

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

SECTION 1. IDENTIFICATION

Product name : NANOBYK-3822

Manufacturer or supplier's detailsCompany : BYK USA LLC
524 South Cherry Street
Wallingford CT 06492

Telephone : (203) 265-2086

Visit our web site : www.byk.comE-mail address : BRIEF.BYK.NAFTA@altana.comEmergency 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 for absorption of UV light

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

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Dispersion of zinc oxide nanoparticles

Hazardous components

Component	CAS-No.	Concentration (%)
Zinc oxide	1314-13-2	>= 30 - < 60

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

SECTION 4. FIRST AID MEASURES

General advice : Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.

If symptoms persist, call a physician.

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

In case of skin contact	: If on skin, rinse well with water. If on clothes, remove clothes. Wash contaminated clothing before reuse.
In case of eye contact	: Remove contact lenses. Protect unharmed eye. 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.
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 ₂) Dry chemical
Unsuitable extinguishing media	: High volume water jet
Specific hazards during firefighting	: Handle as an industrial chemical. Will not explode on mechanical impact. Water solution - will not support combustion. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: Carbon oxides Nitrogen oxides (NO _x) Sulphur oxides
Further information	: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up	: Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.
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SECTION 7. HANDLING AND STORAGE

Advice on safe handling	: For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
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NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

Conditions for safe storage : Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Zinc oxide	1314-13-2	TWA (Respirable fraction)	2 mg/m ³	ACGIH
Zinc oxide		STEL (Respirable fraction)	10 mg/m ³	ACGIH
Zinc oxide		TWA (total dust)	15 mg/m ³	OSHA Z-1
Zinc oxide		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1
Zinc oxide		TWA (Fumes)	5 mg/m ³	OSHA Z-1
Zinc oxide		TWA (Total dust)	10 mg/m ³	OSHA P0
Zinc oxide		TWA (respirable dust fraction)	5 mg/m ³	OSHA P0
Zinc oxide		TWA (Fumes)	5 mg/m ³	OSHA P0
Zinc oxide		STEL (Fumes)	10 mg/m ³	OSHA P0

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.
No personal respiratory protective equipment normally required.

Hand protection

Material : Impervious gloves

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

Eye protection : Safety glasses

Skin and body protection : Protective suit

Hygiene measures : General industrial hygiene practice.

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: dispersion
Colour	: white
Odour	: mild
Odour Threshold	: No data available
pH	: 9.5, Concentration: 100 %Method: DIN 19268 (100%ig)
Melting point/ range	: ca. 32 °F (0 °C) (1,013 hPa) Method: derived
Initial boiling point	: ca. 212 °F (100 °C) (1,013 hPa) Method: derived
Vapour pressure	: < 28 hPa (68 °F (20 °C)) Method: derived
Flash point	: does not flash
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	: 1.493 g/cm ³ (68 °F (20 °C)) Method: 4 (20°C oscillating U-tube)
Bulk density	: Not applicable
Solubility(ies)	
Water solubility	: completely miscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Ignition temperature	: Not combustible.
Thermal decomposition	: No data available

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

Viscosity
Viscosity, dynamic : 6 mPa.s (68 °F (20 °C))
Method: P/K 20°C

Viscosity, kinematic : No data available

Surface tension : 48.4 mN/m

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 : Stable under recommended storage conditions.
No hazards to be specially mentioned.

Conditions to avoid : No data available
Incompatible materials : No data available
Hazardous decomposition products : No data available

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

Inhalation
Ingestion
Eye contact
Skin contact

Acute toxicity**Product:**

Acute oral toxicity : Remarks: No data available

Components:**1314-13-2 Zinc oxide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation**Product:**

Remarks: No data available

Components:**1314-13-2 Zinc oxide:**

Species: Rabbit
Result: Moderate skin irritation

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

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

Remarks: No data available

Respiratory or skin sensitisation**Product:**

Remarks: No data available

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 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

STOT - repeated exposure**Product:**

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

Remarks: No data available

Repeated dose toxicity**Product:**

Remarks: No known chronic health effects.

This product contains dispersed nano-particles. Since the toxicological effects of this nano-particle have not been explored, protect employees from all potential routes of exposure.

Aspiration toxicity**Product:**

No data available

Experience with human exposure**Product:**

Inhalation:

Symptoms:

High concentrations of vapors resulting from the product being heated, misted or sprayed may cause irritation of the respiratory tract and mucous membranes.

Skin contact:

Symptoms:

Contact may cause irritation.

Eye contact:

Symptoms:

Contact will probably cause irritation.

Ingestion:

Symptoms:

Ingestion will probably cause irritation of the digestive tract.

Further information**Product:**

Remarks: No data available

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

Toxicity to fish

:

Remarks: No data available

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

Toxicity to daphnia and other aquatic invertebrates : 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 : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

EPA Hazardous Waste Code(s) : Not applicable.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide)

Class : 9

Packing group : III

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

Labels : Miscellaneous Dangerous Goods
 Packing instruction (cargo aircraft) : 964
 Packing instruction (passenger aircraft) : 964

IMDG-Code
 UN number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide)
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Class : 9
 Packing group : III
 Labels : 9
 EmS Code : F-A, S-F
 Marine pollutant : yes
 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.

National Regulations

49 CFR

UN/ID/NA number : UN 3082
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide)

Class : 9
 Packing group : III
 Labels : CLASS 9
 Marine pollutant : yes

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Calculated RQ exceeds reasonably attainable upper limit.

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

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

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.

Zinc oxide	1314-13-2	41.2 %
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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).

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) : 42.6 %
 Method: 23 (20min/150°C)
 DIN EN ISO 3251
 Non-volatile information is not a specification.

Massachusetts Right To Know

Zinc oxide	1314-13-2
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Pennsylvania Right To Know

Water	7732-18-5
Zinc oxide	1314-13-2
Polymer	-
Isobutanol	78-83-1
Sodium hydroxide	1310-73-2

New Jersey Right To Know

New Jersey Trade Secret Registry Number for the product (NJ TSRN) : 800963-6040

California Prop. 65

 **WARNING:** This product can expose you to chemicals including Propylene oxide,

NANOBYK-3822

Version 1

Revision Date 07/28/2025

Print Date 04/16/2026

Formaldehyde, 1,4-Dioxane, Ethylene oxide, which is/are known to the State of California to cause cancer, and Ethylene oxide, 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.

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

- TSCA : All substances listed as active on the TSCA inventory
- Section 5a : No substances are subject to a Significant New Use Rule.
- Section 4 / 12(b) : No substances are subject to TSCA 12(b) export notification requirements.
- DSL : We certify that all of the components of this product are listed on the DSL.

SECTION 16. OTHER INFORMATION

Revision Date : 07/28/2025

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.