

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

Product name CHLOROFORM  
CAS-No. 67-66-3  
Product code AH1028E, AH1029E, AR1027E, BP1027E, CG1027E, EP1027E, GN1027E, GP1027E, LC1027E, IR1027E, PC1027E, RP1027E

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

Identified uses Chemical for analysis and production.

**1.3 Details of the supplier of the safety data sheet**

Company Chem-Supply Pty Ltd  
38 - 50 Bedford Street, Gillman SA 5013 Australia  
Telephone number (08) 8440 2000  
Fax number (08) 8440 2001

**1.4 Emergency Telephone Number**

Emergency phone  
Monday - Friday 8:30am - 5:00pm ACST (08) 8440 2000  
After hours: CHEMCALL 1800127406 / +6449179888

**1.5 Manufacturer**

Company RCI LABSCAN LIMITED.  
24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to WHS Regulations (Australia)**

Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 3), H331  
Skin irritation, (Category 2), H315  
Eye irritation, (Category 2), H319  
Carcinogenicity, (Category 2), H351  
Reproductive toxicity, (Category 2), H361d  
Specific Target Organ Toxicity (repeated exposure), (Category 1), H372  
For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Carc.Cat.3	Carcinogenic Category 3	R40
Repr. Cat. 3	Toxic to Reproduction Category 3	R63
Xi	Irritant	R36/38
Xn	Harmful	R20/22, R48/20

For the full text of the R-phrases mentioned in this Section, see Section 16.

**2.2 Label elements**

Pictogram



Signal word                      Danger

Hazard statement(s)

H302                      Harmful if swallowed.  
 H315                      Causes skin irritation.  
 H319                      Causes serious eye irritation.  
 H331                      Toxic if inhaled.  
 H351                      Suspected of causing cancer.  
 H361d                     Suspected of damaging the unborn child.  
 H373                      May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s)

P201                      Obtain special instructions before use.  
 P202                      Do not handle until all safety precautions have been read and understood.  
 P261                      Avoid breathing vapors.  
 P264                      Wash hand thoroughly after handling.  
 P270                      Do not eat, drink or smoke when using this product.  
 P271                      Use only outdoors or in a well-ventilated area.  
 P280                      Wear protective gloves/eye protection/face protection.  
 P281                      Use personal protective equipment as required.  
 P301 + P312             IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P330                      Rinse mouth.  
 P302 + P352             IF ON SKIN: Wash with plenty of soap and water.  
 P304 + P340             IF INHALED: Remove victim to fresh air and keep at rest in a position 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.  
 P308 + P313             IF exposed or concerned: Get medical advice/attention.  
 P311                      Call a POISON CENTER or doctor/physician.  
 P314                      Get medical advice/attention if you feel unwell.  
 P332 + P313             If skin irritation occurs: Get medical advice/attention.  
 P337 + P313             If eye irritation persists: Get medical advice/attention.  
 P362                      Take off contaminated clothing and wash before reuse.  
 P403 + P233             Store in a well-ventilated place. Keep container tightly closed.  
 P405                      Store locked up.

**2.3 Other hazards**                      None

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Synonyms                      Formyl trichloride, Methane trichloride, Methenyl trichloride, Methyl trichloride, Trichloromethane

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
67-66-3	200-663-8	602-006-00-4	CHCl <sub>3</sub>	119.38 g/mol	>99

**Hazardous ingredients according to WHS Regulations (Australia)**

Component	Concentration	Classification
<b>Chloroform</b>		
CAS-No 67-66-3 EC-No 200-663-8 EC-Index-No 602-006-00-4	>99%	Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 3), H331 Skin irritation, (Category 2), H315 Eye irritation, (Category 2), H319 Carcinogenicity, (Category 2), H351 Reproductive toxicity, (Category 2), H361d Specific Target Organ Toxicity (repeated exposure), (Category 1), H372

**Hazardous ingredients according to Directive 1999/45/EC**

Component	Concentration	Classification
<b>Chloroform</b>		
CAS-No 67-66-3 EC-No 200-663-8 EC-Index-No 602-006-00-4	>99%	Carc.Cat.3, Carcinogenic Category 3, R40 Repr. Cat. 3, Toxic to Reproduction Category 3, R63 Xi, Irritant, R36/38 Xn, Harmful, R20/22, R48/20

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

**3.2 Stabilized****Ethanol**

Synonyms Ethyl alcohol Denatured, Denatured alcohol, Ethanol Denatured.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
64-17-5	200-578-6	603-002-00-5	C <sub>2</sub> H <sub>5</sub> OH	46.07 g/mol	<1

**Hazardous ingredients according to WHS Regulations (Australia)**

Component	Concentration	Classification
<b>Sulfuric acid</b>		
CAS-No 64-17-5 EC-No 200-578-6 EC-Index-No 603-002-00-5	<1%	Flammable liquids (Category 2), H225

**Hazardous ingredients according to Directive 1999/45/EC**

Component	Concentration	Classification
<b>Sulfuric acid</b>		
CAS-No 64-17-5 EC-No 200-578-6 EC-Index-No 603-002-00-5	<1%	F, Highly flammable, R11

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing

	or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Obtain medical attention. Wash contaminated clothing before reuse. Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

After swallowing: immediately make victim drink plenty of water. Subsequently administer: Activate charcoal 20-40 g in 10% slurry. Laxative: Sodium Sulfate 1 tablespoon/250 ml of water. Indications for the doctor: Gastric lavage. No milk, No castor oil, No alcohol.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

In adaption to materials stored in the immediate neighborhood.

### 5.2 Special hazards arising from the substance or mixture

Non-combustible liquid. Vapors heavier than air. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: Hydrochloric acid, phosgene, chlorine.

### 5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin. Keep a safety distance and wear suitable protective clothing.

### 5.4 Hazchem Code

2Z

### 5.5 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

### 6.3 Methods and materials for containment and cleaning up

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

### 6.4 Reference to other sections

For disposal see **Section 13**.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Exposure limit (Safe Work Australia)

TWA: 2 ppm (10 mg/m<sup>3</sup>)  
STEL: Not Available

### 8.2 Exposure controls

#### Appropriate engineering controls

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

#### Individual protection measures (Personal protective equipment, PPE)

##### Eye/face protection

Goggles giving complete protection to eyes.

##### Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from viton material.
- Splash contact wears gloves from butyl rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

##### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter AX (EN 371).

##### Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance: Form	Liquid
: Color	Colorless
Odour	Sweetish
Odour Threshold	Not Available
pH	Not Available
Melting point/range	-63 °C
Boiling point/range	61 °C
Flash point	Not flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	Not Available
upper	Not Available
Vapor Pressure	213 hPa at 20°C
Relative Vapor Density	4.25
Density	1.479 g/ml at 20°C
Water solubility	8 g/l at 20°C
Partition coefficient (n-octanol/water)	log Pow: 2.0
Auto-Ignition temperature	Not combustible
Decomposition Temperature	Not Available
Viscosity	0.56 mPa.s at 20°C
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Heat-sensitive, light sensitive / decomposition; unsuitable working materials: various plastic, rubber. Explosible with air in a vaporous/gaseous state.

### 10.2 Chemical stability

Sensitive to light and heat. Decompose on exposure to light and heat. Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion in contact with: strong bases, aluminium (powder), amines, ammonia, alkali/alkaline earth metals, fluorine, oxygen, acetone / alkali, dibenzoyl peroxide, iron powder, sodium amide, sodium hydroxide / methanol, sodium methoxide / methanol, nitromethane, nitrogen dioxide.

The substance can react dangerously with: strong oxidizing agents, water, bis-(dimethylamino)-dimethyltin, potassium tert.-butoxide, metal powder, mineral acids, silicon hydride, triisopropylphosphine.

### 10.4 Conditions to avoid

Heating and light.

### 10.5 Incompatible materials

Alkali metals, alkaline earth metals, light metals in powder form, peroxide, fluorine, alcoholates, strong bases, ketones, alkalis, alkalis hydroxide, alcohols, organic nitro compounds, alkali amides, oxygen, alkali oxygen, nitrogen oxides, bis-(dimethylamino)-dimethyl tin, amines, ammonia, phosphine.

### 10.6 Hazardous decomposition products

Hydrochloric acid, phosgene, chlorine, Carbon monoxides, Carbon dioxides (Hazardous decomposition products from under fire condition).

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD<sub>50</sub> (inhalation, human): 124.1 mg/l/ 5 min

LC<sub>50</sub> (inhalation, rat): > 47.7 mg/l/4h

#### Acute oral toxicity

Absorption: nausea, vomiting.

#### Acute inhalation toxicity

Absorption: coughing and dyspnea.

#### Skin corrosion/irritation

Irritations: drying out effect resulting in rough and chapped skin. Danger of skin absorption.

#### Serious eye damage/eye irritation

Slight irritation.

#### Respiratory or skin sensitization

Not Available

#### Germ cell mutagenicity

Bacterial mutagenicity : Ames test ; negative.

#### Carcinogenicity

The National Cancer Institute (NCI) has found clear evidence for carcinogenicity. Limited evidence of a carcinogenic effect.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Chloroform)

#### Reproductive toxicity

Not Available

#### Teratogenicity

Not Available

#### Specific target organ toxicity (STOT) - single exposure

Not Available

#### Specific target organ toxicity (STOT) - repeated exposure

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1. -  
Liver, Kidney

#### Aspiration hazard

Not Available

#### Further information

After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting) can result in a condition resembling pneumonia (chemical pneumonitis).

After absorption; nausea, vomiting, agitation, spasms, narcosis.

After long-term exposure to the chemical: drop in blood pressure, headache, ataxia (impaired locomotor coordinator), gastrointestinal complaints, cardiovascular disorders.

Damage of liver, kidneys and heart.

The product should be handled with the care usual when dealing with chemicals.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish	LC <sub>50</sub> L.macrochirus : 18 mg/l/96 h.
Toxicity to daphnia and other aquatic invertebrates	EC <sub>50</sub> Daphnia magna: 79 mg/l/48h.
Toxicity to algae	IC <sub>5</sub> Sc.quadricauda: 1100 mg/l/8d.
Toxicity to bacteria	EC <sub>50</sub> activated sludge: 1010 mg/l/3h

### 12.2 Persistence and degradability

Biodegradability	No Biodegradation
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### 12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water)	log Pow: 2.0 (experimental). No appreciable bioaccumulation potential is to be expected (log P o/w 1-3). Distribution preferentially in air.
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### 12.4 Mobility in soil

Not Available

### 12.5 Other adverse effects

Biological effects: Harmful effect for aquatic organisms. Endangers drinking water supplies if swallowed to enter soil and or waters in large quantities.

Do not allow to enter waters, waste water or soil.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

#### Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

## SECTION 14: Transport information

### Land Transport (ADG Code)

UN Number	1888
UN proper shipping name	CHLOROFORM
Transport hazard class(es)	6.1
Hazchem Code	2Z
Packing group	III
Environmental hazards	No
Special precautions for user	Yes

### Sea transport (IMDG)

UN Number	1888
UN proper shipping name	CHLOROFORM
Transport hazard class(es)	6.1



Packing group	III
Marine pollutant	No
Special precautions for user	Yes
EmS	F-A S-A

**Air transport (IATA)**

UN Number	1888
UN proper shipping name	CHLOROFORM
Transport hazard class(es)	6.1
Packing group	III
Environmental hazards	No
Special precautions for user	No

**River transport (AND/ADNR)**

(Not examined)

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>Regulatory Information</b>	Listed in the Australian Inventory of Chemical Substances (AICS).
<b>Poisons Schedule</b>	S6

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3**

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

**Full text of R-phrases referred to under sections 2 and 3**

Carc.Cat.3	Carcinogenic Category 3
F	Highly flammable
Repr. Cat. 3	Toxic to Reproduction Category 3
Xi	Irritant
Xn	Harmful
R11	Highly flammable.
R20/22	Harmful by inhalation and if swallowed.
R36/38	Irritating to eyes and skin.
R40	Limited evidence of a carcinogenic effect.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation swallowed.
R63	Possible risk of harm to the unborn child.

**Recommended restrictions**

Take notice of labels and safety data sheets for the working.

**Reference**

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).  
Labelling according to Code of Practice for the Labelling of Workplace Hazardous Chemicals (Safe Work Australia).  
Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.  
Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany,  
Source: IFA for Databases on hazardous substances (GESTIS).

**Further information**

Contact Chem – Supply Pty Ltd Ph. (08) 8440 2000.

**Revision Date**

12/12/2017

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.