

SAFETY DATA SHEET



Revision date: 19-Dec-2022

Revision Number 1

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name CHLOROBUTANOL

Product Code(s) 00000030011

Other means of identification

CAS No. 6001-64-5

Pure substance/mixture Substance

Recommended use of the chemical and restrictions on use

Recommended use Disinfectant. ,. Preservative.

Uses advised against No information available.

Supplier

Ixom Operations Pty Ltd (Bronson & Jacobs division) - incorporated in Australia
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Australia

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Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

GHS Classification

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Specific target organ toxicity (single exposure)	Category 3
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SIGNAL WORD

Warning

Label elements

Exclamation mark

**Hazard statements**

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Precautionary Statements - Prevention

Avoid breathing dust / fume / gas / mist / vapours / spray

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves / protective clothing / eye protection / face protection

Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

Specific treatment is urgent (see First aid on this SDS)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

May form combustible dust concentrations in air

General Hazards

Dust can form an explosive mixture with air

Poisons Schedule (SUSMP)

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

Chemical name	CAS No.	Weight-%
1,1,1-Trichloro-2-methyl-2-propanol, hemihydrate	6001-64-5	100

4. FIRST AID MEASURES

Description of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.
Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area. Call a physician if irritation persists.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth immediately and drink plenty of water. Drink plenty of water. Do NOT induce vomiting. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation. May cause redness and tearing of the eyes.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Overdose Treatment: Do NOT induce vomiting; consider gastric lavage following ingestion of potentially life threatening amount of material; activated charcoal may also decrease absorption. Such effects are most effective within 1 hour of ingestion. Monitor EKG and vital signs closely. Forced diuresis and dialysis are NOT recommended in chlorobutanol overdose. For hypotension, administer isotonic fluid, dopamine, or norepinephrine, and place patient in Trendelenburg position. For ventricular dysrhythmias, administer lidocaine, propranolol, or phenytoin; overdrive transvenous pacing may be used. Atropine may be used when severe bradycardia is present. [Poisindex 2003] (1).
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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media	Water spray. Foam. Dry chemical. Carbon dioxide (CO2).
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Unsuitable extinguishing media	High volume water jet.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	Combustible solid. On burning will emit toxic fumes, including those of oxides of carbon. Dust can form an explosive mixture with air. Avoid generation of dust. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
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Hazardous combustion products	Oxides of carbon.
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Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes, and clothing. Avoid breathing dust / fume / gas / mist / vapours / spray. Ensure adequate ventilation. Do not touch or walk through spilled material. Keep people away from and upwind of spill/leak. Avoid generation of dust. Evacuate personnel to safe areas. Wash thoroughly after handling. Use personal protective equipment as required.
Other information	Ventilate the area.
For emergency responders	Shut off ignition sources. Clear area of all unprotected personnel. Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Refer to protective measures listed in Sections 7 and 8.
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Methods and material for containment and cleaning up

Methods for containment	Stop leak if you can do it without risk. Remove ignition sources. Provide adequate ventilation. Do not touch or walk through spilled material. Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal.
Methods for cleaning up	Cover with damp absorbent (inert material, sand or soil). Vacuum or sweep material and place in a disposal container. Use non-sparking tools. Avoid generation of dust. Use personal protective equipment as required. Pick up and transfer to properly labelled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Avoid contact with skin, eyes, and clothing. Avoid breathing dust / fume / gas / mist / vapours / spray. Avoid generation of dust. Keep away from open flames, hot surfaces and sources of ignition. Use personal protection equipment. Use according to package label instructions. In common with many organic chemicals, may form flammable dust clouds in air. Take off contaminated clothing and wash before reuse. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. Use only outdoors. Keep out of reach of children.
General hygiene considerations	Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands and face before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a cool, well-ventilated place. Protect from sunlight. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Keep container closed when not in use. Do not contaminate food or feed stuffs. This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.
Incompatible materials	Oxidizing agents.

Poisons Schedule (SUSMP) 3

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for particulates:

Dusts not otherwise classified: 8hr TWA = 10 mg/m³

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

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.

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



- Eye/face protection** Goggles.
- Skin and body protection** Wear suitable protective clothing. Boots. Overalls.
- Hand protection** Impervious gloves.
- Respiratory protection** If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
- Environmental exposure controls** No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Crystalline Powder
Color	Colourless to White
Odor	No information available.
Odor threshold	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	76-78 °C	None known
Boiling point / boiling range	167 °C	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	Slightly soluble	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	Not Applicable	None known
Dynamic viscosity	No data available	None known

Other information

10. STABILITY AND REACTIVITY

Reactivity

Reactivity Hygroscopic: absorbs moisture or water from surrounding air.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Avoid exposure to heat, sources of ignition, and open flame. Avoid contact with combustible substances. Dust formation. Direct sunlight. Very hygroscopic; protect from moisture. Do not contaminate food or feed stuffs.

Incompatible materials

Incompatible materials Oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Information on likely routes of exposure

Product Information No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

Inhalation May cause irritation of respiratory tract.

Eye contact Causes serious eye irritation. Dust contact with the eyes can lead to mechanical irritation.

Skin contact Causes skin irritation. and numbness.(1).

Ingestion Harmful if swallowed. Avoid ingestion. Rapid absorption may result in deep stupor or coma within 30 to 60 minutes. (1).

Symptoms Irritation. May cause redness and tearing of the eyes.

Numerical measures of toxicity - Product Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,1,1-Trichloro-2-methyl-2-prop anol, hemihydrate	283-317 mg/kg (1)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure May cause respiratory irritation.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Chronic effects: Possible hypersensitization and habituation. (1)
Other adverse effects Adverse effects may include vomiting, gastric upset, and central nervous system depression including light headness, fatigue, feeling of hangover, and clumsiness or unsteadiness. Possible allergic reaction to material if inhaled, ingested or in contact with skin. Overdose effects include weakness, depressed respiration, irregular heartbeat, cardiac arrest, and loss of consciousness.(1).

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity Avoid contaminating waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
1,1,1-Trichloro-2-methyl-2-propanol, hemihydrate	-	LC50: =135mg/L (96h, Pimephales promelas)	-	-

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation No information available.

Component Information

Chemical name	Partition coefficient
1,1,1-Trichloro-2-methyl-2-propanol, hemihydrate	2.03

Mobility

Mobility in soil No information available.

Other adverse effects

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

ADG

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

IATA

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

IMDG

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Australia**

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule (SUSMP) 3

International Inventories

AIIC This material is listed on the Australian Inventory of Industrial Chemicals.

Legend:

AIIC- Australian Inventory of Industrial Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. OTHER INFORMATION

Reason(s) For Issue: First Issue Primary SDS

Issuing Date: 19-Dec-2022

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Bronson & Jacobs representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

Bronson and Jacobs incorporating the businesses of Woods and Woods and Keith Harris and Australian Botanical Products.

End of Safety Data Sheet