

**NanoUltra™ Super Hydrophilic Treatment**  
Page 1 of 4

**MATERIAL SAFETY DATA SHEET**

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Product Code: MISC016  
INFOTRAC emergency phone number: (800) 535-5053  
INFOTRAC International emergency phone number: 1-352-323-3500

**Section 1 - PRODUCT IDENTIFICATION**

**Trade Name(s):** NanoUltra™ Super Hydrophilic Treatment

**Product Description:** Water with dispersant & Additives

**Section 2 – INGREDIENTS**

| <u>Principle Hazardous Components</u> | <u>CAS no.</u> | <u>%</u> | <u>PEL</u>   | <u>TLV</u>   |
|---------------------------------------|----------------|----------|--|--|
| Water                                 | 7732-18-5      | Balance  |  |  |
| Ammonium Hydroxide                    | 1336-21-6      | ≤0.2     | 50 ppm, 35 mg/m3<br>35 ppm, 27 mg/m3 (STEL)        | 25 ppm<br>35 ppm (STEL)                            |
| Methanol                              | 67-56-1        | ≤3.9     | 200 ppm /260 mg/m3<br>250 ppm /325 mg/m3<br>(STEL) | 200 ppm /262 mg/m3<br>250 ppm /328 mg/m3<br>(STEL) |
| Additives                             | Proprietary    | <5       |  |  |

**Section 3 - SECTION 313 SUPPLIER NOTIFICATION**

This product contains the following EPCRA Section 313 chemical subject to the reporting requirements of Section 313 of Emergency planning and Community Right -to-Know Act (EPCRA) of 1986 (40 CFR 372)

| <u>Chemical Name</u> | <u>CAS</u> | <u>Percent by Weight</u> |
|----------------------|------------|--------------------------|
| Methanol             | 67-56-01   | ≤3.9                     |

This information should be included in all MSDSs that are copied and distributed for this material

**Section 4 - PHYSICAL / CHEMICAL CHARACTERISTICS**

|                                |   |
|--------------------------------|---|
| <b>Appearance:</b>             | Pink liquid   |
| <b>Odor:</b>                   | ammoniacal  |
| <b>pH:</b>                     | 10-11   |
| <b>Boiling Point:</b>          | 100C (Water): 65.0 °C [ (Methanol)  |
| <b>Melting/Freezing Point:</b> | 0C (32F) Water: -98.0 °C (-144.4 °F) Methanol   |
| <b>Vapor Pressure:</b>         | 17.5 @ 20C (68F) for Water<br>130.3 hPa (97.7 mmHg) at 20.0 °C (68.0 °F) for Methanol |
| <b>Vapor Density:</b>          | 0.694   |
| <b>Water Solubility:</b>       | Complete  |
| <b>Specific Gravity:</b>       | 1.00  |
| <b>Evaporation Rate:</b>       | >1, (Butyl acetate=1)   |
| <b>Water Reactivity:</b>       | Not Reactive  |

**Section 5 - Fire AND EXPLOSION HAZARD DATA**

|  |   |
|--|---|
| <b>Flash Point (Method Used):</b>          | Methanol 11.0 °C (51.8 °F) - closed cup. Note:<br>At <3.5% Methanol the product is highly unlikely to be flammable but care must be taken to avoid ignition sources and extreme heat. |
| <b>Autoignition Temperature:</b>           | Methanol 455 °C (851 °F)  |
| <b>Flammable Limits in Air:</b>            | Lower: 6%      Upper: 36%   |
| <b>Extinguishing Media:</b>                | In an unlikely event of fire, use media such as "alcohol" foam, dry chemical, or carbon dioxide.  |
| <b>Special Fire Fighting Procedures:</b>   | Wear self contained breathing apparatus for fire fighting if necessary  |
| <b>Unusual Fire and Explosion Hazards:</b> | Vapors may form explosive mixture with air.   |

**Section 6 - REACTIVITY DATA**

|  |   |
|--|---|
| <b>Stability:</b>                            | Stable  |
| <b>Incompatibility (Materials to Avoid):</b> | Strong reducing agents, acid chlorides, phosphorus trichloride, phosphorus pentachloride, phosphorus oxychloride. Halogens, Nitromethane, Acids, Bases, Metals, Metal halides, Dimethyl sulfate, Silver nitrate, Propylene oxide. Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents |
| <b>Conditions to Avoid:</b>                  | Extreme heat and flames, sparks   |
| <b>Hazardous Decomposition Products:</b>     | May produce ammonia, nitrogen oxides (NOx), CO2.  |
| <b>Hazardous Polymerization:</b>             | Will Not Occur  |

**Section 7 - HEALTH HAZARD DATA**

|  |   |
|--|---|
| <b>Toxicity:</b>                       | <b>Ammonium hydroxide:</b><br>LD50 rat, Dose: 350 mg/kg<br>LC50 rat, Dose: 5.1 mg/l, Exposure time: 1 h<br><b>Methanol:</b><br>LD50 Oral - rat - 5,628 mg/kg    LC50 Inhalation - rat - 4 h - 64000 ppm<br>LD50 Dermal - rabbit - 15,800 mg/kg<br>Irritation and corrosion Skin - rabbit - Skin irritation - 24 h Eyes - rabbit - Eye irritation - 24 h   |
| <b>Primary Route of Entry:</b>         | <b>Inhalation:</b> No <b>Skin:</b> No <b>Ingestion:</b> Yes   |
| <b>Acute Health Hazards:</b>           | <b>Eyes:</b> May cause eye irritation.<br><b>Skin:</b> May cause skin irritation. Methanol is Toxic if absorbed through skin. Causes skin irritation.<br><b>Inhalation:</b> May be harmful if inhaled. May cause respiratory tract irritation. Methanol is Toxic if inhaled. Causes respiratory tract irritation.<br><b>Ingestion:</b> May be harmful if swallowed. May cause irritation of digestive tract. Methyl alcohol may be fatal or cause blindness if swallowed., Cannot be made non-poisonous., Effects due to ingestion may include:, Nausea, Headache, Vomiting, Gastrointestinal disturbance, Dizziness, Weakness, Confusion., Drowsiness, Unconsciousness, May cause convulsions.<br><u>Methanol:</u> Target Organs Eyes, Kidney, Liver, Heart, Central nervous system, |
| <b>Chronic Health Hazards:</b>         | None known or expected.   |
| <b>Carcinogen Listed In:</b>           | <b>NTP:</b> No <b>IARC:</b> No <b>OSHA:</b> No  |
| <b>Signs and Symptoms of Exposure:</b> | See Acute Health Hazards  |
| <b>Medical Conditions Agg. by Exp:</b> | May enhance allergic conditions in certain individuals.   |

**Emergency First Aid Procedures:** (Conservative Safety measure are recommended for First Aid as the product contains Methanol)

**Eyes:** Flush immediately with water for 15 minutes while holding the eyelids apart. Consult a physician

**Skin:** Remove contaminated clothing, wash skin with soap and water. Consult a physician due to the presence of methanol. Consult a physician

**Inhalation:** If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.  
If medical advice is sought, be sure to show this MSDS to the medical personnel.

#### Section 8 - CONTROL & PROTECTIVE MEASURES

**Skin Protection:** Always wear protective gloves and clean body-covering clothing. Disposable gloves usually made of lightweight synthetic material such as Nitrile, are recommended.

**Eye Protection:** Use chemical safety goggles and/or full-face shield where splashing of material is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**Ventilation System:** Use a system of local and/or general exhaust ventilation, which is adequate to limit personal exposure to levels, which do not exceed the PEL or TLV. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

**Personal Respirators:** If airborne concentrations exceed the identified PEL or TLV and engineering controls (*such as local exhaust*) are not feasible, a half-face high efficiency particulate respirator (NIOSH type P100/OV filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A Powered Air Purifying Respirator (PAPR) equipped with HEPA/OV filter cartridge may be worn up to 25 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece high efficiency respirator (NIOSH P100/OV filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.

**Hygienic Work Practices:** Always follow good hygiene practices.

#### Section 9 - PRECAUTIONS FOR SAFE HANDLING & USE

**Steps to be taken is material is spilled or released:**

**Personal Precautions:** Only competent people wearing suitable personal protection (Section 8) should clean up any spillage.

**Environmental Precautions:** Prevent spilled material from entering drains.

**Methods for Cleaning Up:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container

**Waste Disposal Method:**

**Method of Disposal:** Handle & dispose in full compliance with all applicable international, federal, state, and local regulations.

**Handling Precautions:** Only competent people wearing suitable personal protection should handle waste.

**Precautions to be Taken in Handling and Storage:**

**Storage Precautions:** Keep container tightly closed. Suitable for any general chemical storage area. Protect from freezing. Water is considered a non-regulated product, but may react vigorously with some specific materials. Avoid contact with all materials until investigation shows substance is compatible

**Handling Precautions:** Handle in accordance with good industrial hygiene practices.

#### Section 10 - TRANSPORT

No UN classification required (considered as non-hazardous).

#### Section 11 - REGULATORY INFORMATION

US FEDERAL  
TSCA

All ingredients of this product are listed on TSCA.

**Section 12 - OTHER INFORMATION**

The statements contained herein are offered for informational purposes only and are based on technical data that Nanophase Technologies Corporation believes to be accurate. Nanophase makes no warranties concerning this product, which extend beyond the description contained in this Material Safety Data Sheet ("MSDS") pertaining to the product's material characteristics. **SPECIFICALLY, NANOPHASE MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE CONCERNING THIS PRODUCT.** Nanophase sells this product without control over its subsequent use by any customer and therefore disclaims any liability in connection with or arising out of that use. This product should be handled by trained personnel only as described in the MSDS

This Material Safety Data Sheet is solely for the product identified in Section 1 of the MSDS. This product may be used as a constituent of other products. This MSDS is not intended to address issues pertaining to Reactivity Data, Health Hazard Data, Control & Protective Measures and Precautions for Safe Handling, Use & Disposal of such other products that use this product as a constituent. Consult the MSDS for those other products using this product as a constituent.

Nanotechnology is an emerging and evolving science. Consult Nanophase Technology Corporation's website ([www.nanophase.com](http://www.nanophase.com)) for additional information pertaining to Nanophase and this product.

**HMS Rating:** (estimated) Health: 2; Flammability: 1; Reactivity: 0