

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

Product: Diacetone alcohol



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

1.1 Product identifier

Trade name	Diacetone alcohol
Chemical Name	4-hydroxy-4-methylpentan-2-one
CAS Number	123-42-2
EC Number	204-626-7
REACH Registration Number	01-2119473975-21-0010

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

Relevant identified uses	Industrial Use: For manufacture of chemicals, intermediates, coatings, cleaning agents, lubricants, water treatment chemicals, functional fluids, binders and release agents, metal working, inks, polymer processing, in oil and gas field drilling Professional use: in water treatment, coatings, cleaning agents, polymer processing Consumer use: coatings, cleaning agents, agrochemicals
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 (Formerly known as Prasol Chemicals Private 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	+91-22-27782555/ 61952500
Telefax	+91-22-61952577
e-mail address	sales@prasolchem.com; inquiry@prasolchem.com

1.4 Emergency telephone number

Telephone	+91-22- 27782555/ 61952500
Language	English

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Eye Irritation	Category 2	H319	Causes serious eye irritation
Specific Target Organ Toxicity	Category 3	H335	May cause respiratory irritation.
Reproductive Toxicity	Category 2	H361	Suspected of damaging fertility or the unborn child

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



GHS07



GHS08

Signal word

Warning

Hazard statements

H319	Causes serious eye irritation
H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child

Precautionary statements

General

P103

Read label before use

Prevention

P203

Obtain, read and follow all safety instructions before use.

P233

Keep container tightly closed.

P261

Avoid breathing fume/gas/mist/ vapours/ spray

P264

Wash hands thoroughly after handling.

P280

Use protective gloves and eye protection.

Response

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

P318

If exposed or concerned: Get medical advice.

P319

Get medical help if you feel unwell.

P337+P331

If eye irritation persists: Get medical advice.

Storage

P403+P233

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

P405

Store locked up

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Disposal 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	Diacetone alcohol/ 4-hydroxy-4-methylpentan-2-one
CAS Number	123-42-2
EC Number	204-626-7
Registration number	01-2119473975-21-0010
Molecular Formula	C ₆ H ₁₂ O ₂
Molecular Weight	116.16

Ingredient	Classification	Concentration (%)	SCL, M-factor, ATE
Diacetone alcohol	Eye Irrit. 2, STOT SE 3, Repr. 2; H319, H335, H361	99.7 - 100	Eye Irrit. H319 C >10%
Acetone CAS No 67-64-1	Flam. Liq, 2, Eye Irrit. 2, STOT SE 3 H225, H319, H336	0 - 0.15	-

3.1 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: unconsciousness, dizziness, headache.

After inhalation

Burning sensation of the nose and throat, coughing, and/or difficulty breathing.
EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Headache. Dizziness. Coordination disorders. Narcosis. Impaired concentration. Respiratory difficulties.

After skin contact

Red skin. Tingling/irritation of the skin.

After eye contact

Irritation of the eye tissue. Inflammation/damage of the eye tissue.

After swallowing

AFTER INGESTION OF HIGH QUANTITIES: Vomiting. Nausea. Disturbances of consciousness

Chronic symptoms

Skin rash/inflammation

4.3 Indication of any immediate medical attention and special treatment needed

Causes central nervous system depression. Potential for chemical pneumonitis. Treat symptomatically and supportively.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

CO₂, dry powder, foam or water spray

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. 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.

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Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**
- For non-emergency personnel** Protective equipment: Gloves, Face shield, Protective clothing. Wear a self-contained breathing apparatus and chemical protective clothing. Solvent-resistant protective clothing recommended.
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.
- 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.
- 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** Provide adequate ventilation, and local exhaust as needed. Provide room air exhaust at ground level. Concentrated vapours are heavier than air.
Protective measures Measures to prevent fire: Keep away from naked flames/heat. Use spark-/explosion proof appliances.
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.
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**
- Technical measures and storage conditions** Use only explosion-protected equipment/instruments. Do not use air pressure. Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharge. Beware of re-ignition. Potentially 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.
- Packaging material** SUITABLE MATERIAL: Stainless steel, Iron
To be avoided: Plastic materials
- Incompatible products** Acid catalysts (sulphuric acid, hydrochloric acid, oxalic acid), Iodine, Bases, Acetic anhydride, Hydrogen peroxide (concentrated solutions)
- 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 4 Combustible liquids
- 7.3 Specific end use(s)** No additional information available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

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Occupational Exposure Limit	50 ppm, 240 mg/m ³ TWA
DNEL/DMEL (Man via environment)	
Long-term - systemic effects, inhalation	10.4 mg/m ³
Long-term - systemic effects, oral	3 mg/kg bw/day
DNEL/DMEL (Workers)	
Long-term - systemic effects, inhalation	59.2 mg/m ³
Acute - local effects, inhalation	240 mg/m ³
Long-term - systemic effects, dermal	840 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	2 mg/L
PNEC aqua (marine water)	0.2 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	9.06 mg/kg sediment dw
PNEC sediment (marine water)	0.91 mg/kg sediment dw
PNEC (Soil)	
PNEC soil	0.63 mg/kg soil dw
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
Respiratory protection	Respiratory equipment with suitable filter or a self-contained respiratory apparatus.
Thermal hazards	Combustible liquid; do not expose to heat
Industrial hygiene	Do not inhale vapours / aerosols. Avoid contact with skin and eyes. Remove immediately all contaminated clothing. Use disposable clothing if appropriate. Smoking, eating and drinking should be prohibited in the application area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties	
Physical state	liquid
Colour	Colourless
Odour	pleasant
Odour threshold	0.28ppm
Melting point	-44°C
Boiling range	150-172°C
Flammability (solid, gas)	Not applicable (substance is a liquid)
Lower and Upper explosive limits	1.8 – 6.9v/v
Flash point	61.5°C (Closed cup)
Ignition temperature	620°C
Decomposition temperature	no data available
pH	not determined (does not liberate H ions when dissolved)
Dynamic viscosity at 20°C	2.9 mPa.s
Solubility in water	fully miscible at 20°C
Partition coefficient	-0.09log Kow (n-octanol/water) at 20°C
Vapour pressure	1.1 hPa at 20°C
Relative density	0.93-0.94 at 20°C
Relative vapour density	4 (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	0.15 (nBuAc=1)
Heat of combustion	28500kJ/kg
Heat of vaporization	377 kJ/kg
Surface tension	30 dyne/cm at 20°C , not expected to be surface active

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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.
10.3 Possibility of hazardous reactions	No known hazardous reactions if used as directed
10.4 Conditions to avoid	Combustible liquid. Concentrated vapours are heavier than air. Forms explosive mixtures with air, also in empty, uncleaned containers.
10.5 Incompatible materials	Acids (sulphuric acid, hydrochloric acid, oxalic acid: Risk of violent reaction. Bases (sensitive reaction), Acetic anhydride, Hydrogen peroxide (conc. solns)
10.6 Hazardous decomposition products	Thermal decomposition products- carbon oxides

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
Acute toxicity	
LD50 oral rat	3002 mg/kg bw not classified
LC0 inhalation 3h, rat	>7.6 mg/l not classified
LD50 Dermal rabbit	>2 ml/kg bw not classified
Skin irritation	minimally irritating (rabbit); may be harmful if absorbed through skin
Serious eye irritation	irritating - 24 h (rabbit) (Eye Irrit. 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	NOAEL 300mg/kg/day (Reprotoxic Category 2, H361 d)
STOT-single exposure	irritating to eye and skin; Category 3 respiratory tract irritation
STOT-repeated exposure	NOAEL 600 mg/kg bw/day; rat (oral) NOAEC 4685ppm, 8 weeks for rats (inhalation) (STOT SE 3, H335 , affected organ- respiratory tract)
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 >100mg/L <i>Oryzias latipes</i>
Toxicity to aquatic invertebrates	EC50 48h >1000mg/L <i>Daphnia magna</i>
Toxicity to aquatic algae and cyanobacteria	NOEC 72h 1000 mg/L <i>Pseudokirchneriella subcapitata</i>
Toxicity to microorganisms	EC50 3h >1000mg sewage, domestic
12.2 Persistence and degradability	
Biodegradation	readily biodegradable (100% in 14days)
12.3 Bioaccumulative potential	log Pow -0.09
12.4 Mobility in soil	Low potential for adsorption as log Pow is very low and substance is readily biodegradable
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 federal, 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.

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SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	ICAO/IATA
14.1 UN Number		Non hazardous for transport	
14.2 UN proper shipping name		Non hazardous for transport	
14.3 Transport hazard class		Non hazardous for transport	
14.4 Packaging group		Non hazardous for transport	
14.5 Environmental hazards	not environmentally hazardous, not a marine pollutant		
14.6 Special precautions for the user	Combustible liquid; Flash point 61.5°C (closed cup)		
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 no
International Chemical Inventory Status	
USA (TSCA)	Listed (Tracking No. 32987)
Canada (DSL)	listed
Australia (AICS)	listed
Japan (MITI)	Listed (MITI No. 2-587)
Korea (KECL)	Listed (KE No. 20675)
Philippines (PICCS)	listed
China	listed
New Zealand	listed
Taiwan	listed
15.2 Chemical safety assessment	A Chemical Safety Assessment has been carried out.

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 in English language:

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
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
POW	Partition Coefficient octanol-water
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail

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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 <https://echa.europa.eu/registration-dossier/-/registered-dossier/13357>
Chemid <https://chem.nlm.nih.gov/chemidplus/rn/123-42-2>

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End of safety data sheet