

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

SECTION 1. IDENTIFICATION

Product name : n-Butyl Chloride

Number : 000000011399

Product Use Description : Solvent

Manufacturer or supplier's details : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
+1-231-726-3171

(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**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid

Color : clear colourless

Odor : unpleasant

Classification of the substance or mixture

Classification of the substance or mixture : **Flammable liquids, Category 2**
Aspiration hazard, Category 1

GHS Label elements, including precautionary statements

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

Symbol(s)

:



Signal word

: **Danger**

Hazard statements

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

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.
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.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

n-Butyl Chloride

034-4

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
n-Butyl Chloride	109-69-3	100.00 %

SECTION 4. FIRST AID MEASURES

- 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

Indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Dry chemical
Foam
Carbon dioxide (CO₂)
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 : Extremely flammable.
Vapours may form explosive mixtures with air.
Vapours are heavier than air and may spread along floors.

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

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 (CO₂)
 Phosgene
 Gaseous hydrogen chloride (HCl).

Special protective equipment : Wear self-contained breathing apparatus and protective suit for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : 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 and materials for containment and 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).

SECTION 7. HANDLING AND STORAGE**Handling**

Precautions for safe : Wear personal protective equipment.

n-Butyl Chloride

034-4

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

handling

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.
 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

Conditions for safe storage, including any incompatibilities

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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures

: Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures

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

Eye protection

: Do not wear contact lenses.
 Wear as appropriate:
 Safety glasses with side-shields
 If splashes are likely to occur, wear:

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

- Goggles or face shield, giving complete protection to eyes
- Hand protection : Solvent-resistant gloves
Gloves must be inspected prior to use.
Replace when worn.
- Skin and body protection : Wear as appropriate:
Solvent-resistant apron
Flame retardant antistatic protective clothing.
If splashes are likely to occur, wear:
Protective suit
- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
Use NIOSH approved respiratory protection.
- 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.

Exposure Guidelines

Contains no substances with occupational exposure limit values.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : liquid
- Color : clear colourless
- Odor : unpleasant
- pH : Note: Not applicable
- Melting point/range : -123 °C
- Boiling point/boiling range : 78 °C
- Flash point : 16 °F (-9 °C)

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

Lower explosion limit	: 1.8 %(V)
Upper explosion limit	: 10.1 %(V)
Vapor pressure	: 106.79 hPa at 20 °C(68 °F)
Vapor 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

SECTION 10. STABILITY AND REACTIVITY

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

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

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).

SECTION 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.
Method: OECD Test Guideline 406

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

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.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

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 Exposure time: 24 h Species: Daphnia magna (Water flea)

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

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

Elimination information (persistence and degradability)

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

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

Further information on ecology**SECTION 13. DISPOSAL CONSIDERATIONS**

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT	UN/ID No.	: UN 1127
	Proper shipping name	: CHLOROBUTANES
	Class	3
	Packing group	II
	Hazard Labels	3

n-Butyl Chloride

034-4

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

IATA	UN/ID No.	: UN 1127
	Description of the goods	: CHLOROBUTANES
	Class	: 3
	Packaging group	: II
	Hazard 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
	Packaging group	: II
	Hazard Labels	: 3
	EmS Number	: F-E, S-D
	Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION

Inventories

US. Toxic Substances Control Act	: On TSCA Inventory
Australia. Industrial Chemical (Notification and Assessment) Act	: On the inventory, or in compliance with the inventory
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	: All components of this product are on the Canadian DSL
Japan. Kashin-Hou Law List	: On the inventory, or in compliance with the inventory
Korea. Existing Chemicals Inventory (KECI)	: On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	: On the inventory, or in compliance with the inventory

n-Butyl Chloride

034-4

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

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

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

National regulatory information

SARA 302 Components : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts RTK : n-Butyl Chloride 109-69-3

New Jersey RTK : n-Butyl Chloride 109-69-3

Pennsylvania RTK : n-Butyl Chloride 109-69-3

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 1	1
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

n-Butyl Chloride**034-4**

Version 2.0

Revision Date 06/05/2018

Print Date 10/17/2019

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

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.

Previous Issue Date: 03/17/2014

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group