listed (MITI No. 2-542)
Korea (KECL)	Listed (KE-29367)
Philippines (PICCS)	listed
China	listed
New Zealand	listed
Taiwan	listed
15.2 Chemical safety assessment	A Chemical Safety Assessment will be carried out at the time of REACH registration



SECTION 16: OTHER INFORMATION

Indication of changes: Sections in which changes have been made since the last version are marked with a diamond ♦ in the left hand margin.

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
AICS	Australian Inventory of Chemical Substances
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CLP	Classification for Labeling and Packaging
DMEL	Derived minimal effect level
DNEL	Derived No-Effect Level
DSL	Domestic Substances List
EC	European Commission
EC50	Half maximal effective concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IATA	International Air Transport Association
IBC	International Bulk Chemical
ICAO	International Civil Aviation Organization
IMDG	International Maritime Code for Dangerous Goods
KECL	Korea Existing Chemicals List
KOW	Partition Coefficient octanol-water
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
M-factor	Multiplication Factor
MITI	Ministry of International Trade and Industry
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
PBT	Persistent, bioaccumulative and toxic substances
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC	Predicted No-Effect Concentration
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
SCL	Specific concentration limit
STOT	Specific target organ toxicity
TSCA	Toxic Substances Control Act
UN	United Nations
vPVB	(very) Persistent, (very) Bioaccumulative

Key literature references and sources for data

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

ECHA CHEM <https://chem.echa.europa.eu/100.000.602/overview?searchText=67-64-1>

Chemid <https://chem.nlm.nih.gov/chemidplus/rn/67-64-1>

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End of safety data sheet