

1. IDENTIFICATION

Product Name	Isoamyl acetate
Other Names	3-Methyl-1-butyl acetate; 3-Methylbutyl acetate; Isopentyl acetate
Uses	Flavour & fragrance applications; Solvent; Industrial uses.
Chemical Family	No Data Available
Chemical Formula	C7H14O2
Chemical Name	1-Butanol, 3-methyl-, acetate
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		
Pictograms			
Signal Word	Warning		
Hazard Statements	H226	Flammable liquid and vapour.	
Precautionary Statements	Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
		P233	Keep container tightly closed.
		P240	Ground/bond container and receiving equipment.
		P241	Use explosion-proof electrical/ventilating/lighting/equipment.
		P242	Use only non-sparking tools.
	Response	P243	Take precautionary measures against static discharge.
		P280	Wear protective gloves/eye protection/face protection.
		P303 + P361 + P353	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
	Storage	P370 + P378	In case of fire: Alcohol resistant foam is the preferred fire-fighting medium but, if it is not available, normal foam can be used.
		P403 + P235	Store in a well-ventilated place. Keep cool.
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	3.1C	Flammable liquid - medium hazard
	Health Hazards	6.3B	Substances that are mildly irritating to the skin
		6.4A	Substances that are irritating to the eye
	Environmental Hazards	9.1D	Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Isoamyl acetate	C7H14O2	123-92-2	>97 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth with water. Do not induce vomiting. Keep victim calm and warm - Obtain immediate medical care. If vomiting occurs, keep the head lower than chest to avoid aspiration into the lungs. Never give anything by mouth to an unconscious or convulsing 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: Remove contaminated clothing and shoes immediately. Flush skin with running water/shower; Wash with plenty of soap and water. 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. Keep victim calm and warm - Obtain immediate medical care. 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.
Advice to Doctor	There is not known any specific antidote. Direct the treatment in accordance with the symptoms and clinical conditions of the patient. In case of lung irritation, initial treatment by aerosol dispenser with dexamethasone. The product may cause acidosis. - 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	No information available.

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	FLAMMABLE LIQUID & VAPOUR: Low flashpoint - Will be easily ignited by heat, sparks or flame.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), 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, normal foam 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 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 oxides, acid vapours.
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	25 - 34 °C [closed cup]
Lower Explosion Limit	1 %
Upper Explosion Limit	7.5 %
Auto Ignition Temperature	360 - 379 °C
Hazchem Code	•3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources - All equipment used in handling the product must be earthed. Do not touch or walk through spilled material. Avoid breathing mist/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 material and place it in suitable 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; Water spray may be used to knock down or divert vapour clouds.
Decontamination	Wash the contaminated surface with water, which should be collected for disposal.

Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. Notify the competent authorities if the product has run into drainage systems or watercourse or has contaminated the ground or vegetation.
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. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). FLAMMABLE LIQUID & VAPOUR: Keep away from heat and all ignition sources - 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.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed when not in use. Avoid prolonged exposure to the air. Keep away from heat and all ignition sources - No smoking. Provide proper grounding to prevent static electricity buildup. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container or suitable packaging material, i.e. steel, polypropylene. Do not store in zinc, copper, aluminium or these metal alloys.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For Isoamyl acetate (CAS No. 123-92-2): - Safe Work Australia Exposure Standard: TWA = 50 ppm (270 mg/m ³); STEL = 100 ppm (541 mg/m ³). - New Zealand WES: TWA = 100 ppm (532 mg/m ³).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	In closed environments, this product should be handled keeping proper exhaust (general dilution or local exhaust).
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or exposure to vapours/aerosols. Recommended: Organic vapour/particulate respirator (filter type A/P); In case of emergency or contact with high concentrations of the product, wear an air-supplied mask or self-contained breathing apparatus. - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses and face-shield. Use equipment for eye protection tested and approved under appropriate government standards. - Hand protection: Wear protective gloves. Recommended: Gloves made of butyl rubber (for contacts lesser than one hour). - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Impervious clothing; PVC apron; safety boots/shoes.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Sweet, banana
Colour	Colourless
pH	No Data Available
Vapour Pressure	4.5 hPa (@ 20 °C)
Relative Vapour Density	4.5 Air = 1
Boiling Point	142 °C

Melting Point	-100 - -78 °C
Freezing Point	-78 - -100 °C
Solubility	0.2 % in water - Completely miscible with alcohol, ether 20°C
Specific Gravity	0.869 - 0.874
Flash Point	25 - 34 °C [closed cup]
Auto Ignition Temp	360 - 379 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.869 - 0.874 g/cm ³
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	2.7 (log Pow)
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	0.872 mPas (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	Risk of violent reaction or explosion.
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	FLAMMABLE LIQUID & VAPOUR: 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 oxides, acid vapours.
Release of Invisible Flammable Vapours and Gases	Vapours will form explosive mixtures with air. Reaction with alkaline metals releases hydrogen fuel.

10. STABILITY AND REACTIVITY

General Information	Exothermic reaction with acids; Reaction with alkaline metals releases hydrogen fuel. May form peroxides on prolonged contact with air.
Chemical Stability	Stable under normal conditions of use and storage.
Conditions to Avoid	Keep away from heat and all sources of ignition. Avoid prolonged contact with air.
Materials to Avoid	Incompatible/reactive with nitrates, strong bases, strong acids, strong oxidising agents, alkaline metals.
Hazardous Decomposition Products	Fire will produce irritating, toxic and/or corrosive gases, including Carbon oxides, acid vapours.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: Low toxicity. Ingestion may cause gastrointestinal irritation.
- Skin corrosion/irritation: Repeated and/or prolonged exposure can lead to the removal of fats from the skin, causing irritation and dermatitis.
- Eye damage/irritation: May cause (temporary) eye irritation.
- Respiratory/skin sensitisation: No information available.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: No information available.
- Reproductive toxicity: No information available.
- STOT (single exposure): Inhalation may cause discomfort; In concentrations between 100 and 300 ppm, it is irritant to the nose, throat and respiratory tract. In larger concentrations, it may cause headache, breathing difficulty, drowsiness, palpitations, increase of cardiac frequency and fatigue. Prolonged exposure to the mist or vapours of the product can lead to unconsciousness.
- STOT (repeated exposure): Chronic exposures of workers may cause effects on the nervous system and on the respiratory system.
- Aspiration toxicity: No information available.

Acute**Ingestion**

Acute toxicity (Oral):
- LD50, Rat: 7,400 mg/kg

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Aquatic toxicity:
- Acute NOEC, Fish (Brachydanio rerio (zebra fish)): 21.5 mg/l (96 h) static-test [OECD TG 203].
- Acute EC50, Algae (Desmodesmus subspicatus (green algae)): >100 mg/l (72 h) static-test [OECD TG 201].

Persistence/Degradability

Readily biodegradable.

Mobility

Expected to have high mobility in soil.

Environmental Fate

Slightly hazardous to water - Prevent entry into drains and waterways.

Bioaccumulation Potential

No bioaccumulation is to be expected (log Pow: <= 4).

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

The preferred options for disposal include reuse, recycling, co-processing, finding a use for a byproduct, incineration or other thermal destruction process at licensed facilities, in accordance with local/regional/national regulations. Perform co-processing, incineration or other thermal destruction process at facilities capable of minimising or reducing air pollution emissions.

Special Precautions for Land Fill

Packaging disposal: The preferred options for disposal include reuse, recycling or reclamation at licensed facilities, in accordance with local legislation and standards from local environmental agencies. Do not cut or pierce the packaging, nor do hot work near them. Do not remove labels until the product has been fully removed and the packaging cleaned.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name

AMYL ACETATES

Class

3 Flammable Liquids

Subsidiary Risk(s)

No Data Available

EPG

18 Liquids - Highly Flammable, Toxic And/Or Corrosive

UN Number	1104
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	AMYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	18 Liquids - Highly Flammable, Toxic And/Or Corrosive
UN Number	1104
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	AMYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	18 Liquids - Highly Flammable, Toxic And/Or Corrosive
UN Number	1104
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	AMYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
ERG	129 Flammable Liquids (Polar / Water-Miscible / Noxious)
UN Number	1104
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	AMYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1104
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	AMYL ACETATES
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1104
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)
---------------------------------------	---

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 HSR001171

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	204-662-3
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined

Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	ISAMAC1000, ISAMAC1001, ISAMAC1002, ISAMAC1003, ISAMAC1004, ISAMAC1005, ISAMAC2000, ISAMAC2001, ISAMAC3000, ISAMAC3100, ISAMAC4000
Revision	4
Revision Date	01 Jul 2017
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 immiscible Liquids are insoluable 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</p>

tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight