SAFETY DATA SHEET
ACETONE
REVISION 4, DATE 26 JUL 2021

1. IDENTIFICATION

Product Name	**Acetone**
Other Names	Dimethyl Ketone; Dimethylformaldehyde; Methyl Ketone; PE100 Polyester Thinners; Pyroacetic acid
Uses	As a solvent and manufacturing other chemicals.
Chemical Family	No Data Available
Chemical Formula	C3H6O
Chemical Name	2-Propanone
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Schedule 5

Globally Harmonised System

Hazard Classification			Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Hazard Categories			Flammable Liquids - Category 2
			Serious Eye Damage/Irritation - Category 2A
			Specific Target Organ Toxicity (Single Exposure) - Category 3
Pictograms			
Signal Word			Danger
Hazard Statements		**H225**	Highly flammable liquid and vapour.
		H319	Causes serious eye irritation.
		H336	May cause drowsiness or dizziness.
		AUH066	Repeated exposure may cause skin dryness or cracking
Precautionary Statements	Prevention	**P233**	Keep container tightly closed.
		P261	Avoid breathing fumes/mists/vapours/spray.
		P240	Ground and bond container and receiving equipment.
		P241	Use explosion-proof electrical/ventilating/lighting and all other equipment.
		P242	Use non-sparking tools.
		P243	Take action to prevent static discharges.
		P235	Keep cool.
		P271	Use only outdoors or in a well-ventilated area.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	Response	**P370 + P378**	In case of fire: Alcohol resistant foam is the preferred fire-fighting medium. However, if it is not available, fine water spray or water fog can be used to extinguish.
		P337 + P313	If eye irritation persists: Get medical attention.
		P312	Call a POISON CENTER or doctor if you feel unwell.
		P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	Storage	**P403 + P233**	Store in a well-ventilated place. Keep container tightly closed.
		P405	Store locked up.
	Disposal	**P501**	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Safe Work Australia
National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Acetone	C3H6O	67-64-1	>=99 - 100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink 200 - 300 ml of water. Do not induce vomiting. Call a Poison Centre or doctor/physician for advice. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately; Flush skin and hair with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of identity and nature of product(s) involved, and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	Use of alcoholic beverages enhances the harmful effect.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool container with water spray until well after fire is out. Avoid getting water inside containers.
Flammability Conditions	HIGHLY FLAMMABLE: Low flashpoint - Will be easily ignited by heat, sparks or flames at ambient temperatures.
Extinguishing Media	Use dry chemical, Carbon dioxide, foam or water spray for extinction - Do not use water jets. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, fine water spray can be used. *Caution: Use of water spray when fighting fire may be inefficient.
Fire and Explosion Hazard	Risk of violent reaction or explosion: Vapours will form explosive mixtures with air; Vapours will travel to source of ignition and flash back; Many vapours are heavier than air and will collect in low or confined areas; Vapours from runoff may create an explosion hazard. Containers may explode when heated.
Hazardous Products of Combustion	Fire (combustion) may produce irritating and/or toxic gases, including Carbon monoxide, Carbon dioxide, other other pyrolysis products typical of burning organic material.
Special Fire Fighting Instructions	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical protective clothing. SCBA and structural firefighting uniform provide limited protection.
	-18 °C [Closed cup]

Flash Point	
Lower Explosion Limit	2.60 %
Upper Explosion Limit	12.80 %
Auto Ignition Temperature	538 °C
Hazchem Code	•2YE

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flame). All equipment used in handling the product must be earthed. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Collect recoverable product into labelled containers for recycling. Absorb remaining product with earth, sand or other non-combustible material. Use clean, non-sparking tools to collect material and place it in suitable containers for later disposal (see SECTION 13). Never return spills in original containers for re-use.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Contain the spilled material by bunding. Turn leaking containers leak-side up to prevent the escape of liquid.
Decontamination	Wash area and prevent runoff into drains. Decontaminate tools, equipment and personal protective equipment in a segregated area.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses - Runoff may pollute waterways; Vapours from runoff may create an explosion hazard.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	SCBA and gas-tight suits should be worn when dealing with damaged or leaking containers and where there is no risk of ignition. SCBA and structural firefighting uniform provide limited protection where there is a risk of ignition.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours/spray and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Avoid contact with incompatible materials. Keep away from heat and all sources of ignition - No smoking. Vapour may ignite on pumping or pouring due to static electricity - Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not use compressed air for filling, discharging or handling.
Storage	Store in a cool, dry and well-ventilated place, fire-proof and without drain or sewer access. Keep container tightly closed and check regularly for leaks; Avoid physical damage to containers. Keep out of direct sunlight. Keep away from heat and all sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original, clearly labelled container as supplied by manufacturer. Do not store in plastic containers unless approved for flammable liquid - Product dissolves or attacks most rubber, resins, and plastics.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	SUBSTANCE: Acetone (CAS No. 67-64-1): - Safe Work Australia Exposure Standard: TWA = 500 ppm (1,185 mg/m3); STEL = 1,000 ppm (2,375 mg/m3). - New Zealand WES: TWA = 500 ppm (1,185 mg/m3); STEL = 1,000 ppm (2,375 mg/m3). - NIOSH REL: TWA = 250 ppm (590 mg/m3). - OSHA PEL: TWA = 1,000 ppm (2,400 mg/m3). - Immediately dangerous to life or health (IDLH) concentration: 2,500 ppm.

Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Use explosion-proof electrical/ventilating/lighting equipment.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended filter type: AX (organic vapour, boiling point <65 °C). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Safety glasses with side shields; Chemical goggles; Face-shield. - Hand protection: Wear protective gloves. Recommended: Chemical protective gloves, e.g. PVC. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls; PVC Apron; PVC protective suit may be required if exposure severe.
Special Hazards Precaustions	Vapours are heavier than air and will collect in low or confined areas. Prevent concentration in hollows and sumps. Do not store in pits, depressions, basements or areas where vapours may be trapped. Do not enter confined spaces until atmosphere has been checked.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Always wash hands with soap and water after handling. Remove contaminated clothing and shoes immediately - Do not allow clothing wet with material to stay in contact with skin. Work clothes should be laundered separately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Transparent liquid
Odour	Pleasant
Colour	Colourless
pH	No Data Available
Vapour Pressure	274.11 hPa (@ 20 °C)
Relative Vapour Density	2.0 Air = 1
Boiling Point	56 °C
Melting Point	-95 °C
Freezing Point	No Data Available
Solubility	Completely miscible with water - Completely miscible with organic solvents
Specific Gravity	0.7899 (Water = 1)
Flash Point	-18 °C [Closed cup]
Auto Ignition Temp	538 °C
Evaporation Rate	5.2 (Butylacetate = 1)
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.79 g/cm3
Specific Heat	No Data Available
Molecular Weight	58.08 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	-0.24 (log Pow) (20 °C)
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	0.33 mPa.s (@ 20 °C)

Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Surface tension: 23.3 mN/m (20 °C) Minimum ignition energy: 1.15 mJ Henry's Constant: 1.894777 Pa.m3/mol (25 °C)
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	HIGHLY FLAMMABLE: Low flashpoint - Will be easily ignited by heat, sparks or flames at ambient temperatures.
Reactions That Release Gases or Vapours	Fire (combustion) may produce irritating and/or toxic gases, including Carbon monoxide, Carbon dioxide, other other pyrolysis products typical of burning organic material.
Release of Invisible Flammable Vapours and Gases	Vapours will form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	The substance can form explosive peroxides on contact with strong oxidants such as acetic acid, nitric acid, hydrogen peroxide. Reacts with chloroform and bromoform under basic conditions, causing fire and explosion hazard. Attacks certain plastics, rubbers and coatings.
Chemical Stability	Product is considered stable under normal storage and handling conditions.
Conditions to Avoid	Keep away from heat and all sources of ignition. Take precautionary measures against static discharge.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, strong acids; peroxides, halogenated hydrocarbons.
Hazardous Decomposition Products	Fire (combustion) may produce irritating and/or toxic gases, including Carbon monoxide, Carbon dioxide, other other pyrolysis products typical of burning organic material.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: Low acute toxicity via the oral, dermal and inhalation routes; However, animal studies demonstrate acute narcotic effects. May cause nausea and vomiting, confusion, headache, dizziness, drowsiness, unconsciousness.
- Skin corrosion/irritation: Not a skin irritant but is a defatting agent to the skin. Repeated exposure may cause skin dryness and cracking.
- Eye damage/irritation: Causes serious eye irritation, redness, pain, blurred vision, possible corneal damage.
- Respiratory/skin sensitisation: Not sensitising (Guinea pig maximisation test).
- Germ cell mutagenicity: Negative in a range of in-vitro and in-vivo genotoxicity studies.
- Carcinogenicity: Not carcinogenic (via the dermal route).
- Reproductive toxicity: Does not show specific reproductive or developmental toxicity.
- STOT (single exposure): Vapours may cause drowsiness or dizziness (Narcotic effects). The substance may cause effects on the central nervous system, liver, kidneys and gastrointestinal tract.
- STOT (repeated exposure): Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the blood and bone marrow.
- Aspiration toxicity: No information available.

Acute

Ingestion

Acute toxicity (Oral):
- LD50, Rats: 5,800 - 7,190 mg/kg bw.

Other	Acute toxicity (Dermal): - LD50, Rabbits: >=7,400 mg/kg bw (24 h).
Inhalation	Acute toxicity (Inhalation): - LC50, Rat: 76 mg/L (4 h) [vapour].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Short-term (acute) aquatic hazard: - Not harmful to aquatic life (LC/LL50, EC/EL50 > 100 mg/L). Long-term (chronic) aquatic hazard: - No adverse chronic effect observed up to and including the threshold of 1 mg/L.
Persistence/Degradability	Readily biodegradable.
Mobility	- High mobility in soil (KOC = 1.981).
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Bioaccumulation is unlikely.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Recycle wherever possible or dispose of in an approved waste disposal facility and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Contaminated packaging: Decontaminate empty containers. Do not reuse the container for any other purpose. Observe all label safeguards until containers are cleaned and destroyed.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	ACETONE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	1090
Hazchem	•2YE
Pack Group	II
Special Provision	No Data Available

Sea Transport
IMDG Code

Proper Shipping Name	ACETONE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available

UN Number	1090
Hazchem	2YE
Pack Group	II
Special Provision	No Data Available
EMS	F-E, S-D
Marine Pollutant	No

Air Transport
IATA DGR

Proper Shipping Name	ACETONE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1090
Hazchem	2YE
Pack Group	II
Special Provision	No Data Available

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Schedule 5

National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	200-662-2
Europe (REACh)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined

Taiwan (TCSI)	Not Determined
USA (TSCA)	Not Determined
Mexico (INSQ)	Not Determined

16. OTHER INFORMATION

Related Product Codes	ACETON0070, ACETON0071, ACETON0072, ACETON0073, ACETON0074, ACETON0077, ACETON0080, ACETON0082, ACETON0100, ACETON0200, ACETON0300, ACETON0400, ACETON0500, ACETON0501, ACETON0600, ACETON0601, ACETON0700, ACETON0800, ACETON0900, ACETON0901, ACETON1000, ACETON1001, ACETON1002, ACETON1003, ACETON1004, ACETON1005, ACETON1006, ACETON1007, ACETON1008, ACETON1009, ACETON1010, ACETON1011, ACETON1012, ACETON1013, ACETON1014, ACETON1015, ACETON1016, ACETON1017, ACETON1018, ACETON1019, ACETON1020, ACETON1021, ACETON1022, ACETON1023, ACETON1024, ACETON1025, ACETON1026, ACETON1027, ACETON1028, ACETON1029, ACETON1030, ACETON1031, ACETON1032, ACETON1033, ACETON1034, ACETON1035, ACETON1036, ACETON1037, ACETON1038, ACETON1039, ACETON1040, ACETON1050, ACETON1060, ACETON1080, ACETON1081, ACETON1100, ACETON1101, ACETON1140, ACETON1141, ACETON1142, ACETON1200, ACETON1201, ACETON1202, ACETON1300, ACETON1301, ACETON1302, ACETON1310, ACETON1320, ACETON1400, ACETON1401, ACETON1500, ACETON1600, ACETON1601, ACETON1800, ACETON1900, ACETON2000, ACETON2001, ACETON2002, ACETON2003, ACETON2004, ACETON2005, ACETON2006, ACETON2007, ACETON2100, ACETON2200, ACETON2800, ACETON3000, ACETON3010, ACETON3020, ACETON3021, ACETON3022, ACETON3023, ACETON3024, ACETON3025, ACETON3026, ACETON3027, ACETON3028, ACETON3029, ACETON3030, ACETON3031, ACETON3032, ACETON3033, ACETON3034, ACETON3035, ACETON3036, ACETON3037, ACETON3040, ACETON3050, ACETON3055, ACETON3060, ACETON3065, ACETON3070, ACETON3078, ACETON3080, ACETON3088, ACETON3090, ACETON3096, ACETON3097, ACETON3098, ACETON3099, ACETON3100, ACETON3110, ACETON3120, ACETON3130, ACETON3140, ACETON3145, ACETON3150, ACETON3160, ACETON3170, ACETON3180, ACETON3190, ACETON3199, ACETON3200, ACETON3210, ACETON3220, ACETON3221, ACETON3222, ACETON3223, ACETON3224, ACETON3230, ACETON3240, ACETON3250, ACETON3251, ACETON3260, ACETON4000, ACETON4001, ACETON4002, ACETON4210, ACETON5000, ACETON5001, ACETON5210, ACETON5400, ACETON5410, ACETON6000, ACETON6500, ACETON6505, ACETON6580, ACETON7000, ACETON8000, ACETON8001, ACETON8002, ACETON8100, ACETON8888, ACETON8889, ACETON9000
Revision	4
Revision Date	26 Jul 2021
Reason for Issue	Updated SDS
Key/Legend	< Less Than > Greater Than **AICS** Australian Inventory of Chemical Substances **atm** Atmosphere **CAS** Chemical Abstracts Service (Registry Number) **cm^2** Square Centimetres **CO2** Carbon Dioxide **COD** Chemical Oxygen Demand **deg C (°C)** Degrees Celcius **EPA (New Zealand)** Environmental Protection Authority of New Zealand **deg F (°F)** Degrees Farenheit **g** Grams **g/cm^3** Grams per Cubic Centimetre **g/l** Grams per Litre **HSNO** Hazardous Substance and New Organism **IDLH** Immediately Dangerous to Life and Health **immiscible** Liquids are insoluable in each other. **inHg** Inch of Mercury **inH2O** Inch of Water **K** Kelvin **kg** Kilogram **kg/m^3** Kilograms per Cubic Metre **lb** Pound **LC50** LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. **LD50** LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one

half) of a group of test animals.
ltr or **L** Litre
m^3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m^3 Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight