

**Burdick & Jackson*****Material Safety Data Sheet*****n-Butyl Chloride****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME:** n-Butyl Chloride**OTHER/GENERIC NAMES:** Butyl Chloride, 1-Chlorobutane, N-Propylcarbinyl Chloride**PRODUCT USE:** Solvent**MANUFACTURER:** Honeywell, Burdick & Jackson  
1953 South Harvey Street  
Muskegon, MI 49442**FOR MORE INFORMATION CALL:**(Monday-Friday, 8:00am-5:00pm)  
1-800-368-0050**IN CASE OF EMERGENCY CALL:**(24 Hours/Day, 7 Days/Week)  
1-800-707-4555 or Chemtrec 1-800-424-9300**2. COMPOSITION/INFORMATION ON INGREDIENTS**

| <u>INGREDIENT NAME</u> | <u>CAS NUMBER</u> | <u>WEIGHT %</u> |
|------------------------|-------------------|-----------------|
| n-Butyl Chloride       | 109-69-3          | 100             |

Trace impurities and additional material names not listed above may also appear in Section 15 toward the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

**3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW:** Clear, colorless Liquid. Sharp, unpleasant odor. Toxic by inhalation, ingestion, and contact. Flammable liquid and vapor.**POTENTIAL HEALTH HAZARDS****SKIN:** Irritant**EYES:** Irritant**INHALATION:** Nausea, stomach pain, breathing difficulty, convulsions, coma, cardiac arrest.**INGESTION:** Same effects as inhalation.**DELAYED EFFECTS:** Dermatitis.

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**Ingredients found on one of the OSHA designated carcinogen lists are listed below.**

| <u>INGREDIENT NAME</u>                | <u>NTP STATUS</u> | <u>IARC STATUS</u> | <u>OSHA LIST</u> |
|---------------------------------------|-------------------|--------------------|------------------|
| No ingredients listed in this section |                   |                    |                  |

**4. FIRST AID MEASURES**

**SKIN:** Wash affected area with mild soap and water solution. Rinse until no evidence of chemical remains.

**EYES:** Rinse eyes with large amounts of water for at least 15 minutes.

**INHALATION:** Remove from exposure area to fresh air. If victim is not breathing administer artificial respiration according to your level of training and obtain professional medical assistance immediately

**INGESTION:** Do not induce vomiting. Get medical assistance immediately.

**ADVICE TO PHYSICIAN:** Treat symptomatically and supportively.

**5. FIRE FIGHTING MEASURES****FLAMMABLE PROPERTIES**

|   |                |
|---|----------------|
| <b>FLASH POINT:</b>                         | 15°F (-9°C)    |
| <b>FLASH POINT METHOD:</b>                  | CC             |
| <b>AUTOIGNITION TEMPERATURE:</b>            | 464°F (240°C)  |
| <b>UPPER FLAME LIMIT (volume % in air):</b> | 10.1           |
| <b>LOWER FLAME LIMIT (volume % in air):</b> | 1.8            |
| <b>FLAME PROPAGATION RATE (solids):</b>     | Not Applicable |
| <b>OSHA FLAMMABILITY CLASS:</b>             | IB             |

**EXTINGUISHING MEDIA:**

Carbon dioxide, dry chemical, regular foam or water spray.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Fire hazard and moderate explosion hazard when exposed to an ignition source.

**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**

Do not release runoff from fire control methods to sewers or waterways. Fire may produce toxic thermal decomposition products. Wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

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**6. ACCIDENTAL RELEASE MEASURES**

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**IN CASE OF SPILL OR OTHER RELEASE:** (Always wear recommended personal protective equipment.) Eliminate sources of ignition. Isolate the spill area. Stop leak in a safe and practical manner. (If leak cannot be stopped easily and safely, advise trained emergency response personnel of the situation.) Using inert material (such as ground corncobs) dike the spilled solvent to prevent it from running into drains or waterways.

**Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.**

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**7. HANDLING AND STORAGE**

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**NORMAL HANDLING:** (Always wear recommended personal protective equipment.) Flammable liquid and vapors. Keep container closed. Do not breathe vapors. Avoid contact with skin, eyes and mucous membranes. Keep away from heat, sparks and flame. Electrically ground all handling equipment.

**STORAGE RECOMMENDATIONS:**

Store in an area designed for storage of flammable liquids (OSHA 29 CFR 1910.106). Protect from temperature extremes and sunlight, and store away from incompatible substances. **Flammable liquid and vapor. Once liquid solvent has been completely dispensed, containers which appear “empty” should be handled in the same manner as when they were “full” of liquid solvent.**

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**ENGINEERING CONTROLS:**

Provide general or local exhaust ventilation systems. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

**PERSONAL PROTECTIVE EQUIPMENT****SKIN PROTECTION:**

**Wear Chemically protective gloves, boots and aprons to prevent prolonged or repeated skin contact.**

**EYE PROTECTION:**

Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

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**RESPIRATORY PROTECTION:**

Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**ADDITIONAL RECOMMENDATIONS:**

Make emergency eyewash stations and washing facilities available in work area. Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material.

**EXPOSURE GUIDELINES**

| <u>INGREDIENT NAME</u>                 | <u>ACGIH TLV</u> | <u>OSHA PEL</u> | <u>OTHER LIMIT</u> |
|--|------------------|-----------------|--------------------|
| No Ingredients listed in this section. |                  |                 |                    |

- \* = Limit established by Honeywell International, Inc.
- \*\* = Workplace Environmental Exposure Level (AIHA).
- \*\*\* = Biological Exposure Index (ACGIH).

**OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS: None**

**9. PHYSICAL AND CHEMICAL PROPERTIES**

|  |  |
|--|--|
| <b>APPEARANCE:</b>                     | Clear, colorless liquid                      |
| <b>PHYSICAL STATE:</b>                 | Liquid                                       |
| <b>MOLECULAR WEIGHT:</b>               | 92.58  |
| <b>CHEMICAL FORMULA:</b>               | C <sub>4</sub> H <sub>9</sub> Cl             |
| <b>ODOR:</b>                           | Sharp unpleasent odor. Threshold not listed. |
| <b>SPECIFIC GRAVITY (water = 1.0):</b> | 0.8862                                       |
| <b>SOLUBILITY IN WATER (weight %):</b> | 0.066% @ 12°C                                |
| <b>pH:</b>                             | Not Applicable                               |
| <b>BOILING POINT:</b>                  | 173°F (78°C)                                 |
| <b>MELTING/FREEZING POINT:</b>         | -190°F (-123°C)                              |
| <b>VAPOR PRESSURE:</b>                 | 80.1mm Hg @ 20°C                             |
| <b>VAPOR DENSITY (air = 1.0):</b>      | 3.2  |
| <b>EVAPORATION RATE:</b>               | 4.0 <b>COMPARED TO: Water = 1</b>            |
| <b>% VOLATILES:</b>                    | 100  |

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**FLASH POINT:** 15°F (-9°C)  
(Flash point method and additional flammability data are found in Section 5.)

**10. STABILITY AND REACTIVITY****NORMALLY STABLE? (CONDITIONS TO AVOID):**

Stable at room temperature in closed containers under normal storage and handling conditions.

**INCOMPATIBILITIES:**

Avoid acids, bases, oxidizers, explosives, nitrogen-fluorine compounds, sulfites, perchlorates, reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition can produce toxic and corrosive phosgene, hydrogen chloride, carbon monoxide, and other hazardous gases.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

**11. TOXICOLOGICAL INFORMATION****IMMEDIATE (ACUTE) EFFECTS:**

Oral LD<sub>50</sub> (rat): 2670 mg/Kg  
Skin (rabbit): mild irritant (500 mg/24h; 10 mg/24 open)  
Eye (rabbit): mild irritant (500 mg)

**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

Not carcinogenic in 2 year mouse and rat gavage study.

**OTHER DATA:**

Ames Assay: Negative

**12. ECOLOGICAL INFORMATION**

LC<sub>50</sub> Poecilia reticulata (guppy) 97 ppm/7 days (conditions of bioassay not specified)

**13. DISPOSAL CONSIDERATIONS****RCRA**

Is the unused product a RCRA hazardous waste if discarded? Yes

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If yes, the RCRA ID number is: D001

**OTHER DISPOSAL CONSIDERATIONS:**

**Dispose of in accordance with applicable Federal, State and Local regulations.**

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**14. TRANSPORT INFORMATION**

**US DOT PROPER SHIPPING NAME:** Chlorobutane  
**US DOT HAZARD CLASS:** 3, Flammable Liquid  
**US DOT PACKING GROUP:** II  
**US DOT ID NUMBER:** UN1127  
**NA EMERGENCY RESPONSE GUIDE** 130

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

**15. REGULATORY INFORMATION****TOXIC SUBSTANCES CONTROL ACT (TSCA)**

**TSCA INVENTORY STATUS:** n-Butyl Chloride is listed on the TSCA inventory.

**OTHER TSCA ISSUES:** None

**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

| <b><u>INGREDIENT NAME</u></b>          | <b><u>SARA/CERCLA RQ (lb)</u></b> | <b><u>SARA EHS TPQ (lb)</u></b> |
|--|-----------------------------------|---------------------------------|
| No ingredients listed in this section. |                                   |                                 |

**Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.**

**SECTION 311 HAZARD CLASS:** Immediate. Delayed. Fire.

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The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

**INGREDIENT NAME****COMMENT**

No ingredients listed in this section.

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

**INGREDIENT NAME****WEIGHT %    COMMENT**

No ingredients listed in this section.

**ADDITIONAL REGULATORY INFORMATION:**

None

**WHMIS CLASSIFICATION (CANADA):**

**Class B, Division 2**

**FOREIGN INVENTORY STATUS:**

DSL, EINECS

**16. OTHER INFORMATION**

**CURRENT ISSUE DATE:** June, 2000

**PREVIOUS ISSUE DATE:** January, 1996, August, 1997

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

Conversion to ANSI Standard. New header and footer information.

|                     |
|---------------------|
| NFPA Classification |
|---------------------|

|               |   |
|---------------|---|
| Health:       | 2 |
| Flammability: | 3 |
| Reactivity:   | 0 |