

SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: SURFYNOL® 104 BC

Chemical name:

Acetylenic diol in solvent

Other means of identification

None.

Recommended restrictions

Recommended use: Industrial use

Restrictions on use: None known.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Corporation
Nutrition & Care
PO Box 34628
Richmond, VA 23234
USA

Telephone : +1 804 727 0700

Fax : +1 804 727 0845

E-mail : product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health : +1 800 424 9300 (CHEMTREC - US & CANADA)

Emergency : 800 681 9531 (CHEMTREC MEXICO)

+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 4

Health Hazards

Acute toxicity (Oral) Category 4

Acute toxicity (Inhalation - vapor) Category 3

Skin Corrosion/Irritation Category 2

Serious Eye Damage/Eye Irritation Category 1

Skin sensitizer Category 1

Environmental Hazards

Acute hazards to the aquatic environment Category 3

Chronic hazards to the aquatic environment

Category 3

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:

- Combustible liquid.
- Toxic if inhaled.
- Harmful if swallowed.
- Causes skin irritation.
- Causes serious eye damage.
- May cause an allergic skin reaction.
- Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing. Specific treatment (see supplemental first aid instructions on this label). IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician. 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/doctor. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment.

3. Composition/information on ingredients

Chemical name:

Acetylenic diol in solvent
Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
2-butoxyethanol		111-76-2	50 - <100%
2,4,7,9-Tetramethyldec-5-yne-4,7-diol		126-86-3	25 - <50%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General information:	Remove soiled or soaked clothing immediately
Inhalation:	fresh air supply, consult a doctor if feeling unwell.
Skin Contact:	In case of contact with skin wash off with soap and water. If skin irritation persists, call a physician.
Eye contact:	In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice
Ingestion:	Thoroughly clean the mouth with water In case of discomfort: Supply with medical care.
Personal Protection for First-aid Responders:	No data available.

Most important symptoms and effects, both acute and delayed

Symptoms:	Risk of serious damage to eyes. Skin irritation
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically.
-------------------	------------------------

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	foam, carbon dioxide, dry powder, water spray.
Unsuitable extinguishing media:	High volume water jet.

Special hazards arising from the substance or mixture:	In the event of fire the following can be released: - carbon dioxide, carbon monoxide Aldehydes. Under certain conditions of combustion traces of other toxic substances cannot be excluded
---	---

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No specific precautions.
Special protective equipment for fire-fighters:	Do not inhale explosion and/or combustion gases. Use self-contained breathing apparatus and wear protective suit

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment.
Accidental release measures:	No data available.
Methods and material for containment and cleaning up:	Take up with absorbent material (eg sand, kieselguhr, universal binder) Dispose of absorbed material in accordance with the regulations.
Environmental Precautions:	Do not allow to enter drains or waterways Prevent product from getting into subsoil/soil.

7. Handling and storage

Handling

Technical measures:	No data available.
Local/Total ventilation:	No data available.
Safe handling advice:	Provide good ventilation of working area (local exhaust ventilation if necessary).Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes.
Contact avoidance measures:	No data available.

Storage

Safe storage conditions:	Keep container tightly closed in a cool, well-ventilated place.Keep away from direct sunlight.Do not store with acids or alkalies Do not store together with oxidizing agents.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
2-butoxyethanol	TWA	20 ppm		ACGIH (03 2016)
	REL	5 ppm	24 mg/m3	NIOSH (2010)
	PEL	50 ppm	240 mg/m3	OSHA Z1 (03 2016)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

Chemical name	Parameters / Sampling Time	Exposure Limit Values	Source
2-butoxyethanol	Butoxyacetic acid (BAA), with hydrolysis Sampling time: End of shift.	200 mg/g (Creatinine in urine)	ACGIH BEI (03 2016)
2-Pentanone, 4-methyl-	methyl isobutyl ketone Sampling time: End of shift.	1 mg/l (Urine)	ACGIH BEI (03 2016)
2-butoxyethanol	Butoxyacetic acid (BAA), with hydrolysis Sampling time: End of shift.	200 mg/g (Creatinine in urine)	ACGIH BEI (03 2016)

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

Eye/face protection:

Tightly fitting safety goggles

Skin Protection

Hand Protection:

Additional Information: gloves made of chloroprene (CR, e.g. Neoprene), gloves made of nitril (NBR)

Skin and Body Protection:

protective clothing

Respiratory Protection:

in case of formation of vapours/aerosols: Short term: filter apparatus, combination filter A-P2

Hygiene measures:

Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Remove soiled or soaked clothing immediately. Use skin protective preparation as preventive skin protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state:

liquid

Form:

liquid

Color:

Pale yellow

Odor:

like menthol

Odor Threshold:

not measured

Freezing point:

not measured

Boiling Point:

> 284 °F/> 140 °C

Flammability:

not measured

Upper/lower limit on flammability or explosive limits

Explosive limit - upper:	not measured
Explosive limit - lower:	not measured
Flash Point:	169 °F/76 °C
Auto-ignition temperature:	not measured
Decomposition Temperature:	not measured
pH:	5 - 7 at 77 °F/25 °C Concentration: 100 g/l Concentration: 10 % in Water
Viscosity	
Dynamic viscosity:	not measured
Kinematic viscosity:	not measured
Flow Time:	No data available.
Solubility(ies)	
Solubility in Water:	not measured
Solubility (other):	not measured
Partition coefficient (n-octanol/water):	not measured
Vapor pressure:	14.6 hPa at 70 °F/21 °C
Relative density:	not measured
Density:	0.9 g/cm ³ at 70 °F/21 °C
Bulk density:	No data available.
Relative vapor density:	not measured
Other information	
Explosive properties:	not measured
Oxidizing properties:	not oxidizing
Self-ignition:	not measured
Metal Corrosion:	Not corrosive to metals
Evaporation Rate:	not measured

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions".
Chemical Stability:	The product is stable under normal conditions.
Possibility of hazardous reactions:	No hazardous reactions with proper storage and handling
Conditions to avoid:	direct sunlight
Incompatible Materials:	Oxidizing agents. Acids. Alkalies.
Hazardous Decomposition Products:	None with proper storage and handling.

11. Toxicological information

Information on likely routes of exposure

Inhalation: Information on effects are given below.

Skin Contact: Information on effects are given below.

Eye contact: Information on effects are given below.

Ingestion: Information on effects are given below.

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50, Rat, 1,400 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: ATEmix, 6 mg/l, Vapour

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Irritating., (Rabbit), Irritating.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

No data available.

In vitro

Product: No data available.

Components:

2-butoxyethanol

gene mutation test, OECD 471: , negative
Chromosomal aberration, OECD 473: , negative
Genetic mutation in mammal cells, OECD 476: , negative

2,4,7,9-Tetramethyldec-5-yne-4,7-diol Ames test, OECD 471: , negative, Own study
Chromosomal aberration, OECD 473: , negative, Own study
gene mutation test, OECD 476: , negative, Own study

In vivo

Product: No data available.

Components:

2-butoxyethanol

In vivo micronucleus test, OECD 474, Intraperitoneal, Mouse, Male, negative

In vivo micronucleus test, OECD 474, Intraperitoneal, Rat, Male, negative

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: Not classified

Information on health hazards**Other hazards**

Product: No data available.

12. Ecological information

Ecotoxicity:**Acute hazards to the aquatic environment:****Fish**

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product:

Toxicity to microorganisms

Product: No data available.

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to microorganisms

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log K_{ow})

Product: , not measured

Mobility in soil:

Product: No data available.

Results of PBT and vPvB assessment:

Product: No data available.

Other adverse effects:

Other hazards

Product: Do not allow to enter soil, waterways or waste water canal.

13. Disposal considerations

Disposal methods: In accordance with local authority regulations, take to special waste incineration plant

Contaminated Packaging: If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

14. Transport information

Domestic regulation

49 CFR

UN/ID/NA number : UN 2810
Proper shipping name : Toxic, liquids, organic, n.o.s.
(2-butoxyethanol)
Class : 6.1
Packing group : III
Labels : 6.1
ERG Code : 153
Marine pollutant : no

International Regulations

IATA-DGR

UN/ID No. : UN 2810

Proper shipping name : Toxic liquid, organic, n.o.s.
(2-butoxyethanol)

Class : 6.1

Packing group : III

Labels : 6.1

Packing instruction (cargo aircraft) : 663

Packing instruction (passenger aircraft) : 655

IMDG-Code

UN number or ID number : UN 2810

Proper shipping name : TOXIC LIQUID, ORGANIC, N.O.S.
(2-butoxyethanol)

Class : 6.1

Packing group : III

Labels : 6.1

EmS Code : F-A, S-A

Marine pollutant : no

Remarks : Stowage category A, SW2 - Clear of living quarters.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information**US Federal Regulations****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Proposed Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):**Chemical Identity**

GLYCOL ETHERS

4-METHYL-2-PENTANONE

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Flammable (gases, aerosols, liquids, or solids), Acute toxicity (any route of exposure), Skin Corrosion or Irritation, Serious eye damage or eye irritation, Respiratory or Skin Sensitization, Hazards Not Otherwise Classified (HNOC)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

<u>Chemical Identity</u>	<u>% by weight</u>
CERTAIN GLYCOL	1.0%
ETHERS	

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

Inventory Status:

US TSCA Inventory:	Included on Inventory.
Canada DSL Inventory List:	Included on Inventory.

16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	*	2
Flammability		2
Physical Hazards		0
PERSONAL PROTECTION		B

B - Safety Glasses & Gloves

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Version #: 2.1
Generation date: 01/03/2024
Date of first report version: 03/13/2019

Abbreviations and acronyms:

ACGIH: US. ACGIH Threshold Limit Values, as amended
 ACGIH BEI: US. ACGIH. BEIs. Biological Exposure Indices, as amended
 NIOSH/GUIDE: US. NIOSH: Pocket Guide to Chemical Hazards, as amended
 OSHA_TRANS: US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
 ACGIH / TWA: Time Weighted Average (TWA):
 NIOSH/GUIDE / REL: Recommended exposure limit (REL):
 OSHA_TRANS / PEL: Permissible exposure limit:

AllC - 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 Harmonized 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 Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; 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 - Organization 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

Further Information: No data available.

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Disclaimer: This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.