

Product: **NANOTAC**

SDS No.: Version 1.0

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Date 07.01.2022

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the product

Identification of the mixture: NANOTAC

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture: Asphalt emulsion additive.

1.3. Details of the supplier of the safety data sheet

Supplier	Zydex Industries 61, Gotri Sevasi Road, Gotri, Vadodara, Gujarat, India -390 021 Telephone: 91-265-3312000 www.zydexindustries.com
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E-mail address	info@zydexindustries.com
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1.4. Emergency telephone number Dr. Ajay Ranka (+91) 9825008145

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture (Ethylene Glycol)

Product Classification (REGULATION (EC) No 1272/2008):

Acute toxicity, Oral - Category 4, H302 Harmful if swallowed
Specific target organ toxicity - Category 2, H373 May cause damage to organs
Repeated exposure (Oral) prolonged or repeated exposure if swallowed

Product classification according to Directive 67/548/EEC or 1999/45/EC: Harmful

- R22 Harmful if swallowed.

Product classification according to Directive 67/548/EEC or 1999/45/EC: Harmful

R22 Harmful if swallowed.

2.2. Hazard Pictogram



Signal word:

Warning

Label Elements

Product labelling according to Regulation (EC) 1272/2008 (CLP):

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Annex III. Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

Hazard statements:

- H302 Harmful if swallowed.
- H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary statements:

Prevention:

- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P264 Wash thoroughly after handling.

Response:

- P301+P330 + P 331 IF SWALLOWED Rinse mouth. Do not induce vomiting.
- P314 Get medical Advice/attention if you feel unwell.

Disposal:

- P501: Dispose of contents/container in accordance with local, regional and international regulations.

2.3. Other hazards

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance/Synonyms- Proprietary Organosilane compounds

Component	CAS No.	Concentration (%)
Alkoxy-alkylsilyl compounds	-	38-42
Ethylene Glycol	107-21-1	58-62

4. FIRST AID MEASURES

4.1. Description of necessary first-aid measures:

General advice:

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation:

Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

Skin contact:

Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

Eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.

Ingestion:

Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms/effects, acute and delayed: Dizziness, Drowsiness, headache, irritation, nausea, pre-existing sensitization, skin and/or respiratory disorders or diseases may be aggravated. Obtain emergency medical attention.

4.3. Indication of immediate medical attention and special treatment needed, if necessary
Treatment: Treat symptomatically.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray.
Unsuitable extinguishing media : Not known

5.2. Special hazards arising from the substance or mixture:

Fire hazard- Can form highly flammable liquid and vapour.
Explosion hazard- May form flammable/explosive vapour-air mixture.
Reactivity - Stable under normal conditions.

5.3. Advice for firefighters:

Firefighting procedures:

Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not allow run-off from firefighting to enter drains or water courses.

Special protective actions for fire-fighters:

Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus (SCBA) equipped with a full face piece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

General measures:

Remove ignition source. Use special care to avoid static electric charges. No naked lights. No smoking.

For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel. Stop leak without risks if possible. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapors.

For emergency responders:

Protective equipment Equip clean-up crew with proper protection. Avoid inhalation of vapors. Avoid contact with skin and eyes.

For emergency procedures:

Ventilate area.

6.2. Environmental precautions:

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and materials for containment and cleaning up:

Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

7. HANDLING AND STORAGE

7.1. Precaution for Safer handling:

- Additional hazards when processed- Handle empty containers with care because residual vapours may be flammable.
- Precautions for safe handling- Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No naked lights. No smoking. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Do not breathe vapours. Avoid contact with skin, eyes and clothing.
- Hygiene measures- Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling..

Conditions for safe storage, including any incompatibilities:

- Technical measures- Ground/bond container and receiving equipment.
- Storage conditions- Keep only in the original container in a cool, well ventilated place away from Sources of ignition. Keep container tightly closed.
- Incompatible products- Strong bases. Strong acids.

Storage Stability: Keep away from moisture.

Shelf life: 48 months

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Exposure Limit Values

Substance	EU OELV	EU IOELV	ACGIH-TWA	ACGIH - STEL	UKWELs
Ethylene Glycol	40 ppm	40 ppm	100 mg/m ³	40 ppm	TWA 52 ppm, STEL 104 ppm

N/E- Not Established (No exposure limits established for listed substances for listed country/ region/organization)

Exposure controls:

Personal Protective equipment	: Avoid all unnecessary exposure.
Hand Protection	: Wear Protective gloves.
Eye Protection	: Chemical goggles or safety glasses.
Skin and body protection	: Wear appropriate protective clothing.
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
Thermal Hazard Protection	: Not required for normal conditions of use.
Environmental exposure controls	: Avoid release to the environment.
Other Information	: Do not eat, drink or smoke during use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Colour	Pale Yellow
Odour	Sweet
Odour Threshold	No data available
pH	10% Solution in Water Neutral or slightly acidic
Melting point	12 - 15°C
Freezing point	10 - 12°C
Boiling point	>200°C
Flash point	>75°C and > 250 °C [2 wt. % in Bitumen] (closed cup method)
Evaporation rate	No data available

Partition coefficient	No data available
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	400 – 1000 CPS at 30°C
Kinematic viscosity	No data available
Viscosity, dynamic	No data available
Explosive properties	Not Explosive
Oxidizing properties	Not Oxidizing
Molecular weight	N/A
Flammability	No data available
Vapor pressure	No data available
Density	1.05 - 1.07 grams/ml
Relative vapor density	-
Water solubility	Soluble in water, Miscible with methanol, alcohol, acetone
Lower explosion limit	No test data available
Upper explosion limit	No test data available

[**Note:** Physical data presented above are typical values and should not be construed as a specification]

10. STABILITY AND REACTIVITY

- 10.1. Reactivity:** Stable under normal conditions. Reacts with water.
- 10.2. Chemical stability:** Stable under normal conditions.
- 10.3. Possibility of hazardous reactions:** Under fire conditions closed containers may rupture or explode. Can form explosive mixture with air.
- 10.4. Conditions to avoid:** Direct sunlight. Extremely high or low temperatures and moisture.
- 10.5. Incompatible materials to avoid:** Water, Acids, oxidizing agents.
- 10.6. Hazardous decomposition products:** Carbon monoxide, Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Inhalation:

At 150°C, the silane component is solid and has no vapor pressure, exposure to vapor is minimal due to low volatility of associated solvents.

Oral:

Toxicity if swallowed- LD50 >2000 mg/kg.

Dermal:

Prolonged skin contact is likely to result in mild irritation. Testing was done with mice bare skin - PSI Value is 0.33 (PSI Range- 0 for no irritation and 0-2 for mild irritation).

Skin Irritation:

Brief contact is essentially none irritating to skin.

Serious Eye damage/Eye irritation:

May cause slight temporary eye irritation. Corneal injury is unlikely.

Respiratory or Skin Sensitization:

For skin sensitization- No relevant data available

For respiratory sensitization- No relevant data available

Specific target organ toxicity:

Single exposure : Based on available data, the classification criteria are not met.

Repeated exposure : Based on available data, the classification criteria are not met.

Aspiration hazard : Not relevant

Carcinogenicity:

Not classified (based on available data, the classification criteria are not met).

Ethylene Glycol: Under conditions of a two-year NTP gavage study, there was no evidence of carcinogenic activity in animal studies.

Reproductive Toxicity:

Not classified (based on available data, the classification criteria are not met).

Ethylene Glycol: No effects on reproductive organs were observed in subchronic and long-term studies with rats and mice. Developmental toxicity oral study, mouse: No developmental effects were observed in absence of maternal toxicity.

Mutagenicity:

Not classified (based on available data, the classification criteria are not met).

Ethylene Glycol: Ames testing showed no mutagenic activity and mixed results both positive and negative were observed from other in-vitro genotoxicity assays. Ethylene glycol showed no genotoxicity during in-vivo testing. The weight of the evidence indicates this material is not mutagenic or clastogenic.

Components influencing toxicity:

Chemical Name	LC50 Inhalation	Species	LD50 Oral	Species	LD50 Skin	Species
Ethylene Glycol	2.5 mg/l	Rat, M, F	7712 mg/kg	Rat, M, F	3500 mg/kg	Mouse M,F

12. ECOLOGICAL INFORMATION

Ethylene Glycol is not classified as dangerous to aquatic organism.

Chemical Name	Fish 96hr LC50	Species	Fish 96hr LC50	Species Fish	Chronic NOEC	Species
Ethylene Glycol	72860 mg/l	Pimephalis promelas	>100 mg/l	Oryzias latipes (Medaka)	N/E	

Chemical Name	Invertebrates 48 hr EC50	Species	Invertebrates 24 hr EC50	Species	Invertebrates Chronic NOEC	Species
Ethylene Glycol	<100 mg/l	Daphnia magna	6500-13000 mg/l	Pseudokirchne riella subcapitata		

12.1. Persistence and degradability : Not established

12.2. Bio accumulative potential: Not established

12.3. Mobility in soil – Distribution among environmental compartments: No additional information available

12.4. Other adverse effects: Avoid release to the environment

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods:

- **Waste disposal recommendations-** Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container to hazardous or special waste collection point.
- **Additional information-** Handle empty containers with care because residual vapours are flammable.
- **Ecology-waste materials-** Hazardous waste due to toxicity. Avoid release to the environment.

14. TRANSPORT INFORMATION

Regulation	14.1. UN number	14.2. UN proper shipping name	14.3. Classes*	Label	14.4. PG*	14.5. Environmental hazards	14.6. Special precautions for user
ADR	Not Regulated	Not Applicable	NA	NA	NA	Not Classified	Ensure there is adequate ventilation
ADN	Not Regulated	Not Applicable	NA	NA	NA	Not Classified	
RID	Not Regulated	Not Applicable	NA	NA	NA	Not Classified	
IATA Cargo	Not Regulated	Not Applicable	NA	NA	NA	Not Classified	
IATA Passenger	Not Regulated	Not Applicable	NA	NA	NA	Not Classified	
IMDG	Not Regulated	Not Applicable	NA	NA	NA	Not Classified	

Description:

- 14.3. Transport hazard class (es)
- 14.4. Packing group

15. REGULATORY INFORMATION :

- **EU authorization and/or restrictions on use-** Not Applicable
Other EU Information – REACH Registration No. 01-2120249977-36-0000, 01-2119456816-28-0145
National Regulation: No additional information
CA Prop. 65- Ethylene glycol (ingested) - developmental 107-21-1- June 19, 2015

• **INVENTORIES:**

EINECS : Compliant
TSCA : Compliant
ELINCS : Compliant
DSL : Compliant
REACH EC 1907/2006 Registration : Compliant

16. OTHER INFORMATION

Full text of H, EUH-phrases referred to under sections 2 and 3

- H302 Harmful if swallowed.
- H373 May cause damage to organs through prolonged or repeated exposure if swallowed

Update:

Safety datasheet sections which have been updated:		Type
1		
2		
3		
4		
5		

Thesaurus:

vPvB : very Persistent and very Bio accumulative
PBT : Persistent, Bio accumulative and Toxic

Zydex Industries urges each customer or recipient of this (M) SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective data shown above. However no warranty express or implied is given. Regulatory requirements are subject to change and may differ between various locations.