

NANOBYK-3810

Version 5

Revision Date 05/06/2015

Print Date 05/13/2015

SECTION 1. IDENTIFICATION

Product name : NANOBYK-3810

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

E-mail address : ehs.byk.usa@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**

Eye irritation : Category 2A

GHS Label element

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.

Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical nature : Dispersion of cerium oxide nanoparticles

Hazardous components

Component	CAS-No.	Concentration (%)
Triammonium citrate	3458-72-8	>= 2 - < 3
Nitric acid ammonium salt	6484-52-2	>= 1 - < 2

SECTION 4. FIRST AID MEASURES

- If inhaled : Remove to fresh air. Administer artificial respiration if necessary. Get medical aid as soon as possible.
- In case of skin contact : Remove contaminated clothing. Wash thoroughly with soap and water.
- In case of eye contact : Immediately flush with plenty of water for at least 20 minutes. Get medical aid.
- If swallowed : Do not induce vomiting; aspiration hazard. Dilute with 1-2 glasses of water. Get medical aid. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : No information available.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : No information available.
- Specific hazards during firefighting : Will not explode on mechanical impact.
Cool closed containers exposed to fire with water spray.
Water solution - will not support combustion.
- Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
- Further information : Keep away from oxidizing agents.

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Special protective equipment : In the event of fire, wear self-contained breathing apparatus for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Wear protective equipment: goggles, chemically resistant clothing and gloves, and appropriate respirator if in a confined area.
- Environmental precautions : Prevent spilled material from entering the ground, water and/or air by using appropriate containment methods.
- Methods and materials for containment and cleaning up : Stop leak. Dike and contain spill. Absorb with suitable material and remove with sparkless shovel and/or scoop.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Harmful in contact with skin. Avoid contact with skin and eyes. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Keep container closed when not in use. Handle as an industrial chemical.
- Conditions for safe storage : Keep in a dry, cool and well-ventilated place. Keep product and empty container away from heat and sources of ignition. Take measures to prevent the build up of electrostatic charge.
- Materials to avoid : Keep away from strong acids. Keep away from oxidizing agents.

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

Contains no substances with occupational exposure limit values.

Engineering measures : Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : If product is misted or sprayed, a Class 1 particulate respirator (APF10) is required (N, P, or R 100 filter)

Hand protection

Material : Nitrile rubber

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Eye protection	: Goggles Safety glasses with side-shields
Skin and body protection	: Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Clean long legged, long sleeved work clothes. If splashing is possible, wear chemically resistant protective clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: dispersion
Colour	: yellow - brown
Odour	: No information available.
Odour Threshold	: No data available
pH	: ca. 7.5
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flash point	: > 212 °F (> 100 °C) (1,013 hPa)
Evaporation rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative Density/Specific Gravity	: No data available
Density	: 1.214 g/cm ³ (68 °F (20 °C)) Method: 1 (20°C coating pycnometer)
Bulk density	: Not applicable

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Solubility(ies)	
Water solubility	: completely miscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Viscosity	
Viscosity, dynamic	: 2 mPa.s (68 °F (20 °C)) Method: 11 (NV, 20°C)
Viscosity, kinematic	: 1.6 mm ² /s (68 °F (20 °C))
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Surface tension	: No data available
Sublimation point	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable; polymerization will not occur
Possibility of hazardous reactions	: No data available
Conditions to avoid	: None known.
Incompatible materials	: Acids Strong oxidizing agents
Hazardous decomposition products	: None expected

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

Inhalation
Ingestion
Eyes

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Skin Absorption
Skin contact

Acute toxicity**Product:**

Acute oral toxicity : Remarks: No data available

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

Skin corrosion/irritation**Product:**

Remarks: No data available

Components:**6484-52-2 Nitric acid ammonium salt:**

Species: Rabbit

Result: Moderate skin irritation

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

Remarks: No data available

Components:**6484-52-2 Nitric acid ammonium salt:**

Species: Rabbit

Result: Severe eye irritation

Respiratory or skin sensitisation**Product:**

Remarks: No data available

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.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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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: 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. Respirable cerium oxide has caused lung, liver, kidney and blood damage.

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, mucous membranes, and CNS depression.

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

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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.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

EPA Hazardous Waste Code(s) : Not applicable.

Waste from residues : Dispose of in accordance with applicable local/municipal, state/provincial and federal regulations.

SECTION 14. TRANSPORT INFORMATION**International Regulation****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.

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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

CERCLA Reportable Quantity

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Acute Health Hazard

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 12 (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).

Non-volatile (Wt) : 23.3 %
 Method: 23 (20min/150°C)
 DIN EN ISO 3251
 Non-volatile information is not a specification.

Massachusetts Right To Know

Nitric acid ammonium salt 6484-52-2

Pennsylvania Right To Know

Water 7732-18-5

Cerium oxide 1306-38-3

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New Jersey Right To Know

Water 7732-18-5
 Cerium oxide 1306-38-3
 Triammonium citrate 3458-72-8
 Nitric acid ammonium salt 6484-52-2

New Jersey Trade Secret Registry Number for the product (NJ TSRN) : NOT APPLICABLE

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

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

SECTION 16. OTHER INFORMATION

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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.