

Infosafe No™	1CH8F	Issue Date : March 2016	RE-ISSUED by CHEMSUPP
--------------	-------	-------------------------	-----------------------

Product Name : **iso-BUTYL ALCOHOL**

Classified as hazardous

## 1. Identification

<b>GHS Product Identifier</b>	iso-BUTYL ALCOHOL	
<b>Company Name</b>	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)	
<b>Address</b>	38 - 50 Bedford Street GILLMAN SA 5013 Australia	
<b>Telephone/Fax Number</b>	Tel: (08) 8440-2000 Fax: (08) 8440-2001	
<b>Recommended use of the chemical and restrictions on use</b>	Organic synthesis, latent solvent in paints and lacquers, paint remover, intermediate for amino coating resins, fluorometric determinations, liquid chromatography, fruit flavour concentrates, substitute for n-butanol and laboratory reagent.	
<b>Other Names</b>	<u>Name</u>	<u>Product Code</u>
	2 Methylpropan 1 ol AR (iso Butanol)	BA011
	iso-BUTYL ALCOHOL LR	BL011
	iso-BUTYL ALCOHOL TG	BT011
	2-Methylpropan-1-ol, iso-Butanol, Butyl alcohol (iso), 2-Methyl-1-propanol, Isopropylcarbinol	
<b>Other Information</b>	EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm, Monday to Friday.	

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

## 2. Hazard Identification

<b>GHS classification of the substance/mixture</b>	Flammable Liquids: Category 2 Skin Corrosion/Irritation: Category 2 Specific target organ toxicity - Single Exposure Category 3, Respiratory system, central nervous system Eye Damage/Irritation: Category 1
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H226 Flammable liquid and vapour. H315 Causes skin irritation. H318 Causes serious eye damage. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness.
<b>Pictogram (s)</b>	Flame, Corrosion, Exclamation mark



<b>Precautionary statement – Prevention</b>	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. P243 Take precautionary measures against static discharge. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection.
---	--

Infosafe No™	1CH8F	Issue Date : March 2016	RE-ISSUED by CHEMSUPP
--------------	-------	-------------------------	-----------------------

Product Name : **iso-BUTYL ALCOHOL**

Classified as hazardous

<b>Precautionary statement – Response</b>	<p>Skin P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P363 Wash contaminated clothing before reuse.</p> <p>Inhaled P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>Eye P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>Fire P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.</p>
<b>Precautionary statement – Storage</b>	<p>P403+P233 Store in a well-ventilated place. Keep container tightly closed. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.</p>
<b>Precautionary statement – Disposal</b>	<p>P501 Dispose of contents/container to an approved waste disposal plant.</p>

### 3. Composition/information on ingredients

Chemical	Liquid		
Characterization			
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Isobutyl alcohol	78-83-1	100 %

### 4. First-aid measures

<b>Inhalation</b>	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. Give water to drink. DO NOT INDUCE VOMITING. Seek immediate medical advice.
<b>Skin</b>	Wash with plenty of soap and water for 15 minutes. Remove contaminated clothing and wash before re-use. If persistent irritation occurs, obtain medical attention.
<b>Eye contact</b>	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Do not attempt to remove contact lenses unless trained. Seek immediate medical assistance.
<b>First Aid Facilities</b>	Maintain eyewash fountain and safety shower in work area.
<b>Advice to Doctor</b>	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

### 5. Fire-fighting measures

<b>Hazards from Combustion Products</b>	Carbon monoxide, carbon dioxide and isobutylene.
<b>Specific Methods</b>	<p>Small fire: Use alcohol resistant foam, dry chemical, CO2 or water spray. Large fire: Use alcohol resistant foam, fog or water spray - Do not use water jets. If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside containers. Alcohol resistant foam is preferred firefighting medium, but if not available, normal foam can be used.</p>
<b>Specific hazards arising from the chemical</b>	May be ignited by heat, sparks or flame. Vapours may form explosive mixtures with air. Vapours may travel to source of ignition and flash back. Vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Liquids is lighter than water. Containers may explode when heated. Vapours from runoff may create explosion hazard. Fire will produce irritating, poisonous and/or corrosive gases.
<b>Hazchem Code</b>	•3Y
<b>Precautions in connection with Fire</b>	Wear SCBA and fully-encapsulating, gas-tight suit when handling these substances. Structural firefighter's uniform is NOT effective for these materials.

# Safety Data Sheet

Infosafe No™	1CH8F	Issue Date : March 2016	RE-ISSUED by CHEMSUPP
--------------	-------	-------------------------	-----------------------

Product Name : **iso-BUTYL ALCOHOL**

Classified as hazardous

## 6. Accidental release measures

**Spills & Disposal** ELIMINATE all ignition sources (no smoking, flares, sparks or flames) within at least 25m - All equipment used when handling the product must be earthed. Do not touch or walk through spilled material. 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. Absorb with earth, sand or other non-combustible material. Use clean, non-sparking tools to collect absorbed material and place it into loosely-covered metal or plastic containers for later disposal. SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

**Personal Precautions** Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing.

**Personal Protection** Wear protective clothing specified for normal operations (see Section 8)

**Clean-up Methods - Small Spillages** Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.

## 7. Handling and storage

**Precautions for Safe Handling** Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Take precautionary measures against static discharges. All electrical equipment must be flameproofed.

**Conditions for safe storage, including any incompatibilities** Store away from oxidizing agents. Keep container tightly closed in a dry, well-ventilated place away from direct sunlight and other sources of heat or ignition. Store away from acids. Store away from bases.

**Corrosiveness** Not corrosive to metals.

**Storage Regulations** Refer Australian Standard AS 1940-2004 'The storage and handling of flammable and combustible liquids'. Refer Australian Standard AS/NZS 2243.10:2004 'Safety in laboratories - Storage of chemicals'.

**Storage Temperatures** Store at room temperature (15 to 25 °C recommended).

**Unsuitable Materials** Aluminium; some forms of plastics, rubber and coatings.

## 8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Isobutyl alcohol			152	50	
<b>Other Exposure Information</b>	A time weighted average (TWA) has been established for Isobutyl alcohol (Safe Work Australia) of 152,g/m3, (50 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.					
<b>Appropriate engineering controls</b>	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.					
<b>Respiratory Protection</b>	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.					
<b>Eye Protection</b>	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.					
<b>Hand Protection</b>	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.					
<b>Personal Protective Equipment</b>	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.					
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.					
<b>Body Protection</b>	Flame retardant protective clothing. Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.					

# Safety Data Sheet

Infosafe No™	1CH8F	Issue Date : March 2016	RE-ISSUED by CHEMSUPP
--------------	-------	-------------------------	-----------------------

Product Name : **iso-BUTYL ALCOHOL**

Classified as hazardous

**Hygiene Measures** Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

## 9. Physical and chemical properties

<b>Form</b>	Liquid
<b>Appearance</b>	Clear, colourless liquid.
<b>Odour</b>	Disagreeable, sweet, musty odour.
<b>Freezing Point</b>	-106 °C
<b>Boiling Point</b>	106 - 108 °C
<b>Solubility in Water</b>	Soluble
<b>Solubility in Organic Solvents</b>	Soluble in alcohol and ether.
<b>Specific Gravity</b>	0.803
<b>pH</b>	pH 7 (8% solution)
<b>Vapour Pressure</b>	10 mm Hg @ 22 °C
<b>Vapour Density (Air=1)</b>	2.55
<b>Evaporation Rate</b>	0.8 (BuAc=1)
<b>Odour Threshold</b>	0.66-40 ppm (detection); 1.8-53 ppm (recognition); 100 ppm (300 mg/m <sup>3</sup> ) (irritation).
<b>Volatile Component</b>	100%
<b>Partition Coefficient: n-octanol/water</b>	Log P(oct) = 0.65; Log P(oct) = 0.83.
<b>Flash Point</b>	28 °C - closed cup
<b>Flammability</b>	Flammable.
<b>Auto-Ignition Temperature</b>	430 °C
<b>Flammable Limits - Lower</b>	1.5 %vol.
<b>Flammable Limits - Upper</b>	12 %vol.
<b>Explosion Properties</b>	Vapours can form explosive mixtures with air.
<b>Molecular Weight</b>	74.12
<b>Dynamic Viscosity</b>	4.7 cP (4.7 mPa.s) at 15 °C; 4.0 cP (4.0 mPa.s) at 20 °C.
<b>Saturated Vapour Concentration</b>	11580 ppm at 20 °C; 13160 ppm at 25 °C (calc.)
<b>Other Information</b>	Conversion factor: 1 ppm = 3.03 mg/m <sup>3</sup> ; 1 mg/m <sup>3</sup> = 0.331 ppm @ 25 °C Dipole moment: 1.79 Debye @ 20 °C Dielectric constant: 17.7 @ 20 °C Heat of evaporation: 577 kJ/kg @ 108 °C Refractive index: 1.3955 @ 20 °C

## 10. Stability and reactivity

<b>Chemical Stability</b>	Stable under ordinary conditions of use and storage.
<b>Conditions to Avoid</b>	Static discharge, sparks, heat, open flames, ignition sources and incompatibles.
<b>Incompatible Materials</b>	Strong oxidizing agents (e.g. peroxides, perchlorates, nitrates), chromium trioxide, barium perchlorate, chlorine, ethylene oxide, hexamethylene diisocyanate and other isocyanates, hydrogen peroxide and sulfuric acid, hypochlorous acid, nitrogen tetroxide, hot perchloric acid, permonosulfuric acid and tri-isobutyl aluminium, inorganic acids, aldehydes, alkali metals, alkaline earth metals, strong acids, strong alkalis and aluminium.
<b>Hazardous Decomposition Products</b>	Burning may produce carbon monoxide, carbon dioxide and isobutylene.

Infosafe No™	1CH8F	Issue Date : March 2016	RE-ISSUED by CHEMSUPP
--------------	-------	-------------------------	-----------------------

Product Name : **iso-BUTYL ALCOHOL**

Classified as hazardous

<b>Possibility of hazardous reactions</b>	Contact with oxidizing agents increases risk of fire and explosion. Butanols are ignited by chromium trioxide, due to vigorous oxidation of the alcohol. Mixtures or reactions of alcohols with the following materials may cause explosions: barium perchlorate, chlorine, ethylene oxide, hexamethylene diisocyanate and other isocyanates, hydrogen peroxide and sulfuric acid, hypochlorous acid, nitrogen tetroxide, hot perchloric acid, permonosulfuric acid and tri-isobutyl aluminium. Isobutyl alcohol will attack some forms of plastics, rubber and coatings.
<b>Hazardous Polymerization</b>	Will not occur.

## 11. Toxicological Information

<b>Toxicology Information</b>	No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. If mishandled or overexposed to this product the following symptom or effects may occur.
<b>Acute Toxicity - Oral</b>	LD50 (rat): 3350 mg/kg.
<b>Acute Toxicity - Dermal</b>	LD50 (rat): 2460 mg/kg.
<b>Acute Toxicity - Inhalation</b>	LD50 (rat): 24.6 mg/l/4h.
<b>Ingestion</b>	Harmful if swallowed. Ingestion may cause nausea, vomiting, and diarrhea. After absorption: CNS depression effects such as stomach and chest pain, headache, weakness, drowsiness, dizziness, inebriation, drop in blood pressure, cardiovascular disorders, depressed respiration, narcosis. Large doses may cause central nervous system damage, pulmonary edema, liver and kidney damage, collapse, coma and death. Aspiration (inhalation of fluid) of a small amount of undiluted alcohol may result in sudden respiratory failure and cardiac arrest, based on animal studies of various alcohols.
<b>Inhalation</b>	Harmful by inhalation. May cause irritation of the nose, throat and respiratory tract, headache, dizziness, drowsiness, muscle weakness, coughing, chest discomfort, incoordination, confusion, and coma. High concentrations can cause central nervous system damage and depression leading to loss of coordination, inebriation, impaired judgement, depressed respiration, narcosis and on prolonged exposure, unconsciousness; drop in blood pressure, cardiovascular disorders, pulmonary edema, and liver and kidney damage. Death may occur from respiratory failure.
<b>Skin</b>	Liquid may cause mild skin irritation. May cause redness, pain and swelling. May be absorbed through the skin; symptoms of absorption may be similar to those from ingestion exposure.
<b>Eye</b>	Vapour cause irritation, redness, and blurred vision. Splashes and direct eye contact with the liquid may cause moderate to severe irritation or eye damage.
<b>Carcinogenicity</b>	Not listed in the IARC Monographs. Has been found to cause cancer in laboratory animals.
<b>Chronic Effects</b>	Repeated or prolonged contact may cause reddening, drying and cracking of the skin (dermatitis). Excessive and repeated or prolonged exposure by inhalation may cause symptoms of central nervous system depression (nausea, dizziness, vomiting) and one case of marked ringing in the ears has been reported.
<b>Serious eye damage/irritation</b>	Application of 0.1 mL of 100%, 30% or 10% isobutyl alcohol caused severe, moderate and mild irritation in rabbits respectively in standard Draize tests. Application of 0.005 or 0.02 mL of undiluted isobutyl alcohol caused severe irritation in rabbits.
<b>Mutagenicity</b>	No human information is available. Isobutyl alcohol caused mutagenic effects in one bacterial test and not in another.
<b>Skin corrosion/irritation</b>	Application of 0.01 mL of undiluted isobutyl alcohol produced no reaction in rabbits.

## 12. Ecological information

<b>Ecological Information</b>	No ecological problems are to be expected when the product is handled and used with due care and attention.
<b>Ecotoxicity</b>	Toxic for aquatic organisms. Toxic effect on fish and plankton.
<b>Persistence and degradability</b>	Biodegradation: 99 %/14d modified OECD screening test. Readily biodegradable. BOD 64 % from TOD/5 d; COD 100% from TOD; TOD: 2.60 g/g.
<b>Mobility</b>	Distribution: log P(o/w): 0.65.
<b>Bioaccumulative Potential</b>	No bioaccumulation is to be expected (log P(o/w) < 1).

## 13. Disposal considerations

# Safety Data Sheet

Infosafe No™	1CH8F	Issue Date : March 2016	RE-ISSUED by CHEMSUPP
--------------	-------	-------------------------	-----------------------

Product Name : **iso-BUTYL ALCOHOL**

Classified as hazardous

**Disposal Considerations** Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

## 14. Transport information

**Transport Information** Dangerous Goods of Class 3 Flammable Liquids, are incompatible in a placard load with any of the following: - Class 1, Class 2.1, if both the Class 3 and Class 2.1, dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane and Class 7.

**U.N. Number** 1212

**UN proper shipping name** ISOBUTANOL (ISOBUTYL ALCOHOL)

**Transport hazard class(es)** 3

**Hazchem Code** •3Y

**Packaging Method** 3.8.3

**Packing Group** III

**EPG Number** 3A1

**IERG Number** 17

## 15. Regulatory information

**Regulatory Information** Listed in the Australian Inventory of Chemical Substances (AICS).

**Poisons Schedule** Not Scheduled

## 16. Other Information

**Literature References** 'Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015.  
Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.  
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.  
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.  
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.  
Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.  
Safe Work Australia, 'Hazardous Substances Information System, 2005'.  
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.  
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.

**Contact Person/Point** Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**  
All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

**Empirical Formula & Structural Formula** (CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>OH  
...End Of MSDS...

© Copyright ACOHS Pty Ltd

Copyright in the source code of the HTML, PDF, XML, XFO and any other electronic files rendered by an Infosafe system for Infosafe MSDS displayed is the intellectual property of Acohs Pty Ltd.

Copyright in the layout, presentation and appearance of each Infosafe MSDS displayed is the intellectual property of Acohs Pty Ltd.  
The compilation of MSDS's displayed is the intellectual property of Acohs Pty Ltd.

Copying of any MSDS displayed is permitted for personal use only and otherwise is not permitted. In particular the MSDS's displayed cannot be copied for the purpose of sale or licence or for inclusion as part of a collection of MSDS without the express written consent of Acohs Pty Ltd.