

1. IDENTIFICATION

Product Name	Butyl acetate
Other Names	n-Butyl acetate
Uses	Solvent; dehydrating agent; for extraction; perfume ingredient; synthetic flavouring ingredient; preservation of foodstuffs; laboratory reagent.
Chemical Family	No Data Available
Chemical Formula	C ₆ H ₁₂ O ₂
Chemical Name	Acetic acid, butyl ester
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, 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	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

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 3
Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms



Signal Word Warning

Hazard Statements

AUH066	Repeated exposure may cause skin dryness or cracking
H226	Flammable liquid and vapour.
H336	May cause drowsiness or dizziness.

Precautionary Statements

Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
	P240	Ground/bond container and receiving equipment.
	P241	Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
	P242	Use only non-sparking tools.
	P243	Take precautionary measures against static discharge.
	P261	Avoid breathing mist/vapours/spray.
	P280	Wear protective gloves/eye protection/face protection.
	P235	Keep cool.
	P271	Use only outdoors or in a well-ventilated area.
	Response	P303 + P361 + P353
P370 + P378		In case of fire: Use carbon dioxide (CO2), dry chemical, regular foam extinguishing agent or water spray for extinction.
P312		Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340		IF INHALED: Remove victim to fresh air and keep at rest in a position 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)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications

Physical Hazards	3.1B	Flammable liquid - high hazard
Health Hazards	6.1D	Substances that are acutely toxic - Harmful
	6.1E	Substances that are acutely toxic –May be harmful, Aspiration hazard
	6.3B	Substances that are mildly irritating to the skin
	6.4A	Substances that are irritating to the eye

3. COMPOSITION/INFORMATION ON INGREDIENTS**Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Butyl acetate	C6H12O2	123-86-4	<=100 %

4. FIRST AID MEASURES**Description of necessary measures according to routes of exposure**

Swallowed	IF SWALLOWED: Rinse mouth. 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 an open airway and prevent aspiration. Keep victim calm and warm - Obtain immediate medical care.
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. For gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. Get medical advice/attention if skin irritation occurs or if you feel unwell. Wash contaminated clothing and shoes before reuse.
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 - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device. Administer oxygen if breathing is difficult. Keep victim calm and warm - Obtain immediate medical care.
Advice to Doctor	Treat symptomatically. Ensure that attending medical personnel are aware of the identity and nature of product(s) involved, and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	Repeated exposure may cause skin dryness or cracking.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Avoid getting water inside containers.
Flammability Conditions	HIGHLY FLAMMABLE LIQUID: Low flashpoint - Will be easily ignited by heat, sparks or flame.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), normal foam or water spray for extinction - Do not use water jets. 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 may travel to source of ignition and flash back. Most vapours are heavier than air and will collect in low or confined areas. Many liquids are lighter than water. Containers may explode when heated. Vapours from runoff may create an explosion hazard.
Hazardous Products of Combustion	Fire will produce irritating, toxic and/or corrosive gases, including Carbon dioxide and Carbon monoxide.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways; Vapours from runoff may create an explosion hazard.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (full fire kit).
Flash Point	24 - 27 °C
Lower Explosion Limit	1.2 %
Upper Explosion Limit	7.6 %
Auto Ignition Temperature	415 - 420 °C
Hazchem Code	3Y

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	Absorb with earth, sand or other non-combustible material. Use clean, non-sparking tools to collect absorbed material and place it in suitable, properly labelled containers for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Vapour-suppressing foam may be used to control vapours.
Decontamination	No information available.
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 upwind and to higher ground. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

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. Use personal protective equipment as required (see SECTION 8). HIGHLY FLAMMABLE LIQUID: Keep away from heat and all sources of ignition - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Open container slowly and cautiously to control possible pressure release.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect against physical damage. Protect from moisture/water. Keep away from heat and all sources of ignition - No smoking. Have appropriate fire extinguishers available in and near the storage area. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original container or in containers made of the same material as the supply container. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	n-Butyl acetate (CAS No. 123-86-4): - Safe Work Australia Exposure Standard: TWA = 150 ppm (713 mg/m ³); STEL = 200 ppm (950 mg/m ³). - New Zealand WES: TWA = 150 ppm (713 mg/m ³); STEL = 200 ppm (950 mg/m ³). - NIOSH REL: TWA = 150 ppm (710 mg/m ³); STEL = 200 ppm (950 mg/m ³). - OSHA PEL: TWA = 150 ppm (710 mg/m ³). - Immediately dangerous to life or health (IDLH) concentration: 1,700 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: Wear respiratory protection in case of inadequate ventilation or to avoid breathing vapours or mists. Recommended: Organic vapour respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side-shield protection, chemical goggles and/or face-shield as appropriate. - Hand protection: Wear protective gloves. Recommended: Impervious gloves, e.g. Butyl rubber gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Flame retardant antistatic protective clothing; Clean clothing/protective clothing should be worn, preferably with an apron. Safety boots in industrial situations is advisory.

Special Hazards Precautions	Do NOT store or use in confined spaces. Do not enter these areas without respiratory protection or until the atmosphere has been checked.
Work Hygienic Practices	Employees should wash promptly when skin is wet or contaminated. Remove clothing immediately if wet or contaminated to avoid flammability hazard. Clothing wet with liquid butyl acetate should be placed in closed containers for storage until it can be discarded or until provision is made for decontamination. If the clothing is to be laundered or otherwise cleaned to remove the butyl acetate, the person performing the operation should be informed of it's hazardous properties. It is essential that all who come into contact with this material maintain high standards of personal hygiene, i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Fruity
Colour	Colourless
pH	No Data Available
Vapour Pressure	1.2 kPa (@ 20 °C)
Relative Vapour Density	4.0 Air = 1
Boiling Point	126 °C
Melting Point	-78 - -76 °C
Freezing Point	No Data Available
Solubility	Slightly soluble in water (0.7 g/100 mL) 20°C
Specific Gravity	0.88 (Water = 1)
Flash Point	24 - 27 °C
Auto Ignition Temp	415 - 420 °C
Evaporation Rate	1 (n-Butyl acetate = 1)
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	116.2 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	Log Pow: 1.82
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	0.732 mPa.s (20 °C) - 0.563 mPa.s (40 °C) (@ No Data Available)
Volatile Percent	100 %
VOC Volume	No Data Available
Additional Characteristics	No information available.
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 LIQUID: Low flashpoint - Will be easily ignited by heat, sparks or flame.

Reactions That Release Gases or Vapours	Fire will produce irritating, toxic and/or corrosive gases, including Carbon dioxide and Carbon monoxide.
Release of Invisible Flammable Vapours and Gases	Vapours will form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	Reacts with strong oxidants, strong acids and strong bases; This generates fire and explosion hazard. Attacks many plastics and rubber.
Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Keep away from heat and all sources of ignition. Take precautionary measures against static discharge. Protect from moisture/water.
Materials to Avoid	Incompatible/reactive with nitrates, strong oxidizers, alkalis and acids.
Hazardous Decomposition Products	Fire will produce irritating, toxic and/or corrosive gases, including Carbon dioxide and Carbon monoxide.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - Acute toxicity: Low acute toxicity. Ingestion may irritate the gastric tract, causing sore throat, abdominal pain, nausea, vomiting, diarrhoea. May be harmful if swallowed in a large quantity. - Skin corrosion/irritation: Repeated exposure may cause skin dryness or cracking. - Eye damage/irritation: May cause eye irritation, redness. - Respiratory/skin sensitisation: Not classified based on available data. - Germ cell mutagenicity: Not classified based on available data. - Carcinogenicity: Not classified based on available data. - Reproductive toxicity: Not classified based on available data. - STOT (single exposure): Inhalation may cause respiratory irritation and may cause headache, drowsiness or dizziness; High concentrations may effects on the central nervous system. - STOT (repeated exposure): The substance defats the skin, which may cause dryness or cracking. - Aspiration toxicity: Risk of aspiration of the product to the lungs, potentially resulting in chemical pneumonitis.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rats: 10,736 mg/kg
Other	Acute toxicity (Dermal): - LD50, Rabbits: >14,080 mg/kg
Inhalation	Acute toxicity (Inhalation): - LC50, Rats: >8,000 ppm (38,320 mg/m ³) (4 h).
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50, Fish (Fathead minnow): 18 mg/L (96 h). - EC50, Crustacea (Daphnia magna): 44 mg/L (48 h).
Persistence/Degradability	Readily biodegradable.
Mobility	This product is highly volatile and will rapidly evaporate to the air if released into the water.
Environmental Fate	Harmful to aquatic life - Avoid release to the environment; Prevent entry into soils, drains and waterways.
Bioaccumulation Potential	No appreciable bioaccumulation potential is to be expected (log P(o/w) 1-3).
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Dispose of contents/container in accordance with local/regional/national regulations.

Special Precautions for Land Fill Contaminated packaging: Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	BUTYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	18 Liquids - Highly Flammable, Toxic And/Or Corrosive
UN Number	1123
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	BUTYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	18 Liquids - Highly Flammable, Toxic And/Or Corrosive
UN Number	1123
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	BUTYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	18 Liquids - Highly Flammable, Toxic And/Or Corrosive
UN Number	1123
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	BUTYL ACETATES
Class	3 Flammable Liquids

Subsidiary Risk(s)	No Data Available
ERG	129 Flammable Liquids (Polar / Water-Miscible / Noxious)
UN Number	1123
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	BUTYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1123
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available
EMS	F-E, S-D
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	BUTYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1123
Hazchem	3Y
Pack Group	III
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)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR001091
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National/Regional Inventories

Australia (AICS)	Listed
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Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	204-658-1
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Listed
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	BUACEI1000, BUACEI1001, BUACET1000, BUACET1001, BUACET1002, BUACET1003, BUACET1004, BUACET1005, BUACET1006, BUACET1007, BUACET1008, BUACET1009, BUACET1010, BUACET1011, BUACET1012, BUACET1013, BUACET1014, BUACET1015, BUACET1016, BUACET1017, BUACET1018, BUACET1019, BUACET1020, BUACET1021, BUACET1022, BUACET1023, BUACET1024, BUACET1025, BUACET1026, BUACET1027, BUACET1100, BUACET1200, BUACET1300, BUACET1500, BUACET1501, BUACET1800, BUACET1801, BUACET1802, BUACET1803, BUACET1804, BUACET2000, BUACET2100, BUACET2105, BUACET2500, BUACET3000, BUACET3001, BUACET3002, BUACET3003, BUACET3010, BUACET3011, BUACET3012, BUACET3013, BUACET3020, BUACET3030, BUACET3040, BUACET3041, BUACET3050, BUACET3060, BUACET3070, BUACET3080, BUACET3090, BUACET3091, BUACET3500, BUACET3501, BUACET3505, BUACET3508, BUACET3510, BUACET3553, BUACET3554, BUACET3556, BUACET4000, BUACET4100, BUACET4500, BUACET4505, BUACET4508, BUACET5000, BUACET5001, BUACET5900, BUACET6000, BUACET6001, BUACET6002, BUACET6003, BUACET6100, BUACET6101, BUACET6102, BUACET6200, BUACET6201, BUACET6300, BUACET6400, BUACET7000, BUACET8000, BUACET9000, BUACET9500, BUACET9900, BUACET9905
Revision	4
Revision Date	01 Nov 2017
Reason for Issue	SDS updated
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² 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/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health</p>

immiscible Liquids are insoluble in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ 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

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ 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 Health 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