# NANOBYK-3822

Version 1 Revision Date 05/17/2026 Print Date 08/06/2026

## SECTION 1. IDENTIFICATION

Product name : NANOBYK-3822

**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
E-mail address : BRIEF.BYK.NAFTA@altana.com

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

**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.

| | | |
|---|---|---|
| In case of skin contact | : | If on skin, rinse well with water.<br>If on clothes, remove clothes.<br>Wash contaminated clothing before reuse. |
| In case of eye contact | : | Remove contact lenses.<br>Protect unharmed eye.<br>If eye irritation persists, consult a specialist. |
| 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. |
| Notes to physician | : | Treat symptomatically. |

## SECTION 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Foam<br>Carbon dioxide (CO2)<br>Dry chemical |
| Unsuitable extinguishing media | : | High volume water jet |
| Specific hazards during firefighting | : | Handle as an industrial chemical.<br>Will not explode on mechanical impact.<br>Water solution - will not support combustion.<br>Cool closed containers exposed to fire with water spray.<br>Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : | Carbon oxides<br>Nitrogen oxides (NOx)<br>Sulphur oxides |
| Further information | : | Standard procedure for chemical fires.<br>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).<br>Keep in suitable, closed containers for disposal. |

## SECTION 7. HANDLING AND STORAGE

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

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 particulate matter) | 2 mg/m3 | ACGIH |
| Zinc oxide | | STEL (Respirable particulate matter) | 10 mg/m3 | ACGIH |
| Zinc oxide | | TWA (total dust) | 15 mg/m3 | OSHA Z-1 |
| Zinc oxide | | TWA (respirable fraction) | 5 mg/m3 | OSHA Z-1 |
| Zinc oxide | | TWA (Fumes) | 5 mg/m3 | OSHA Z-1 |
| Zinc oxide | | TWA (Total dust) | 10 mg/m3 | OSHA P0 |
| Zinc oxide | | TWA (respirable dust fraction) | 5 mg/m3 | OSHA P0 |
| Zinc oxide | | TWA (Fumes) | 5 mg/m3 | OSHA P0 |
| Zinc oxide | | STEL (Fumes) | 10 mg/m3 | 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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Physical state | : | 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)<br>(1,013 hPa)<br>Method: derived |
| Initial boiling point | : | ca. 212 °F (100 °C)<br>(1,013 hPa)<br>Method: derived |
| Vapour pressure | : | < 28 hPa (68 °F (20 °C))<br>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/cm3 (68 °F (20 °C))<br>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 |
| Viscosity | | |
| Viscosity, dynamic | : | 6 mPa.s (68 °F (20 °C))<br>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.<br>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

**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:**

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

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 |
| 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.<br>(Zinc oxide) |
| | : | ) |
| 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.<br>(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 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 % |

**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 SOCMI 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 |

**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, 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 : 05/17/2026

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.