

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

**SECTION 1. IDENTIFICATION**

Product name : NANOBYK-3652

**Manufacturer or supplier's details**Company : BYK USA LLC  
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 : Additive to Improve Mechanical Properties

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

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

Flammable liquids : Category 3

Specific target organ toxicity : Category 3 (Central nervous system)  
- single exposure**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.  
H336 May cause drowsiness or dizziness.Precautionary statements : **Prevention:**  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.  
No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting  
equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P271 Use only outdoors or in a well-ventilated area.

## NANOBYK-3652

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

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

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

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

Substance / Mixture : Mixture  
 Chemical nature : Dispersion of surface treated silica nanoparticles

**Hazardous components**

Component	CAS-No.	Concentration (%)
1-Methoxy-2-propanol acetate	108-65-6	>= 30 - < 60
1-Methoxy-2-propanol	107-98-2	>= 10 - < 20

### 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 on skin, rinse well with water.  
 If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.  
 Remove contact lenses.  
 Protect unharmed eye.  
 Keep eye wide open while rinsing.  
 If eye irritation persists, consult a specialist.

## NANOBYK-3652

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

- |   |   |
|---|---|
| If swallowed  | : Keep respiratory tract clear.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician. |
| Most important symptoms and effects, both acute and delayed | : No information available.   |

### SECTION 5. FIREFIGHTING MEASURES

- |   |   |
|---|---|
| Suitable extinguishing media                  | : Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical   |
| Unsuitable extinguishing media                | : High volume water jet   |
| Specific hazards during firefighting          | : Will not explode on mechanical impact.<br>Cool closed containers exposed to fire with water spray.<br><br>Do not allow run-off from fire fighting to enter drains or water courses.   |
| Hazardous combustion products                 | : Carbon oxides<br>Nitrogen oxides (NO <sub>x</sub> )<br>silicone compounds<br>formaldehyde<br>chlorinated compounds  |
| Further information                           | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.<br>For safety reasons in case of fire, cans should be stored separately in closed containments.<br>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 | : Remove all sources of ignition.<br>Evacuate personnel to safe areas.<br>Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.           |
| Environmental precautions   | : Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>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,  |

## NANOBYK-3652

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling** : Avoid formation of aerosol.  
Do not breathe vapours/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage** : No smoking.  
Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid** : Keep away from strong acids.  
Keep away from strong bases.  
Keep away from oxidizing agents.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1-Methoxy-2-propanol acetate	108-65-6	TWA	50 ppm	US WEEL
1-Methoxy-2-propanol	107-98-2	TWA	50 ppm	ACGIH
1-Methoxy-2-propanol		STEL	100 ppm	ACGIH

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

#### Personal protective equipment

**Respiratory protection** : Use an air purifying respirator with organic vapor (OV) cartridges. When there are exposures to mists (both solid and/or liquid droplets), a Class 1 particulate respirator (APF 10) is required (N, P, or R 100 filter) with the OV cartridge. In the case of vapour formation use a respirator with an approved filter.

**Hand protection**  
**Material** : Nitrile rubber

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

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
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	: Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: dispersion
Colour	: light yellow clear
Odour	: solvent-like
Odour Threshold	: No data available
pH	: 5, Concentration: 10 % (68 °F (20 °C)) Method: Universal pH-value indicator
Melting point/range	: < 39 °F (< 4 °C) Method: derived
Initial boiling point	: ca. 284 °F (140 °C) Method: derived
Vapour pressure	: 3.37 hPa (68 °F (20 °C)) Method: derived
Flash point	: 118 °F (48 °C) Method: 48 (Abel-Pensky)
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Evaporation rate	: No data available
Relative vapour density	: No data available
Relative Density/Specific Gravity	: No data available
Density	: 1.14 g/cm <sup>3</sup> (68 °F (20 °C)) Method: 4 (20°C oscillating U-tube)
Solubility(ies)	
Water solubility	: immiscible

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Ignition temperature	: > 392 °F (> 200 °C) Method: DIN 51794
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: 9 mm <sup>2</sup> /s (68 °F (20 °C))
Surface tension	: No data available

**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	: 1-Methoxy-2-propanol acetate/1-Methoxy-2-propanol may form peroxides of unknown stability.
	No decomposition if stored and applied as directed.
	Vapours may form explosive mixture with air.
Conditions to avoid	: Prolonged heat/light/air exposure Heat, flames and sparks.
Incompatible materials	: Acids and bases Strong oxidizing agents
Hazardous decomposition products	: None expected

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

Inhalation  
Ingestion  
Eyes  
Skin Absorption  
Skin contact

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

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

Acute oral toxicity : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

**Components:****108-65-6 1-Methoxy-2-propanol acetate:**

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 100 ppm  
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

**107-98-2 1-Methoxy-2-propanol:**

Acute oral toxicity : LD50 (Rat, male and female): 4,016 mg/kg  
Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)  
GLP: yes

Acute inhalation toxicity : LC50 (Rat): 1500 ppm

Acute dermal toxicity : LD50 (Rabbit): 13,000 mg/kg

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

Remarks: No data available

**Components:****108-65-6 1-Methoxy-2-propanol acetate:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation  
GLP: yes

**107-98-2 1-Methoxy-2-propanol:**

Species: Rabbit  
Method: Directive 67/548/EEC, Annex V, B.4.  
Result: No skin irritation  
GLP: yes

**Serious eye damage/eye irritation****Components:****108-65-6 1-Methoxy-2-propanol acetate:**

Species: Rabbit  
Result: No eye irritation  
Method: OECD Test Guideline 405  
GLP: yes

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

**107-98-2 1-Methoxy-2-propanol:**

Species: Rabbit

Result: No eye irritation

Method: Directive 67/548/EEC, Annex V, B.5.

GLP: yes

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

Remarks: No data available

**Components:****108-65-6 1-Methoxy-2-propanol acetate:**

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Not a skin sensitizer.

GLP: yes

**107-98-2 1-Methoxy-2-propanol:**

Test Type: Maximisation Test

Exposure routes: Dermal

Species: Guinea pig

Method: Directive 67/548/EEC, Annex V, B.6.

Result: Does not cause skin sensitisation.

GLP: yes

**Germ cell mutagenicity****Product:**

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

**Carcinogenicity****Product:**

Remarks: No data available

**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

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

by NTP.

**Reproductive toxicity****Product:**

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

**STOT - single exposure****Product:**

Remarks: No data available

**Components:****108-65-6 1-Methoxy-2-propanol acetate:**

Assessment: May cause drowsiness or dizziness.

**STOT - repeated exposure****Product:**

Remarks: No data available

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

Remarks: No data available

**Aspiration toxicity****Product:**

No data available

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

Inhalation:

Symptoms:

High concentrations are irritating to the respiratory tract. Has caused headaches, dizziness, nausea, vomiting and CNS depression (drowsiness, loss of coordination and fatigue).

Skin contact:

Symptoms:

Contact will probably cause irritation.

Eye contact:

Symptoms:

Contact will probably cause irritation.

## NANOBYK-3652

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

Ingestion:

Symptoms:

Ingestion may irritate the digestive tract; high dosages may cause CNS depression.

### Further information

#### Product:

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

No data available

#### Product:

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

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

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

- EPA Hazardous Waste Code(s) : D001: Ignitable
- Waste from residues : Dispose of in accordance with applicable local/municipal, state/provincial and federal regulations.  
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**

- UN/ID No. : UN 1993
- Proper shipping name : Flammable liquid, n.o.s.  
(1-Methoxy-2-propanol acetate, 1-Methoxy-2-propanol)
- Class : 3
- Packing group : III
- Labels : Flammable Liquids
- Packing instruction (cargo aircraft) : 366
- Packing instruction (passenger aircraft) : 355

**IMDG-Code**

- UN number : UN 1993
- Proper shipping name : FLAMMABLE LIQUID, N.O.S.  
(1-Methoxy-2-propanol acetate, 1-Methoxy-2-propanol)
- : )
- Class : 3
- Packing group : III
- Labels : 3
- EmS Code : F-E, S-E
- Marine pollutant : no
- Remarks : IMDG Code segregation group - none

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

Not applicable for product as supplied.

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

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

UN/ID/NA number : UN 1993  
Proper shipping name : Flammable liquids, n.o.s.  
(1-Methoxy-2-propanol acetate, 1-Methoxy-2-propanol)  
Class : 3  
Packing group : III  
Labels : FLAMMABLE LIQUID  
ERG Code : 128  
Marine pollutant : no  
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.

**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 material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**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).

## NANOBYK-3652

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Non-volatile (Wt) : 31 %  
 Method: 45 (20min/150°C + 2g EA)  
 DIN EN ISO 3251  
 Non-volatile information is not a specification.

### Massachusetts Right To Know

1-Methoxy-2-propanol	107-98-2
dimethyl sulphate	77-78-1
Hydrogen cyanide	74-90-8

### Pennsylvania Right To Know

1-Methoxy-2-propanol acetate	108-65-6
Surface treated Silica	Not Assigned
1-Methoxy-2-propanol	107-98-2
Dicarboxylic acid ester	-
Polymer	-
Methanol	67-56-1

### New Jersey Right To Know

**New Jersey Trade Secret** : 800963-5435  
**Registry Number for the product (NJ TSRN)**

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including dimethyl sulphate, which is/are known to the State of California to cause cancer, and Methanol, Hydrogen cyanide, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### 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** : The following component(s) is/are not listed on the DSL:

**CEPA Category** : Polymer

**Weight percent** : 5.0 %

**NANOBYK-3652**

Version 8

Revision Date 11/28/2022

Print Date 01/06/2026

NSN Filed	:	Schedule 9
Max. NSN Required	:	Schedule 10
		Chemical
		26 %
		None
		Schedule 6

**SECTION 16. OTHER INFORMATION**

Revision Date : 11/28/2022

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.