

SAFETY DATA SHEET

Preparation Date: 07/14/2015

Revision date 04/11/2019

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: B1187
Product Name: SEC-BUTYL ALCOHOL

Other means of identification

Synonyms: (+-)-2-Butanol
 1-Methyl propanol
 1-Methyl-1-propanol
 1-Methylpropyl alcohol
 2-Butanol
 2-Butyl alcohol
 2-Hydroxybutane
 Alcool butylique secondaire (French)
 Butan-2-ol
 Butanol secondaire (French)
 Butanol-2
 Butylene hydrate
 DL-Butan-2-ol
 Ethylmethyl carbinol
 Methylethylcarbinol
 Racemic-2-butanol
 dl-Methylethylcarbinol
 s-Butanol
 s-Butyl alcohol
 sec-Butanol
CAS #: 78-92-2
RTECS # EO175000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Solvent. Perfuming agent.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 3

Label elements

Warning

Hazard statements

Causes serious eye irritation

May cause respiratory irritation. May cause drowsiness or dizziness

Flammable liquid and vapor



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful if swallowed

Can burn with an invisible flame

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

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

Use only outdoors or in a well-ventilated area

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

Keep cool

Precautionary Statements - Response

In case of fire: Use CO₂, dry chemical, or foam to extinguish.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

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

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
sec-Butyl Alcohol	78-92-2	100

4. FIRST AID MEASURES

First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Causes serious eye irritation
 - Nose and throat irritation
 - May cause skin irritation
 - May cause irritation of respiratory tract
 - May cause drowsiness or dizziness
 - Nausea
 - Headache

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO₂). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO₂).

Specific hazards Flammable. May be ignited by heat, sparks or flames. Material can burn with invisible flame. Vapor may travel

considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods:

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents
Acids
Aluminum
Organic Peroxides
Perchloric acid
Peroxymonosulfuric acid
Acid chlorides
Acid anhydrides
Halogens
Peroxides

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**National occupational exposure limits****United States**

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
sec-Butyl Alcohol	78-92-2	150 ppm TWA 450 mg/m ³ TWA	100 ppm TWA 305 mg/m ³ TWA 150 ppm STEL 455 mg/m ³ STEL	100 ppm TWA	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
sec-Butyl Alcohol	78-92-2	100 ppm TWA 303 mg/m ³ TWA	100 ppm TWA	100 ppm TWA 150 ppm STEL	None

Australia and Mexico

Component	CAS No	Australia	Mexico
sec-Butyl Alcohol	78-92-2	100 ppm TWA 303 mg/m ³ TWA	100 ppm TWA

Appropriate engineering controls**Engineering measures to reduce exposure:**

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment**Personal Protective Equipment**

Eye protection: Goggles or Safety glasses with side-shields.

Skin and body protection: Chemical resistant apron

Long sleeved clothing
Gloves

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: No information available.	Color: Clear. Colorless.
Odor: Strong. Sweet. Pleasant. Winey.	Taste No information available.	Formula CH ₃ CH ₂ CH(OH)CH ₃
Molecular/Formula weight (g/mole): 74.12	Flammability (solid, gas) no data available	Flashpoint (°C/°F): 24°C/ 75°F
Flash Point Tested according to: Closed cup	Autoignition Temperature (°C/°F): 405-406°C/ 761-762.8°F	Lower Explosion Limit (%): 1.7%
Upper Explosion Limit (%): 9.8%	Melting point/range(°C/°F): -114°C/-173.2°F	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): 94-99.5°C/ 201-211.1°F	Bulk density: No information available	Density (g/cm³): No information available
Specific gravity: 0.8063 @ 20 °C	pH No information available	Vapor pressure @ 20°C (kPa): 1.6
Evaporation rate: 1.3 (butyl acetate = 1)	Vapor density: 2.55	VOC content (g/L): 806
Odor threshold (ppm): 43	Partition coefficient (n-octanol/water): 0.6	Viscosity: No information available
Miscibility: Miscible with Ethanol Miscible with Ether	Solubility: Soluble in Water Solubility in Water: 12.5 g/l @ 20 °C Soluble in Acetone	

10. STABILITY AND REACTIVITY

Reactivity

Contact with strong oxidizers may cause fire
Reacts with aluminum
Reactive with oxidizing agents, organic peroxides, perchloric and permonosulfuric acid.
Ignites on contact with chromium trioxide

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: It may react with aluminum at temperatures above 49 degrees C (120 degrees F)
It ignites on contact with Chromium trioxide

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Oxidizing agents
Acids
Aluminum
Organic Peroxides
Perchloric acid
Peroxymonosulfuric acid
Acid chlorides
Acid anhydrides
Halogens
Peroxides

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Other Information
Corrosivity: Will attack some forms of plastic, rubber, and coatings

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Skin. Eyes. Inhalation.

Acute Toxicity

Component Information

sec-Butyl Alcohol	
CAS No	78-92-2

LD50/oral/rat = 2200 mg/kg Oral LD50 Rat = 2193 mg/kg Oral LD50 Rat

LD50/oral/mouse = No information available

LD50/dermal/rabbit = No information available

LD50/dermal/rat = > 2000 mg/kg Dermal LD50 Rat

LC50/inhalation/rat = 48500 mg/m³ Inhalation LC50 Rat 4 h

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = 4900 mg/kg Oral LD50 Rabbit (IUCLID)
4890 mg/kg Oral LD50 Rabbit (RTECS)

Product Information

LD50/oral/rat =
Value - Acute Tox = 2193 mg/kg mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
Value - Acute Tox = No information available

LD50/dermal/rat
VALUE - Acute Tox Dermal = > 2000 mg/kg

LC50/inhalation/ratVALUE-Vapor = 48500 mg/m³ (1-hr)

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

- Skin Contact:** May cause skin irritation. It may be absorbed through the skin.
- Eye Contact:** Causes serious eye irritation. Causes conjunctivitis. May cause corneal opacity. Possible eye damage.
- Inhalation** Irritating to respiratory system. Can cause dyspnea (shortness of breath and difficulty breathing). May affect respiration (respiratory depression). May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, lightheadedness, fainting, unconsciousness, coma. It may affect behavior/central nervous system (ataxia, general anesthetic, drowsiness). May cause muscle weakness. May affect cardiovascular system (bradycardia, tachycardia, cardiac arrhythmias).
- Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May affect the cardiovascular system (change in heart rate). May affect respiration (difficult or labored breathing resulting in shortness of breath). May affect behavior/central nervous system (somnolence, ataxia). May affect behavior/central nervous system (coma).
- Aspiration hazard** No information available.

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

- Chronic Toxicity** Repeated or prolonged skin contact may cause dryness and cracking of the skin. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the blood (changes in serum composition).
- Sensitization:** No information available.
- Mutagenic Effects:** No information available
- Carcinogenic effects:** Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
sec-Butyl Alcohol	78-92-2	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)**IARC (International Agency for Research on Cancer)**NTP (National Toxicology Program)*

Reproductive toxicity No data is available

Reproductive Effects: May cause adverse reproductive effects
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: Skin. Eyes. Central nervous system. Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

sec-Butyl Alcohol - 78-92-2

Fish 3380 - 3990 mg/L LC50 Pimephales promelas (Fathead minnow) 96 h flow-through 1
 3250 - 3540 mg/L LC50 Leuciscus idus melanotus (Carp) 48 h

Crustacea 1859 - 7143 mg/L EC50 Daphnia magna 48 h
 3750 mg/L LC50 Daphnia magna 24 h

Persistence and degradability: Readily biodegradable

Bioaccumulative potential: Potential for bioconcentration in aquatic organisms is low.

Mobility in soil No information available
Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
 Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
 Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
sec-Butyl Alcohol	78-92-2	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1120
Proper Shipping Name: Butanols
Hazard Class 3

Subsidiary Class No information available
Packing group: III
Emergency Response Guide Number 129
Marine Pollutant Severe Marine Pollutant
DOT RQ (lbs): No information available
Special Provisions B1, IB3, T2, TP1
Symbol(s): No information available
Description: UN1120, Butanols, 3, III

TDG (Canada)

UN-No: UN1120
Proper Shipping Name: Butanols
Hazard Class 3
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN1120, Butanols, 3, III

ADR

UN Number UN1120
Proper Shipping Name: Butanols
Transport hazard class(es) 3
Packing group III
Subsidiary Risk: No information available
Description: UN1120, Butanols, 3, III

IMDG

UN-No: UN1120
Proper Shipping Name: Butanols
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No information available
EMS: F-E
Special Provisions 223
Description UN1120, Butanols, 3, III

RID

UN Number UN1120
Proper Shipping Name: Butanols
Transport hazard class(es) 3
Subsidiary Risk: 3
Packing group III
Description: UN1120, Butanols, 3, III

ICAO (air)

UN-No: UN1120
Proper Shipping Name: Butanols
Hazard Class 3
Subsidiary Risk: No information available
Packing Group: III
Description: UN1120, Butanols, 3, III
Special Provisions A3

IATA

UN Number UN1120
Proper Shipping Name: Butanols

Transport hazard class(es) 3
Subsidiary Risk: No information available
Packing group III
Precautionary Statements - Response 3L
Special Provisions No information available
Description: UN1120, Butanols, 3, III

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
<i>sec-Butyl Alcohol</i>	78-92-2	Present ACTIV E	Present KE-03868	Present	Present (2)-3049	Present	Present	Present 201-158-5

U.S. Regulations

sec-Butyl Alcohol

- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 1645
- New Jersey (EHS) List: 1645 500 lb TPQ
- New Jersey - Discharge Prevention - List of Hazardous Substances: Present
- Pennsylvania RTK: Environmental hazard
- Pennsylvania RTK - Environmental Hazard List Present
- Minnesota - Hazardous Substance List: Present
- California Directors List of Hazardous Substances: Present

- FDA - Direct Food Additives 21 CFR 172.515
- FDA - 21 CFR - Total Food Additives 172.515, 176.180
- List Sourced from EAFUS

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>sec-Butyl Alcohol</i>	78-92-2	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
<i>sec-Butyl Alcohol</i>	78-92-2	None	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>sec-Butyl Alcohol</i>	78-92-2	Not Applicable	01/26/199406/30/1998

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
sec-Butyl Alcohol
78-92-2 (100)

WHMIS 2015 Hazard Classification
Flammable liquids - Category 3: H226 Flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2A: H319 Causes serious eye irritation.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
sec-Butyl Alcohol	78-92-2	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
sec-Butyl Alcohol	78-92-2	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
sec-Butyl Alcohol	78-92-2	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
sec-Butyl Alcohol	78-92-2	Flammable liquids - Flam. Liq. 3: H226 Flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.; Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation.; Specific target organ toxicity - Single exposure - STOT SE 3: H336 May cause drowsiness or dizziness.603-127-00-5

EU - CLP (1272/2008)

R-phrase(s)

R10 - Flammable
R67 - Vapors may cause drowsiness and dizziness.
R36/37 - Irritating to eyes and respiratory system

S -phrase(s)

S 2 - Keep out of the reach of children.
S13 - Keep away from food, drink and animal feedingstuffs.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S46 - If swallowed, seek medical advice immediately and show this container or label
S 7/9 - Keep container tightly closed and in a well-ventilated place.
S24/25 - Avoid contact with skin and eyes

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
sec-Butyl Alcohol	78-92-2	R10 Xi; R36/37 R67	No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Flammable

Xi - Irritant

Xi



16. OTHER INFORMATION

Preparation Date: 07/14/2015
 Revision date 04/11/2019
 Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet