

G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME:-----> **n-Butanol**

PRODUCT NUMBER(S):-----> 208930, 209310, 209340

TRADE NAMES/SYNONYMS:-----> n-Butyl Alcohol, 1-Butanol,
1-Hydroxybutane, Butyric Alcohol

CAS-No: 71-36-3 CHEMICAL FAMILY: Alcohols

1.2 RELAVENT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

Industrial Use: as an intermediate, Cleaning agent, Lubricant, in coatings, in paints, in inks, in toners, in adhesives and Metal working fluids/rolling oils

Professional Use: Cleaning agent, Laboratory chemicals, Lubricant, in coatings, in paints, in toners, in inks, in adhesives and Metal working fluids/rolling oils.

Consumer Use: Cleaning agent, in coatings, in paints, in inks, in toners, in adhesives, Disinfectant and personal care products.

USES ADVISED AGAINST: No information available

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: **G.J. CHEMICAL CO., INC.**

Address: 40 VERONICA AVENUE
SOMERSET, NJ 08873

Telephone: 1-973-589-1450

Fax: 1-973-589-3072

1.4 Emergency Telephone Number

Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910

Flammable liquids (Category 3), H226

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, Central nervous system, H335, H336

2.2 GHS Label elements, including precautionary statements



Pictogram

GHS02 GHS07

Signal word: **WARNING**

Hazard statement(s)

H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye damage

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Precautionary statement(s)

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.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plan

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. INGREDIENTS

3.1 SUBSTANCE:

Ingredient	CAS No.	% by WT. Range	CLASSIFICATION
n-butyl Alcohol	71-36-3	99.8	Flammable liquids (Category 3), H226
	EC No.200-751-6		Acute toxicity, Oral (Category 4), H302
	Index No.603-004-00-6		Skin irritation (Category 2), H315
Reg.-No. 1-2119484630-38-XXXX			Serious eye damage (Category 1), H319
			STOT-SE (Category 3), Respiratory system,
			Central nervous system, H335, H336

3.2 MIXTURE: Not applicable.

4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

Inhalation: n-Butyl Alcohol

****FIRST AID- Remove from exposure to fresh air, restore breathing use oxygen if needed. Keep warm and quiet. Immediately notify a physician.**

Eye Contact (Splash): n-Butyl Alcohol

****FIRST AID- Immediately flush eyes with water for 15 minutes. Hold eyelids open for complete irrigation. Remove contact lenses, if worn, after initial flush. Immediately take to a physician.**

Skin Contact(Splash): n-Butyl Alcohol

****FIRST AID- Wash affected area with soap and large amounts of water. Remove contaminated clothing and shoes. Consult a physician if irritation persists.**

Ingestion: n-Butyl Alcohol

****FIRST AID- Immediately induce vomiting of conscious patient as directed by medical personnel by giving two glasses of water and pressing finger down throat. Never give anything by mouth to an unconscious person. Consult a physician or poison control center, treat symptomatically.**

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

By ingestion: May cause abdominal pain, headache, nausea and diarrhea. Large doses affect liver and kidneys. May have a narcotic effect.

By inhalation: The substance causes respiratory tract irritation and have a narcotic effect. Inhalation of high concentrations of vapors may cause irritation of the respiratory tract with sore throat, coughing, shortness of breath, headaches, nausea, dizziness, dullness, and unconsciousness. It can as well give the same symptoms like those of ingestion.

By skin contact: The substance has an irritating and degreasing effect. May cause allergic reactions.

By eye contact: Vapors are irritating for the eyes, causing flood of tears and pain. Splashing may cause eye inflammation.

Chronic effects: Prolonged inhalation has caused auditory nerve and vestibular injury resulting in severe vertigo and hearing loss in workers exposed to 1-butanol. Repeated or prolonged contact may degrease the skin resulting in drying, cracking and eczematous dermatitis. Person with pre-existing skin disorders or eye problems or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED.

Not available.

5. FIRE FIGHTING MEASURES

Flash Point: 35°C (95°F) TCC

LEL %:1.4

Auto-ignition Temp: 342.78°C (649°F)

UEL %:11.2

UNIFORM FIRE CODE: Flammable Liquid Class IC

5.1 EXTINGUISHING MEDIA:

Suitable extinguishing media: Foam--> x CO2--> x Dry Chemical--> x Water-fog--> x Other-->

Unsuitable extinguishing media: Do not use waterjet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR

MIXTURE: FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE. FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

Material creates a special hazard because it floats on water. Keep containers tightly closed. Flammable liquid; isolate from all sources of ignition. Closed containers may explode when exposed to extreme heat.

CONDITIONS OF FLAMMABILITY: Flammable in the presence of a source of ignition when the temperature is above the flash point.

HAZARDOUS COMBUSTION PRODUCTS: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides and other unidentified organic compounds evolve when this material undergoes combustion.

5.3 ADVICE FOR FIREFIGHTERS: Shut off source. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind Do not spray pool fires directly. A solid stream of water or foam directed into hot burning liquid can cause frothing. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Water fog may be used to cool closed containers to prevent pressure build up and possible auto ignition or explosion when exposed to extreme heat. Cool containers with water-fog from as far a distance as possible. Wear NIOSH approved self-contained breathing apparatus for confined spaces. Use full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Flammable Liquid; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations. For large spills evacuate downwind areas as conditions warrant to prevent exposure and to allow vapors or fumes to dissipate.

6.2 ENVIRONMENTAL PRECAUTIONS:

Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Methods for Containment:

Use explosion proof equipment. Shut off valves, contain spill, for small spills add non-flammable absorbent in spill area. For large spills use foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.

Methods for Cleanup:

Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations.

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: This material presents a fire hazard. Liquid quickly evaporates and forms vapor (fumes), which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers.

STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 "Flammable and Combustible Liquids" and National Fire Protection Association (NFPA 77) □Recommended Practice on Static Electricity.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:
CONTAINER WARNINGS: Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in cool, dry areas in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not contact with oxidizing materials. Keep containers closed when not in use. Do not take internally. Storage class (TRGS 510): 3: Flammable liquids

CONTAINER WARNINGS: Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:
BUTAN-1-OL 71-36-3

Ingredient	CAS No.	% by WT.	Exposure
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	Range	Limits
Butan-1-ol 71-36-3 EC-No.200-751-6 Index-No.603-004-00-6 Reg.-No. 1-2119484630-38-XXXX	99.8	20ppm TWA (ACGIH) 100ppm TWA (OSHA) 50ppm NIOSH 1400ppm (IDLH)

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average
CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES: Consider the potential hazards of this material (Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

ENGINEERING CONTROLS: Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

RESPIRATORY PROTECTION: The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA):

For vapor concentrations 50 to 500ppm use an air purifying NIOSH/MSHA Approved respirator with full face-piece and organic vapor cartridges. For concentrations 500 to 1400ppm and/or in confined areas use a NIOSH approved positive pressure full face-piece supplied air respirator.

BODY CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse.

SKIN PROTECTION: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse. Employee must wear appropriate protective gloves to prevent contact with this substance.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 58 min

HYGIENE: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION: Use safety eyewear with splash-guards or face shield. Contact lenses should not be worn.

Emergency shower and eyewash should be easily accessible to the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Butan-1-ol 71-36-3

Appearance-----> Clear liquid

Color-----> Colorless

Odor-----> Alcohol odor

Odor Threshold-----> No data available

pH-----> No data available

Molecular Weight-----> 74.12amu

Melting/Freezing Point-----> -90 °C (-194 °F)

Boiling Range -----> 117.7 °C (243.9 °F)

Specific Gravity-----> 0.81 @25°C

Vapor Pressure-----> 4.4 mmHg@20°C (68°F)

Vapor Density (air=1)-----> 2.56

Water Solubility-----> 7.8%@20°C

Partition Coefficient n-Octanol/Water-> LOG Pow 0.88

Evaporation Rate (Butyl Acetate=1)----> 0.45

Flash Point-----> 35 °C (95 °F) - closed cup

Upper Flammability Limit-----> 11.2% (V)

Lower Flammability Limit-----> 1.4% (V)

Auto-Ignition Temperature-----> 649°F

Decomposition Temperature-----> No data available

Viscosity-----> No data available

Explosive Properties-----> No data available

Oxidizing Properties-----> No data available

9.2 Other Information-----> No data Available

10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: The substance is an alcohol. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. The substance forms esters through condensation reactions. The substance may be oxidized to aldehydes and ketones.

10.2 CHEMICAL STABILITY: Unstable () Stable (X)

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Reacts with: Oxidizing substances, Strong acids. Reacts with ethylene carbonate to form butyl cellosolve (n-butoxyethanol) (highly toxic). Reacts with nitrous acid to form butyl nitrite (toxic). Reacts with ammonia to produce toxic butylamine. Vapors may form explosive mixtures with air.

HAZARDOUS POLYMERIZATION: May occur () Will not occur (X)

10.4 CONDITIONS TO AVOID: --> Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame.

10.5 INCOMPATIBLE MATERIALS --> Strong oxidants such as liquid chlorine, oxygen, sodium hypochlorite, inorganic acids e.g. nitric acid, perchloric acid and hydrogen peroxide. Attacks plastic and rubber.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS --> Fumes, Smoke, Carbon Monoxide, Aldehydes and other decomposition products where combustion is not complete

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Eye> May cause severe eye irritation; Symptoms are burning sensation, pain, watering, and/or change of vision.

Skin> Mildly irritating; Symptoms are crusting, scaling, weeping and itching.

Inhalation> Irritation of the respiratory tract. Harmful if inhaled. Symptoms are nasal discharge, hoarseness, coughing, chest pain, and breathing difficulty.

Ingestion> May be harmful if swallowed. Causes mouth and throat irritation. Can cause nausea, dizziness, headache, loss of appetite, gastrointestinal irritation and diarrhea. Can cause, central nervous system depression and mental sluggishness.

Chronic: Chronic: Repeated or prolonged exposure may irritate the mucous membranes. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Typical symptoms are cardiovascular disorders, sweetish taste in the mouth, nausea, vomiting, loss of appetite, strong thirst, burning of eyes and bleeding from the nose. Damage may occur to the eyes, respiratory tract, digestive tract, skin and central nervous system.

Medical Conditions Aggravated by Exposure>

Skin: Contact may aggravate an existing dermatitis.

Inhalation: May aggravate mucous membrane dysfunction.

Eye: May adversely affect people with chronic eye conditions or respiratory tract diseases.

ACUTE TOXICITY:

The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

Ingredient	Oral LD50 (Rat	Skin LD50 (Rabbit)	Inhalation LC50
Butan-1-ol	2290mg/kg	3430mg/kg	17.76mg/L

SKIN CORROSION/IRRITATION : Irritating to skin.

SERIOUS EYE DAMAGE/EYE IRRITATION: Irritating to eyes. Risk of serious damage to eyes.

RESPIRATORY OR SKIN SENSITIZATION: Not a skin sensitizer.

MUTAGENIC EFFECTS: In Vitro no evidence; In vivo, no evidence

CARCINOGEN STATUS: Limited evidence in animals. (Lifetime study, oral, rats total dosage 50g/kg).

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: 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.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

REPRODUCTIVE TOXICITY: This material has been tested in rats and found to cause no significant reproductive effects

Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available

ASPIRATION HAZARD: No data available

ADDITIONAL INFORMATION: Drying, cracking of the skin, Skin irritation
RTECS: EO1400000

12. ECOLOGICAL INFORMATION

This material exhibits low acute toxicity to aquatic species.

12.1 ACUTE AQUATIC TOXICITY:

Toxicity to fish

LC50 - Pimephales promelas (fathead minnow) - 1,840 mg/l - 96 h

LC50 96-hour Fish various species range from 500 to 2300ppm

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia Magna (water flea)	1983ppm	48h
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LC50 brine shrimp	2950ppm	48h
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EC50 protozoa	2466ppm	48h
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LC50 clawed toad	1200ppm	48h
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12.2 PERSISTENCE AND DEGRADABILITY:

Degradation: Under aerobic conditions this material is readily biodegradable. In the Zahn-Wellens test 93-95% biodegradation was reported in 5 days.

Atmospheric photochemical degradation is expected to range from 5 hours to 2.3 days.

12.3 BIOACCUMULATIVE POTENTIAL:

The log octanol/water partition coefficient is 0.88. This suggests that butanol has low potential to bioaccumulate.

Biological Oxygen Demand: The BOD (5day)/COD ratio ranges 0.42 to 0.74.
Bio-concentration Factor (BCF): The calculated bio-concentration factor for goldfish is 0.62-0.67.

12.4 MOBILITY IN SOIL: The product does not adsorb to suspended solids and sediment based upon the log Koc of 0.388 which indicates a high mobility in soil.

12.5 RESULTS OF PBT AND vPvB ASSESSMENT: This substance does not meet the criteria for classification as PBT or vPvB.

12.6 OTHER ADVERSE EFFECTS: Do not allow this material to enter streams, sewers and other waterways.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS: Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations. Incinerate under controlled conditions in a permitted facility.

CONTAMINATED PACKAGING: Dispose of as unused product

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.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: U031.

If the waste is a spent solvent, the appropriate spent solvent code should be used.

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Land Transport (DOT)

14.1 USDOT ID Number-----> UN1120

14.2 USDOT Shipping Name-----> Butanols

14.3 USDOT Hazard Classification-----> 3 (Flammable Liquid)

USDOT Label Codes-----> 3 (Flammable Liquid)

14.4 USDOT Package Code-----> III

14.5 Marine Pollutant-----> No
14.6 Special precautions for user-----> None
Emergency Response Guide-----> 129
Reportable quantity-----> None

Sea Transport (IMDG)

14.1 ID Number-----> UN1120
14.2 Proper shipping name-----> BUTANOLS
14.3 Hazard Classification-----> 3 (Flammable Liquid)
Label Codes-----> 3
14.4 Package Code-----> III
14.5 Marine Pollutant-----> No
14.6 Special precautions for user-----> Yes
EMS-Number-----> F-E, S-D

Air Transport (IATA)

14.1 ID Number-----> UN1120
14.2 Proper shipping name-----> Butanols
14.3 Hazard Classification-----> 3 (Flammable Liquid)
Label Codes-----> 3
14.4 Package Code-----> III
14.5 Environmental hazard-----> None
14.6 Special precautions for user-----> None

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed - n-Butyl Alcohol CAS 71-36-3

SECTION 311/312: Hazard Categorization (40 CFR 370) - Acute Health, Chronic Health, and Fire

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

**SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed
n- Butyl Alcohol CAS-No.71-36-3 Reportable Quantity - 5,000 pounds.**

SECTION 101(14) Reportable Quantity: 5,000 lbs

Massachusetts Right to Know Components
n- Butanol CAS-No.71-36-3

Pennsylvania Right to Know Components
n- Butanol CAS-No.71-36-3

New Jersey Right to Know Components
n- Butanol CAS-No.71-36-3

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

TSCA (Toxic Substance Control Act)
n- Butyl Alcohol CAS-No.71-36-3 is listed on the TSCA Inventory.

International Inventories:

<u>Country or Region</u>	<u>Inventory Name</u>	<u>On inventory yes/no</u>
<u>Australia</u>	Australian Inventory of Chemical Substances (AICS)	Yes
<u>Canada</u>	Domestic Substances List (DSL)	Yes
<u>Canada</u>	Non-Domestic Substances List (NDSL)	No
<u>China</u>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<u>Europe</u>	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
<u>Europe</u>	European List of Notified Chemical Substances (ELINCS)	No
<u>Japan</u>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<u>Japan</u>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<u>Korea</u>	Existing Chemicals List (ECL)	Yes
<u>Mexico</u>	National Inventory of Chemical Substances (INSQ)	Yes
<u>New Zealand</u>	New Zealand Inventory	Yes
<u>Philippines</u>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<u>Switzerland</u>	Inventory of Notified New Substances (CHINV)	Yes
<u>Taiwan</u>	National Existing Chemical Inventory (NECI)	Yes
<u>United States & Puerto Rico</u>	Toxic Substances Control Act Inventory	Yes

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.

16. OTHER INFORMATION:

Hazard Rating:

4-Extreme

3-High

2-Moderate

1-Slight

0-Insignificant

NFPA RATINGS (SCALE 0-4): Health=2 Fire=3 Reactivity=1

HMIS RATINGS(SCALE 0-4): Health=2 Fire=3 Reactivity=1 PPE=X

Text of hazard statement codes in Section 2 and 3:

H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye damage

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Date of preparation-----> June 17, 2002

Revision Number-----> 1.8

Revision Content-----> Updated Sections 3, 4, 5, 7, 10, and 16.

Revision Date-----> April 15, 2019

Prepared by-----> T.G. Fenstermaker, Jr.

Acronyms:

ACGIH	-	American Conference of Governmental Industrial Hygenists
AIHA	-	American Industrial Hygiene Association
ANSI	-	American Nation Standards Institute
API	-	American Petroleum Institute
CERCLA	-	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	-	U.S. Department of Transportation
EPA	-	U.S. Environmental Protection Agency
HMIS	-	Hazardous Materials Information System
IARC	-	International Agency For Research On Cancer
MSHA	-	Mine Safety and Health Administration
NFPA	-	National Fire Protection Association
NIOSH	-	National Institute of Occupational Safety and Health
NOIC	-	Notice of Intended Change (Proposed change to ACGIH TLV)
NTP	-	National Toxicology Program
OPA	-	Oil Pollution Act of 1990
OSHA	-	U.S. Occupational Safety & Health Administration
PEL	-	Permissible Exposure Limit (OSHA)
RCRA	-	Resource Conservation and Recovery Act
REL	-	Recommended Exposure Limit (NIOSH)
SARA	-	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	-	Self-Contained Breathing Apparatus
STEL	-	Short-Term Exposure Limit (generally 15 minutes)
TLV	-	Threshold Limit Value
TSCA	-	Toxic Substances Control Act
TWA	-	Time Weighted Average (8hr.)
WHMIS	-	Canadian Workplace Hazardous Materials Information System

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