

Infosafe No™ 1CHKG      Issue Date : January 2021      RE-ISSUED by CHEMSUPP

Product Name **CHLOROBENZENE**

Classified as hazardous

## 1. Identification

**GHS Product Identifier** CHLOROBENZENE

**Company Name** CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)

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**Recommended use of the chemical and restrictions on use** Synthesis of organochlorine pesticides, including DDT, as well as phenol, chloronitrobenzene, aniline, picric acid and dyes. It is now used primarily as a degreasing solvent, paint solvent, solvent carrier for methylene diisocyanate, as a chemical intermediate in the synthesis of nitrochlorobenzenes, in the dry cleaning industry, in the manufacture of resins, dyes, perfumes and pesticides, heat transfer medium and laboratory reagent.

<b>Other Names</b>	<u><b>Name</b></u>	<u><b>Product Code</b></u>
	Monochlorobenzene, Benzene Chloride	
	CHLOROBENZENE LR	CL127
	Mono Chlorobenzene AR	CA127

### Other Information

ChemSupply Australia 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 ChemSupply Australia 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 ChemSupply Australia 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

**GHS classification of the substance/mixture** Hazardous to the Aquatic Environment - Long-Term Hazard: Category 2  
Flammable Liquids: Category 3  
Acute Toxicity - Inhalation: Category 4  
Skin Corrosion/Irritation: Category 2

**Signal Word (s)** WARNING

**Hazard Statement (s)** H226 Flammable liquid and vapour.  
H315 Causes skin irritation.  
H332 Harmful if inhaled.  
H411 Toxic to aquatic life with long lasting effects.

**Pictogram (s)** Flame, Exclamation mark, Environment



**Precautionary statement – 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.

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<b>Precautionary statement – Response</b>	<p>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.  P273 Avoid release to the environment.  P302 + P352 IF ON SKIN: Wash with plenty of soap and water  P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  P332+P313 If skin irritation occurs: Get medical advice/attention.  P362 Take off contaminated clothing and wash before reuse.  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.  P370+P378 In case of fire: Use foam, dry chemical, carbon dioxide or water spray for extinction.  P403+P235 Store in a well-ventilated place. Keep cool.</p>
<b>Precautionary statement – Storage</b>	
<b>Precautionary statement – Disposal</b>	P501 Dispose of contents/container to an approved waste disposal plant.
<b>Other Information</b>	Persons with pre-existing skin, eye or central nervous system disorders, or impaired liver, kidney, or pulmonary function may be more susceptible to the effects of this substance.

### 3. Composition/information on ingredients

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Chlorobenzene	108-90-7	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. Get 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. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.
<b>Skin</b>	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
<b>Eye contact</b>	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
<b>First Aid Facilities</b>	Eye wash fountains and safety showers should be available for emergency use.
<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>	May liberate toxic fumes in fire including carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.
<b>Specific Methods</b>	Small fire: Use foam, dry chemical, CO2 or water spray. Large fire: Use 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.
<b>Specific hazards arising from the chemical</b>	Will be easily ignited by heat, sparks or flame. Vapours will form explosive mixtures Containers may explode when heated. Fire will produce irritating, poisonous and/or corrosive gases. Vapours from runoff may create explosion hazard.

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<b>Hazchem Code</b>	2Y
<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.

## 6. Accidental release measures

<b>Spills &amp; Disposal</b>	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.
<b>Personal Precautions</b>	Evacuate the area of all non-essential personnel. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)
<b>Environmental Precautions</b>	Prevent from entering into drains, ditches, rivers or the sea.

## 7. Handling and storage

<b>Precautions for Safe Handling</b>	Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Contaminated clothing should be removed and washed before reuse. Application of skin-protective barrier cream is recommended. Wash hands and face thoroughly after working with material.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep container tightly closed and dry, away from direct sunlight. Store at room temperature (15 - 25 °C). Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Store away from oxidizing agents. Areas where a build up of flammable vapours may occur must be designated no smoking areas. Containers should be bonded and grounded for transfers to avoid static sparks. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid).
<b>Storage Regulations</b>	Refer Australian Standard AS/NZS 2243.10:2004 'Safety in laboratories - Storage of chemicals'. Refer Australian Standard AS 1940-2017 'The storage and handling of flammable and combustible liquids'.

## 8. Exposure controls/personal protection

Occupational exposure limit values	<u>Name</u>	STEL		TWA		<u>Footnote</u>
		<u>mg/m3</u>	<u>ppm</u>	<u>mg/m3</u>	<u>ppm</u>	
	Chlorobenzene			46	10	
<b>Other Exposure Information</b>	These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. 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>	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					

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<b>Eye Protection</b>	dust/mist filters. Filter capacity and respirator type depends on exposure levels. 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>	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.
<b>Personal Protective Equipment</b>	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
<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 antistatic 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. Polyethylene; polyurethane and Viton offer the best chemical resistance.
<b>Hygiene Measures</b>	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, volatile, mobile liquid.
<b>Odour</b>	Almond-like or benzene-like odour.
<b>Melting Point</b>	-45 °C
<b>Boiling Point</b>	132 °C
<b>Solubility in Water</b>	Immiscible or insoluble.
<b>Solubility in Organic Solvents</b>	Very soluble in carbon disulfide and benzene. Soluble in alcohol, ether, chloroform, carbon tetrachloride.
<b>Specific Gravity</b>	1.11
<b>Vapour Pressure</b>	12 hPa (@ 20 °C).
<b>Vapour Density (Air=1)</b>	3.88
<b>Evaporation Rate</b>	1.07 (BuAc=1)
<b>Flash Point</b>	28 °C (OC)
<b>Flammability</b>	Flammable.
<b>Auto-Ignition Temperature</b>	590 °C
<b>Flammable Limits - Lower</b>	1.3%
<b>Flammable Limits - Upper</b>	11%
<b>Molecular Weight</b>	112.56

## 10. Stability and reactivity

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<b>Chemical Stability</b>	Stable under ordinary conditions of use and storage.
<b>Conditions to Avoid</b>	Heat, flames and sparks.
<b>Incompatible Materials</b>	Strong oxidizing materials (e.g. silver perchlorate) (increases risk of fire and explosion), alkali metals, alkaline earth metals. Dimethyl sulfoxide decomposes violently on contact with chlorobenzene. Liquid chlorobenzene will attack some forms of plastics, rubber, and coatings.
<b>Hazardous Decomposition Products</b>	May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.
<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 symptoms or effects may occur.
<b>Ingestion</b>	May causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.
<b>Inhalation</b>	Chlorobenzene very easily forms vapour concentrations at room temperature posing a significant inhalation hazard, especially in poorly ventilated areas and confined spaces. The main effect is depression of the central nervous system (CNS) (lowered perception), with symptoms such as headache, nausea, dizziness, drowsiness, confusion, incoordination and unconsciousness. High concentrations may cause loss of consciousness and possibly death. Irritation of the nose, throat and respiratory tract also occurs, with symptoms such as coughing, dyspnoea and sore throat. In general, dose-effect information is not available.
<b>Skin</b>	Causes irritation to skin. Symptoms include redness, itching, and pain. May be slowly absorbed through the skin with possible systemic effects, but is not expected to cause significant harmful effects by this route of exposure. Danger of skin absorption. Degreasing effect on the skin, possibly followed by secondary inflammation.
<b>Eye</b>	Vapors may cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage.
<b>Respiratory sensitisation</b>	Not classified based on available information.
<b>Skin Sensitisation</b>	Not classified based on available information.
<b>Germ cell mutagenicity</b>	Not classified based on available information.
<b>Carcinogenicity</b>	Not classified based on available information.
<b>STOT-single exposure</b>	Not classified based on available information.
<b>STOT-repeated exposure</b>	Not classified based on available information.
<b>Chronic Effects</b>	Prolonged or repeated skin exposure may cause dermatitis or skin burns. Prolonged or repeated exposure may cause liver, kidney, or lung damage.
<b>Mutagenicity</b>	Not classified based on available information.

## 12. Ecological information

<b>Ecotoxicity</b>	Toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.
<b>Persistence and degradability</b>	Biodegradation: 15%/28d. Biological degradability: poor.
<b>Mobility</b>	Distribution: log P(o/w): 2.84. Will evaporate from all surfaces easily. Water soluble hence may spread in water systems and soil.

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<b>Environmental Protection</b>	Do not allow to enter waters, waste water, or soil!
<b>Acute Toxicity - Fish</b>	LC50 - Salmo - 10.4 mg/l - 96 h (OECD Test Guideline 203)
<b>Acute Toxicity - Daphnia</b>	EC50 - Daphnia magna (Water flea) - 20 mg/l - 48 h (OECD Test Guideline 202)
<b>Acute Toxicity - Algae</b>	EC50 (green algae - Pseudokirchneriella subcapitata): 11.4 mg/l/72h. (OECD Test Guideline 201)
<b>Other Information</b>	BOD5: 0.03 g/g; COD: 0.41 g/g; THOD: 2.06 g/g.

### 13. Disposal considerations

<b>Disposal Considerations</b>	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
<b>Waste Disposal</b>	Burn in a chemical incinerator with an afterburner and scrubber.

### 14. Transport information

<b>Transport Information</b>	Dangerous goods of Class 3 (Flammable Liquid) 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, Class 7.
<b>U.N. Number</b>	1134
<b>UN proper shipping name</b>	CHLOROBENZENE
<b>Transport hazard class(es)</b>	3
<b>Hazchem Code</b>	2Y
<b>Packing Group</b>	III
<b>EPG Number</b>	3A1
<b>IERG Number</b>	17
<b>IMDG Marine pollutant</b>	Yes
<b>Environmental Hazards</b>	Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

### 15. Regulatory information

<b>Regulatory Information</b>	All the constituents of this product are listed on the Australian Inventory of Chemical Substances ( AICS ), or exempted. Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
<b>Poisons Schedule</b>	Not Scheduled

### 16. Other Information

<b>Literature References</b>	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals'. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand. Safe Work Australia, 'Hazardous Chemical Information System'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.
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