# SAFETY DATA SHEET.

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

# Secondary Butyl Alcohol

| Version | Revision Date.: | SDS Number: | Print Date.: 12/24/2025 |
|---|---|---|---|
| 19.2 | 12/23/2025 | 800001007385 | Date of last issue: 10/13/2021 |
| | | | Date of first issue: 12/23/2025 |

## SECTION 1. IDENTIFICATION

Product name : Secondary Butyl Alcohol
Product code : S2111

**Manufacturer or supplier's details**

Manufacturer/Supplier : **Shell Chemical LP**
PO Box 576
HOUSTON TX 77001
USA

Telephone : 1-800-240-6737 1-855-697-4355
Telefax :

**Recommended use of the chemical and restrictions on use**

Recommended use : Industrial Solvent.

Restrictions on use : This product must not be used in applications other than the above without first seeking the advice of the supplier.
This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Flammable liquids : Category 3

Eye irritation : Category 2A

Specific target organ toxicity - single exposure (Inhalation) : Category 3 (respiratory tract irritation)

Specific target organ toxicity - single exposure : Category 3 (Narcotic effects)

**GHS label elements**

Hazard pictograms :

Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:
H226 Flammable liquid and vapour.
HEALTH HAZARDS:
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements :

**Prevention:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P370 + P378 In case of fire: Use appropriate media to extinguish.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/ doctor if you feel unwell.

**Storage:**

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 plant.

**Other hazards which do not result in classification**

This material is a static accumulator.
Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.
If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.
Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger.
The classification of this material is based on OSHA HCS 2024 criteria.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Substance name : 2-Butanol, 78-92-2

CAS-No. : 78-92-2

**Components**

| Chemical name | Synonym | CAS-No. | Concentration (% w/w) |
|---|---|---|---|
| Secondary butyl alcohol | butan-2-ol | 78-92-2 | <= 100 |

## SECTION 4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal conditions.

If inhaled : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Transport to the nearest medical facility for additional treatment.

If swallowed : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
Rinse mouth.

Most important symptoms and effects, both acute and delayed : Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.
Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination.
Continued inhalation may result in unconsciousness and death.

| | | |
|---|---|---|
| | | No specific hazards under normal use conditions.<br>Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.<br>If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.<br>Ingestion may result in nausea, vomiting and/or diarrhea. |
| Protection of first-aiders | : | When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings. |
| Notes to physician | : | IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!<br>Call a doctor or poison control center for guidance.<br>Treat symptomatically. |

## SECTION 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. |
| Unsuitable extinguishing media | : | None |
| Specific hazards during fire-fighting | : | The vapour is heavier than air, spreads along the ground and distant ignition is possible.<br>Carbon monoxide may be evolved if incomplete combustion occurs. |
| Specific extinguishing methods | : | Standard procedure for chemical fires. |
| Special protective equipment for firefighters | : | Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469). |
| Further information | : | Clear fire area of all non-emergency personnel.<br>Keep adjacent containers cool by spraying with water. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Observe the relevant local and international regulations<br>Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.<br>Local authorities should be advised if significant spillages cannot be contained.<br>The vapour is heavier than air, spreads along the ground and distant ignition is possible.<br>Vapour may form an explosive mixture with air.<br>Avoid contact with skin, eyes and clothing.<br>Isolate hazard area and deny entry to unnecessary or unpro- |

tected personnel.
Stay upwind and keep out of low areas.

Environmental precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Ventilate contaminated area thoroughly.
Monitor area with combustible gas indicator.

Methods and materials for containment and cleaning up : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely
For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Additional advice : For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.
For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Section 15) to the National Response Center at (800) 424-8802.

### SECTION 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Technical measures | : | Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.<br>Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.<br>Ensure that all local regulations regarding handling and storage facilities are followed. |
| Advice on safe handling | : | Avoid contact with skin, eyes and clothing.<br>Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.<br>Bulk storage tanks should be diked (bunded).<br>Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.<br>Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.<br>The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.<br>Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.<br>Do NOT use compressed air for filling, discharging, or handling operations. |
| Avoidance of contact | : | Strong oxidising agents. |
| Product Transfer | : | Refer to guidance under Handling section. |
| Conditions for safe storage | : | The vapour is heavier than air. Beware of accumulation in pits and confined spaces.<br>Refer to section 15 for any additional specific legislation covering the packaging and storage of this product. |
| Packaging material | : | Suitable material: For containers, or container linings use mild steel, stainless steel.<br>Unsuitable material: Natural, butyl, neoprene or nitrile rubbers. |

**Specific end use(s)**

| | | |
|---|---|---|
| Specific use(s) | : | Not applicable<br><br>Ensure that all local regulations regarding handling and storage facilities are followed.<br>See additional references that provide safe handling practices: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity). |

IEC/TS 60079-32-1: Electrostatic hazards, guidance

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Secondary butyl alcohol | 78-92-2 | TWA | 100 ppm | ACGIH |
| | | TWA | 150 ppm<br>450 mg/m3 | OSHA Z-1 |

**Biological occupational exposure limits**

No biological limit allocated.

**Monitoring Methods**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

**Engineering measures** : Use sealed systems as far as possible.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Firewater monitors and deluge systems are recommended.
Eye washes and showers for emergency use.
Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.
Appropriate measures include:

General Information

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.

**Personal protective equipment**

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
If air-filtering respirators are suitable for conditions of use:
Select a filter suitable for organic gases and vapours [Type A boiling point >65°C (149°F)].
Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection

Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Butyl rubber. Nitrile rubber. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves of-

fering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

| | | |
|---|---|---|
| Eye protection | : | Wear goggles for use against liquids and gas.<br>Wear full face shield if splashes are likely to occur. |
| Skin and body protection | : | Wear antistatic and flame-retardant clothing, if a local risk assessment deems it so.<br>Skin protection is not required under normal conditions of use.<br>For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.<br>If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes. |
| Protective measures | : | Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers. |
| Thermal hazards | : | Not applicable |

**Environmental exposure controls**

| | | |
|---|---|---|
| General advice | : | Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.<br>Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.<br>Information on accidental release measures are to be found in section 6. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid. |

| | | |
|---|---|---|
| Colour | : | clear |
| Odour | : | characteristic |
| Odour Threshold | : | Data not available |
| Melting point/freezing point | : | -115 °C |
| Boiling point/boiling range | : | 98.5 - 100.5 °C |
| Flammability (solid, gas) | : | Not applicable |
| Upper explosion limit / Upper flammability limit | : | 9 %(V) |
| Lower explosion limit / Lower flammability limit | : | 1.7 %(V) |
| Flash point | : | 24 °C<br>Method: IP 170 |
| Auto-ignition temperature | : | 390 °C<br>Method: ASTM E-659 |
| Decomposition temperature | : | Data not available |
| pH | : | Not applicable |
| Viscosity | | |
| Viscosity, dynamic | : | 4.2 mPa.s (20 °C)<br>Method: ASTM D445 |
| Viscosity, kinematic | : | Data not available |
| Solubility(ies) | | |
| Water solubility | : | 125 g/l (20 °C) |
| Partition coefficient: n-octanol/water | : | Pow: 0.61 |
| Vapour pressure | : | 2 kPa (20 °C) |
| Relative density | : | 0.81 (20 °C)<br>Method: ASTM D4052 |
| Density | : | 806 - 808 kg/m3 (20 °C)<br>Method: ASTM D4052 |

| | | |
|---|---|---|
| Relative vapour density | : | 2.6 |

**9.2 Other information**

| | | |
|---|---|---|
| Explosives | : | Not applicable |
| Oxidizing properties | : | Data not available |
| Evaporation rate | : | 0.9<br>Method: ASTM D 3539, nBuAc=1 |
| Conductivity | : | Electrical conductivity: > 10,000 pS/m, A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator. |
| Surface tension | : | Data not available |
| Molecular weight | : | Data not available |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph. |
| Chemical stability | : | No hazardous reaction is expected when handled and stored according to provisions |
| Possibility of hazardous reactions | : | Reacts with strong oxidising agents. |
| Conditions to avoid | : | Avoid heat, sparks, open flames and other ignition sources. Prevent vapour accumulation.<br>In certain circumstances product can ignite due to static electricity. |
| Incompatible materials | : | Strong oxidising agents. |
| Hazardous decomposition products | : | Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation. |

## SECTION 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Basis for assessment | : | Information given is based on product testing. |

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

**Information on likely routes of exposure**

Inhalation is the primary route of exposure although absorption may occur through skin contact or following accidental ingestion.

**Acute toxicity**

**Components:**

**Secondary butyl alcohol:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Remarks: Low toxicity |
| Acute inhalation toxicity | : | LC50 (Rat): > 20 mg/l<br>Remarks: Low toxicity<br>Based on available data, the classification criteria are not met. |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2,000 mg/kg<br>Remarks: Low toxicity |

**Skin corrosion/irritation**

**Components:**

**Secondary butyl alcohol:**

| | | |
|---|---|---|
| Remarks | : | Not irritating to skin. |

**Serious eye damage/eye irritation**

**Components:**

**Secondary butyl alcohol:**

| | | |
|---|---|---|
| Remarks | : | Causes serious eye irritation. |

**Respiratory or skin sensitisation**

**Components:**

**Secondary butyl alcohol:**

| | | |
|---|---|---|
| Remarks | : | Not a skin sensitiser. |

**Germ cell mutagenicity**

**Components:**

**Secondary butyl alcohol:**

Genotoxicity in vivo : Remarks: Not mutagenic.

**Carcinogenicity**

**Components:**

**Secondary butyl alcohol:**

Remarks : Not a carcinogen.
Based on available data, the classification criteria are not met.

**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.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**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.

**Reproductive toxicity**

**STOT - single exposure**

**Components:**

**Secondary butyl alcohol:**

Remarks : May cause drowsiness and dizziness.
May cause respiratory irritation.
High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.
Inhalation of vapours or mists may cause irritation to the respiratory system.

**STOT - repeated exposure**

**Components:**

**Secondary butyl alcohol:**

Remarks : Based on available data, the classification criteria are not met.

**Aspiration toxicity**

**Components:**

**Secondary butyl alcohol:**

Not an aspiration hazard.

**Further information**

**Components:**

**Secondary butyl alcohol:**

Remarks : Classifications by other authorities under varying regulatory frameworks may exist.

## SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

**Ecotoxicity**

**Components:**

**Secondary butyl alcohol:**

Toxicity to fish : Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to daphnia and other aquatic invertebrates : Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to algae/aquatic plants : Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: Data not available

Toxicity to microorganisms : Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:

Based on available data, the classification criteria are not met.

**Persistence and degradability**

**Components:**

**Secondary butyl alcohol:**

Biodegradability : Remarks: Readily biodegradable.
Oxidises rapidly by photo-chemical reactions in air.

**Bioaccumulative potential**

**Components:**

**Secondary butyl alcohol:**

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

**Mobility in soil**

**Components:**

**Secondary butyl alcohol:**

Mobility : Remarks: Dissolves in water.

**Other adverse effects**

**Components:**

**Secondary butyl alcohol:**

Additional ecological information : Does not have ozone depletion potential.

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Do not dispose into the environment, in drains or in water courses.
Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.
Waste, spills or used product is dangerous waste.
Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or na-

tional requirements and must be complied with.
MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Residues may cause an explosion hazard.
Do not, puncture, cut, or weld uncleaned drums.
Send to drum recoverer or metal reclaimer.
Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

## SECTION 14. TRANSPORT INFORMATION

### National Regulations

**49 CFR**

| | | |
|---|---|---|
| UN/ID/NA number | : | UN 1120 |
| Proper shipping name | : | BUTANOLS |
| Class | : | 3 |
| Packing group | : | III |
| Labels | : | 3 |
| ERG Code | : | 129 |
| Marine pollutant | : | no. |

### International Regulations

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 1120 |
| Proper shipping name | : | BUTANOLS |
| Class | : | 3 |
| Packing group | : | III |
| Labels | : | 3 |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 1120 |
| Proper shipping name | : | BUTANOLS |
| Class | : | 3 |
| Packing group | : | III |
| Labels | : | 3 |
| Marine pollutant | : | no. |

**Maritime transport in bulk according to IMO instruments**

| | | |
|---|---|---|
| Pollution category | : | Z |
| Ship type | : | 3 |
| Product name | : | Butyl Alcohol |

**Special precautions for user**

| | | |
|---|---|---|
| Remarks | : | Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport. |
| **Additional Information** | **:** | This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry. |

## SECTION 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

| | | |
|---|---|---|
| **SARA 311/312 Hazards** | : | Flammable (gases, aerosols, liquids, or solids)<br>Serious eye damage or eye irritation<br>Specific target organ toxicity (single or repeated exposure) |
| **SARA 313** | : | The following components are subject to reporting levels established by SARA Title III, Section 313: |

| | | |
|---|---|---|
| Secondary butyl alcohol | 78-92-2 | >= 90 - <= 100 % |

**Clean Water Act**

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**US State Regulations**

**Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**

| | |
|---|---|
| Secondary butyl alcohol | 78-92-2 |

**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.

**California List of Hazardous Substances**

| | |
|---|---|
| Secondary butyl alcohol | 78-92-2 |

**The components of this product are reported in the following inventories:**

| | | |
|---|---|---|
| AU AIIC | : | Listed |
| CA. DSL | : | Listed |
| CN IECSC | : | Listed |
| JP ENCS | : | Listed |
| KR KECI | : | Listed |
| PH PICCS | : | Listed |
| EN EINECS | : | Listed |
| US TSCA | : | Listed |

## SECTION 16. OTHER INFORMATION

**Further information**

| | |
|---|---|
| NFPA Rating (Health, Fire, Reactivity) | 1, 3, 0 |

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| ACGIH / TWA | : | 8-hour, time-weighted average |

OSHA Z-1 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Sources of key data used to compile the Safety Data Sheet : The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

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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.

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