

n-Butyl Chloride**034-4**

Version 1.2 2

Revision Date 12/20/2017

Print Date 12/20/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : n-Butyl Chloride

SDS Number : 000000011399

Product Use Description : Solvent

Manufacturer or supplier's details : CHEM-SUPPLY Pty Ltd
38-50 Bedford St.
Gillman SA 5013, Australia

For more information call : +61 8 8440 2000
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701 or +1-303-389-1414
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
:
: **CHEMTREC in Australia: +(61)-290372994**
: (24 hours/day, 7 days/week)

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

Classification of the substance or mixture : Flammable liquids, Category 2
Aspiration hazard, Category 1
Chronic aquatic toxicity, Category 3

GHS Label elements, including precautionary statements

Symbol(s) : 

Signal word : Danger

Hazard statements : Highly flammable liquid and vapour.
May be fatal if swallowed and enters airways.

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Harmful to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid release to the environment.

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

Response:

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Do NOT induce vomiting.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Substance

CAS-No. : 109-69-3

Hazardous components

Chemical name	CAS-No.	Concentration
1-Chlorobutane	109-69-3	<= 100%

4. FIRST AID MEASURES

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Inhalation	: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.
Skin contact	: Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.
Eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.
Ingestion	: Do not induce vomiting without medical advice. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Call a physician.
Notes to physician	: Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Dry chemical Foam Carbon dioxide (CO ₂) Cool closed containers exposed to fire with water spray.
Unsuitable extinguishing media	: Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during firefighting	: Highly flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO ₂) Phosgene Gaseous hydrogen chloride (HCl).
Special protective equipment	: Wear self-contained breathing apparatus and protective suit.

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for firefighters

Further information

: HAZCHEM CODE: 3YE

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear personal protective equipment. Unprotected persons must be kept away.
Immediately evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Ensure adequate ventilation.
Remove all sources of ignition.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Prevent product from entering drains.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.
Do not allow run-off from fire fighting to enter drains or water courses.

Methods for cleaning up : Ventilate the area.
No sparking tools should be used.
Use explosion-proof equipment.
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE**Handling**

Advice on safe handling : Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Do not smoke.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.
Take precautionary measures against static discharges.
Ensure all equipment is electrically grounded before beginning transfer operations.

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Use explosion-proof equipment.
 Keep product and empty container away from heat and sources of ignition.
 No sparking tools should be used.
 No smoking.

Storage

Requirements for storage areas and containers : Store in area designed for storage of flammable liquids. Protect from physical damage. Keep containers tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from heat and sources of ignition. Keep away from direct sunlight. Store away from incompatible substances. Container hazardous when empty. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Materials to avoid : Acids, Bases, Oxidizing agents, Reducing agents, Aluminium, Oxygen, Alkaline earth metals, Alkali metals, May attack many plastics, rubbers and coatings.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
n-Butyl Chloride	109-69-3		NOHSC: none established.		AU OEL: Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Engineering measures

Use with local exhaust ventilation.
 Prevent vapour buildup by providing adequate ventilation during and after use.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation wear suitable respiratory

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- equipment.
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
Use NIOSH approved respiratory protection.
- Hand protection : Solvent-resistant gloves
Gloves must be inspected prior to use.
Replace when worn.
- Eye protection : Do not wear contact lenses.
Wear as appropriate:
Safety glasses with side-shields
If splashes are likely to occur, wear:
Goggles or face shield, giving complete protection to eyes
- Skin and body protection : Wear as appropriate:
Solvent-resistant apron
Flame retardant antistatic protective clothing.
If splashes are likely to occur, wear:
Protective suit
- Hygiene measures : When using, do not eat, drink or smoke.
Wash hands and face before breaks and immediately after handling the product.
Keep working clothes separately.
Remove and wash contaminated clothing before re-use.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.
- Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : liquid
- Colour : clear colourless
- Odour : unpleasant
- pH : Note: Not applicable
- Melting point/range : -123 °C
- Boiling point/boiling range : 78 °C

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Flash point	:	16 °F (-9 °C)
Lower explosion limit	:	1 %(V)
Upper explosion limit	:	10.1 %(V)
Vapour pressure	:	106.79 hPa at 20 °C(68 °F)
Vapour density	:	3.2 Note: (Air = 1.0)
Density	:	0.8862 g/cm ³ at 20 °C
Water solubility	:	0.66 g/l at 12 °C
Ignition temperature	:	240 °C
Molecular weight	:	92.58 g/mol

10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Heat, flames and sparks. Keep away from direct sunlight.
Incompatible materials to	:	Acids

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avoid

Bases
Oxidizing agents
Reducing agents
Aluminium
Oxygen
Alkaline earth metals
Alkali metals
May attack many plastics, rubbers and coatings.

Hazardous decomposition products

: In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)
Phosgene
Gaseous hydrogen chloride (HCl).

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

: LD₅₀: 2,670 mg/kg
Species: Rat

Acute inhalation toxicity

: LC₅₀: > 7.74 mg/l , Mist
Exposure time: 4 h
Species: Rat
Note: No deaths

Acute dermal toxicity

: LD₀: 20,000 mg/kg
Species: Rabbit

Skin irritation

: Species: Rabbit
Result: Mild skin irritation
Exposure time: 24 h

Eye irritation

: Species: rabbit eye
Result: Mild eye irritation
Exposure time: 24 h

Sensitisation

: Buehler Test
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

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Method: OECD Test Guideline 406

- Repeated dose toxicity : Species: Rat
Application Route: Oral
Exposure time: 13 Weeks
NOEL: 120 mg/kg
- Genotoxicity in vitro : Test Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Metabolic activation: with and without metabolic activation
Result: negative
- : Test Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Metabolic activation: with and without metabolic activation
Result: negative
- Carcinogenicity : Species: Rat
Application Route: Oral
Method: Animal testing did not show any carcinogenic effects.
- Reproductive toxicity : Species: Rat
Application Route: Oral
NOAEL,parent: 2.4 mg/kg
NOAEL,F1: 60 mg/kg
Method: Animal experiments have shown effects on reproduction at doses toxic to the parents.

12. Ecological information**Toxicity**

- Toxicity to fish : semi-static test
LC50: 120 mg/l
Exposure time: 96 h
Species: Oryzias latipes (Orange-red killifish)
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : static test
EC50: 380 mg/l

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Exposure time: 24 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

Toxicity to algae : Biomass
EC50: > 1,000 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Method: OECD Test Guideline 201

Toxicity to bacteria : EC10: 332.3 mg/l
Exposure time: 18 h
Species: Pseudomonas putida
Method: DIN 38412

Persistence and degradability

Biodegradability : Biochemical Oxygen Demand (BOD)
Result: Not readily biodegradable.
Value: 0 %
Method: OECD 301 C

Bioaccumulative potential

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 6 Weeks
Temperature: 25 °C
Bioconcentration factor (BCF): 90 - 450

13. DISPOSAL CONSIDERATIONS

Product : In accordance with local and national regulations.

14. TRANSPORT INFORMATION

ADR
UN/ID No. : UN 1127

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Description of the goods : CHLOROBUTANES
Class : 3
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

ADG_ ROAD

UN/ID No. : UN 1127
Description of the goods : CHLOROBUTANES
Class : 3
Packing group : II
Hazard Identification Number : 33
Labels : 3

IATA

UN/ID No. : UN 1127
Description of the goods : Chlorobutanes
Class : 3
Packing group : II
Labels : 3
Packing instruction (cargo aircraft) : 364
Packing instruction (passenger aircraft) : 353
Packing instruction (passenger aircraft) : Y341

IMDG

UN/ID No. : UN 1127
Description of the goods : CHLOROBUTANES
Class : 3
Packing group : II
Labels : 3
EmS Number 1 : F-E
EmS Number 2 : S-D

Marine pollutant : no

HAZCHEM CODE: 3YE

15. REGULATORY INFORMATION**National regulatory information**

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Standard for the Uniform : No poison schedule number allocated
Scheduling of Medicines and
Poisons

Other international regulations**Notification status**

US. Toxic Substances : On TSCA Inventory
Control Act

Australia. Industrial Chemical : On the inventory, or in compliance with the inventory
(Notification and
Assessment) Act

Canada. Canadian : All components of this product are on the Canadian DSL
Environmental Protection Act
(CEPA). Domestic
Substances List (DSL)

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals : On the inventory, or in compliance with the inventory
Inventory (KECI)

Philippines. The Toxic : On the inventory, or in compliance with the inventory
Substances and Hazardous
and Nuclear Waste Control
Act

China. Inventory of Existing : On the inventory, or in compliance with the inventory
Chemical Substances

New Zealand. Inventory of : On the inventory, or in compliance with the inventory
Chemicals (NZIoC), as
published by ERMA New
Zealand

16. OTHER INFORMATION**Sources of key data used to compile the Safety Data Sheet:**

1. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]
2. Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1999)]
3. List of Designated Hazardous Substances [NOHSC:10005(1999)]

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4. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]
5. Australian Dangerous Goods Code, No. 6 [National Road Transport Commission]
6. Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP), No. 19 [NDPSC: 2004]
7. National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]

Further information

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 a 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.

Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Prepared by:

Honeywell Performance Materials and Technologies Product Stewardship Group

End of Safety Data Sheet