



Material Safety Data Sheet

Per OSHA-recommended ANSI Z400.1-2004 standard format &
in accordance with European standard format

1. Product and Company

Product Name : **Nanotac™**
Company : Zydex Industries
61, Gotri Sevasi Road,
Vadodara-390016
Gujarat - India

Tel : +91-265-3312000
Fax : +91- 265- 3212111
Email : info@zydexindustries.com
Web : www.zydexindustries.com
Contact : Dr. Ajay I. Ranka

Emergency Numbers

Shipping from USA and Canada Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300,
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

Contact: Dr. Ajay Ranka (+91) 9825008145
Dr. Prakash Mehta (+91) 9328208941

2. Composition/ information on ingredients

Hydroxyalkyl-alkoxy-alkylsilyl compounds	38 - 42 %
Solvent Ethylene glycol	58 - 62 %
CAS # 107-21-1	

3. Possible Hazards

HMIS Rating

Health	1
Flammability	0
Reactivity	0
Physical Hazards	1

Potential Health Effect

- Eye** : May cause irritation
- Skin** : May cause irritation
- Injection** : May cause gastrointestinal discomfort
- Inhalation** : May cause irritation to respiratory tract

The product contains Ethylene glycol as solvent

Ethylene glycol ACGIH TLV: TWA 1000 ppm; OSHA PEL: TWA 1000 ppm. Liquid and high vapor concentrations cause eye irritation. Contact with skin cause drying, cracking and irritation. Inhalation causes irritation of the respiratory tracks. Repeated or prolong exposure to high vapor concentrations may cause drowsiness. Excessive or repeated injection may cause central nervous system effects, liver effects and reproductive effects.

4. First aid Measures

The person should be removed from the source of exposure.

If product is spilled on clothing or skin, remove soiled clothing, wash the affected area with lukewarm water for at least 10 - 15 minutes and seek medical advice.

If product is splashed in eyes, remove contact lenses, irrigate the affected eye with lukewarm water for at least 10 - 15 minutes and seek medical advice.

If product is inhaled or ingested seek medical advice.

5. Fire-fighting methods

FLASH POINT: >80°C (176°F)

FIRE EXTINGUISHING MATERIALS:

General Information	The product is soluble in water. Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. It will burn if involved in a fire. Flammable liquid can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire exposed containers cool. Containers may explode in the heat of a fire.
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Extinguishing Media	For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers.
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6. Accidental release measures

Environmental precaution	Do not let product enter drains and water sources.
Methods for cleaning up	Contain with absorbent material and dispose. Clean with water. Discard material according to local state and federal regulation.
Precautions	Use Hand gloves and Safety glass for handling spill.
Handling	Ensure thorough ventilation of stores and work areas.
Protection against fire and explosion	Keep away from heat and ignition source, Keep away from sparks.

7. Handling and storage

Exposure to Moisture	Product Reacts with moisture generates polymers and alcohols
Handling	Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage	Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

8. Exposure controls and personal protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits

OSHA Vacated PELs: Ethylene Glycol: 1000 ppm TWA; 1900 mg/m³ TWA

Personal Protective Equipment

Eyes	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin	Wear appropriate protective gloves to prevent skin exposure.
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Respirators	A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

9. Physical and chemical properties

Form	Liquid
Colour	Pale Yellow
Flash point	> 80° C
Explosion hazard	Not Known
Density	1.05 g/ml
Solubility in other solvents	Miscible with methanol, alcohol, acetone
pH value	Not Applicable
Viscosity	200-800 cps at 25°C

10. Stability and Reactivity	
Chemical Stability	Stable under normal temperatures & Pressures
Conditions to avoid	Incompatible materials, ignition sources, excess heat, oxidizers
Incompatibilities with other Materials	Strong oxidizing agents, acids, alkali
Hazardous Polymerization	Hazardous polymerization will not occur

11. Toxicological information

The product contains Ethylene glycol as solvent.

See Section 3 for Potential Health Effects.

SKIN: The dermal LD50 has not been determined.

INGESTION: The lethal dose in humans is estimated for **Ethylene glycol** to be 3oz. or 100ml and the oral LD50 for rats is between 6000-13,000 mg/kg.

MUTAGENICITY (THE EFFECTS ON GENETIC MATERIAL):

No specific information available.

12. Ecological information

Environmental Fate and Distribution : When released to the soil and water, solvent ethylene glycol and alcohol generated due to reaction with water may evaporate to moderate extent. When released into the soil, the glycol and alcohols may leach into groundwater. When released into the water, these materials are expected to have a half life between 1 and 3 days. The active ingredient Organo silicon compound will react chemically with inorganic substrates such as soil, aggregates, or sand before any possibility of leaching out to ground water.

Ecotoxicity: No specific information is available.

13. Disposal consideration

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste according to the local, state and federal regulation. Additionally, disposal of the waste generators must follow local, state and federal hazardous waste regulations to ensure complete and accurate compliance.

14. Transport Information

The product do not constitute a hazardous substance in national/international road, rail, sea and air transport

DOT regulations Hazard class	Not regulated
Land transport ADR/RID (Cross-border) ADR/RID Class	Not regulated
Maritime transport IMDG, IMDG Class	Not regulated
Air transport ICAO-TI and IATA-DGR , ICAO/IATA Class	Not regulated
U.S. Department of Transportation Hazard Class:	Not Regulated

15. Regulatory Information

USA
TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory.

16. Other Information

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

PS: The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of our product must take responsibility for observing existing laws and regulations.

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