

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**SECTION 1. IDENTIFICATION**

Product name : BYK-321

**Manufacturer or supplier's details**

Company : BYK USA Inc.  
524 South Cherry Street  
Wallingford CT 06492

Telephone : (203) 265-2086

Visit our web site : [www.byk.com](http://www.byk.com)

E-mail address : [BRIEF.BYK.NAFTA@altana.com](mailto:BRIEF.BYK.NAFTA@altana.com)

Emergency telephone : 203-265-2086; CHEMTREC 1-800-424-9300 / +1  
number 703-527-3887

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

Recommended use : Surface Additive

Restrictions on use : Refer to Section 15 for any restrictions that may apply

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Flammable liquids : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

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

Specific target organ toxicity : Category 2 (Kidney)  
- repeated exposure

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H227 Combustible liquid.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.

**Precautionary statements****: Prevention:**

P210 Keep away from heat/sparks/open flames/hot surfaces.  
No smoking.

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

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

P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P314 Get medical advice/ attention if you feel unwell.

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

P337 + P313 If eye irritation persists: 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 to extinguish.

**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 plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature : Solution of a polyether modified polymethylalkylsiloxane

**Hazardous components**

Component	CAS-No.	Concentration (%)
2-Butoxyethanol	111-76-2	>= 48 - < 49

The specific chemical identity/weight percent of proprietary ingredient(s) is a trade secret

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : No information available.
- Notes to physician : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Cool closed containers exposed to fire with water spray.  
Will not explode on mechanical impact.
- Hazardous combustion products : Carbon oxides  
silicone compounds  
formaldehyde

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

- Further information : For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : No smoking.  
Keep in a well-ventilated place.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : Keep away from strong bases.  
Keep away from oxidizing agents.

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-Butoxyethanol	111-76-2	TWA	20 ppm	ACGIH
2-Butoxyethanol		TWA	50 ppm 240 mg/m <sup>3</sup>	OSHA Z-1

**Engineering measures** : Use with local exhaust ventilation.

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection  
Material : Impervious gloves

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Colour : yellow

Odour : solvent-like

Odour Threshold : No data available

pH : No data available

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

Melting point/range	: No data available
Initial boiling point	: No data available
Vapour pressure	: 1.1000000 hPa (68.00 °F (20.00 °C)) Method: calculated
Flash point	: 147.20 °F (64.00 °C) Method: 49 (Pensky-Martens)
Upper explosion limit	: 10.60 %(V)
Lower explosion limit	: 1.20 %(V)
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Relative vapour density	: No data available
Relative Density/Specific Gravity	: No data available
Density	: 0.9200 g/cm3 (68.00 °F (20.00 °C))
Bulk density	: Not applicable
Solubility(ies)	
Water solubility	: immiscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Ignition temperature	: > 392 °F (> 200 °C) Method: calculated
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Surface tension	: No data available

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
	Vapours may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Strong oxidizing agents Alkalis
Hazardous decomposition products	: None known.

**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Skin contact  
Skin Absorption  
Inhalation  
Eyes  
Ingestion

**Acute toxicity****Product:**

Acute oral toxicity	: LD50 (Rat): > 5,000.000000 mg/kg Method: OECD Test Guideline 401 Remarks: active ingredient
Acute inhalation toxicity	: Acute toxicity estimate : 22.8 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	: Acute toxicity estimate : 2,280 mg/kg Method: Calculation method

**Components:****111-76-2 2-Butoxyethanol:**

Acute oral toxicity	: LD50 (Rat): 530 mg/kg
	LD50 (Rabbit): 520 mg/kg

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

Acute inhalation toxicity : LC50 (Rat): > 10 - 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 220 mg/kg

**Skin corrosion/irritation****Product:**

Remarks: May cause skin irritation in susceptible persons.

**Components:****111-76-2 2-Butoxyethanol:**

Species: Rabbit

Result: Moderate skin irritation

**Serious eye damage/eye irritation****Product:**

Remarks: May cause irreversible eye damage.

**Components:****111-76-2 2-Butoxyethanol:**

Species: Rabbit

Result: Eye irritation

Method: OECD Test Guideline 405

GLP: yes

**Respiratory or skin sensitisation****Product:**

Remarks: No data available

**Components:****111-76-2 2-Butoxyethanol:**

Test Type: Maximisation Test

Exposure routes: Dermal

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

GLP: yes

**Carcinogenicity****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.



**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**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.

**Repeated dose toxicity****Product:**

Remarks: Absorption of 2-Butoxyethanol by inhalation and/or repeated skin contact may cause injury to liver, kidney and blood damage.

2-Butoxyethanol is considered fetotoxic; has caused toxic reproductive effects in laboratory animals at maternally toxic doses.

2-Butoxyethanol had both positive and negative results in in vitro mutagenicity studies.

Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage.

Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.

In a 2 yr. cancer study, the NTP has determined 2-butoxyethanol has a potential to cause cancer (potentially carcinogenic to mice) but there is not enough evidence to list 2-butoxyethanol as a carcinogen. The relevance to humans is unknown.

**Experience with human exposure****Product:**

Inhalation:

Symptoms:

High concentrations of vapors may be irritating to the respiratory tract. May cause CNS depression (drowsiness, loss of coordination and fatigue); narcosis.

Skin contact:

Symptoms:

Contact will probably cause irritation.

Eye contact:

Symptoms:

Contact will probably cause irritation.

Ingestion:

Symptoms:

Ingestion may irritate the digestive tract and cause same symptoms as inhalation.

**Further information****Product:**

Remarks: Absorption of 2-Butoxyethanol may cause acute red blood cell damage and kidney

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

effects. Inhalation of 2-Butoxyethanol has damaged the kidneys of laboratory animals. OSHA PEL-TWA for 2-butoxyethanol = 50 ppm (skin)

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : Remarks: No data available

**Persistence and degradability****Product:**

Biodegradability : Remarks: No data available

**Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: No data available

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Results of PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : There is no data available for this product.

No data available

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

EPA Hazardous Waste Code(s) : Not applicable.

Waste from residues : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

Not applicable for product as supplied.

**National Regulations****49 CFR**

Not regulated as a dangerous good

Container sizes: 55 gallon drums, 5 or 6-gallon pails, 2oz/16oz samples

**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know Act****US. EPA CERCLA Hazardous Substances (40 CFR 302)**

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

**SARA 304 - Emergency Release Notification**

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

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**

This material does not contain any components with a SARA 302 RQ.

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**SARA 311/312 Hazards** : Per the June 13, 2016 Federal Register notice, EPA harmonized the EPCRA 311/312 hazard categories with the 2012 OSHA hazard communication standard for classifying and labeling of chemicals (i.e. GHS). Please refer to Section 2 of the SDS to identify the appropriate hazard categories for reporting purposes.

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

2-Butoxyethanol	111-76-2	48.2 %
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**Clean Air Act**

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

2-Butoxyethanol	111-76-2	48.2 %
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**Non-volatile (Wt)** : 49 - 53 %  
Method: 22 (10min/150°C)  
DIN EN ISO 3251  
Non-volatile information is not a specification.

**Massachusetts Right To Know**

2-Butoxyethanol	111-76-2
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**Pennsylvania Right To Know**

Polyether modified polymethylalkylsiloxane	-
2-Butoxyethanol	111-76-2

**New Jersey Right To Know**

Polyether modified polymethylalkylsiloxane	-
2-Butoxyethanol	111-76-2

**BYK-321**

Version 4

Revision Date 10/08/2019

Print Date 09/29/2022

**New Jersey Trade Secret  
Registry Number for the  
product (NJ TSRN)** : 800963-5181

**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.

CONEG Heavy Metal: We confirm that we use packaging and/or packaging components in which the sum of the incidental concentration levels of lead, mercury, cadmium and hexavalent chromium do not exceed 100 parts per million by weight.

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

TSCA : We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h).

Section 4 / 12(b) : Not applicable

TSCA Inventory Active List All components of this product are listed active and/or are exempt

DSL : We certify that all of the components of this product are listed on the DSL.

**SECTION 16. OTHER INFORMATION**

Revision Date : 10/08/2019

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.