SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: Nanoman Anti Rust + Corrosion
Synonyms: Nanoman Anti Rust and Corrosion
Nanoman Anti Rust and Corrosion Coating
Nanoman AR&C

Company Name: Nilima Nanotechnologies
Address: 1F, Gomti Bhavan, 27E, French Road, Chowpatty, Mumbai - 400007

Telephone: +91 22 79698548
Business Hours 9:00am to 5:00pm, Monday to Friday

Other Names Not Applicable

Recommended Use: For coating of surfaces to provide protection against graffiti vandalism..

SECTION 2: HAZARDS IDENTIFICATION

Hazard Statement

H226 Flammable liquid and vapour
H302 +H312 +H332 Harmful if swallowed, in contact with skin or if inhaled
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness
H412 Harmful to aquatic life with long lasting effects

Precautionary Statement (Prevention)

P210 Keep away from heat/sparks/open flames/hot surfaces – no smoking
P233 Keep container tightly closed
P240 Ground/bond container and receiving equipment
P241 Use explosion-proof electrical/ventilating/lighting/…../equipment
P242 Use only non-sparking tools
P243 Take precautionary measures against static discharge
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/ vapours/spray
P264 Wash skin thouroughly after handling
P270 Do not eat, drink or smoke when using this product
P271 Use only outdoors or in a well-ventilated area
P280 Wear protective gloves/protective clothing/eye protection/face protection

Preautionary Statement (Response)

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if youfeel unwell. Rinse mouth. Do NOT induce vomiting.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER or doctor/ physician if you feel unwell.

P303+P361+P353 If on skin or hair: remove/take off immediately all contaminateclothing. Rinse skin with water/shower
P304 + P340 +P310 P312 F INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P312 Call a POISON CENTER or doctor/physician if victim feels unwell
P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Precautionary Statement (Storage) P403+P233+P235 Store in a well-ventilated place. Keep cool. Keep container tightly closed.
P405 Store locked up.

Precautionary Statement (Disposal) P501 Dispose of contents/container to an approved waste disposal plant.

Contains **Organic polysilazane compound**

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterisation Ingredients

Ingredient	CAS Number	EC Number	Content
Organic polysilazane compound	475645-84-2	610-367-4	>30% <50%
3-Aminopropyltriethoxysilane	919-30-2	213-048-4	> 5% <10%
Toluene	108-88-3	203-625-9	>1%
n-butanol acetate	123-86-4	204-658-1	>50% <70%

SECTION 4: FIRST AID MEASURES

General Advice: Remove contaminated or saturated clothing.

Inhalation: Remove victim from exposure. Take affected persons out into the fresh air. In case of persistent discomfort seek medical attention.

Ingestion: Have the mouth rinsed with water. Have the patient drink plenty of water in small sips. Do not induce vomiting. Obtain medical attention.

Skin Contact: Wash off immediately with plenty of water. If swelling, redness, blistering or irritation occurs seek medical advice.

Eye contact: Keeping eyelid open, immediately rinse thoroughly for at least 5 minutes using plenty of water or, eye rinsing solution. Seek medical attention.

Notes to physician: If required, therapy of irritative effect. After absorbing large amounts of substance: administration of activated charcoal. Acceleration of gastrointestinal passage.

SECTION 5: FIRE-FIGHTING MEASURES

Specific Measures: Caution: Use of water spray when fighting fire may be insufficient.
Small fire: use foam, dry chemical, CO2 or water spray.
Large Fire: Use foam, fog or water spray – Do not use water jets.

Specific Hazards: HIGHLY FLAMMABLE If safe to do so move undamaged containers from fire area. Cool containers with water until well after fire is out. Avoid getting water inside containers.

Hazchem Code: 3Y

Precautions for Firefighters Wear respiratory protection equipment. Fully-encapsulated, gas tight suits should be worn for maximum protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Protective clothing should be worn to prevent excessive skin contact.

Environmental Precautions: Prevent liquid entering sewers. Do not allow to enter surface waters, storm drains, etc.

Small spills: Take immediate steps to stop and contain the spill. Caution should be excised regarding personnel safety and exposure to be spilled material. Eliminate all sources of ignition and wear protective clothing. Absorb small spills onto paper towels and evaporate in a safe place. Flush the contaminated area with plenty of water.

Large spills: Stop leak if you can do it without risk. Eliminate all sources of ignition and static; restrict access to area until completion of clean-up procedure. Wear adequate protective equipment, use self-contained breathing apparatus in confined poorly-ventilated areas. Large quantities should be absorbed on to sand, earth or non combustible absorbent material and removed to a safe area for disposal. Flush the contaminated area with plenty of water.

SECTION 7: HANDLING AND STORAGE

Handling and Storage: Avoid contact with skin or in eyes. Do not inhale vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge. Open and handle container with care. Keep away from open fire. Keep away from heating sources. Keep away from sources of ignition.

Conditions for safe Storage: Keep container tightly closed in a cool, dry and well-ventilated place away from direct sunlight and other sources of heat or ignition. Store away from oxidising agents. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Check regularly for leakage. Open container in order to release pressure which may be generated (ammonia).

Storage Regulations: Refer Australian Standard AS 1940 -2004 “the storage and handling of flammable and combustible liquids”.

Storage class: 3 flammable liquid.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standard:

Name	CAS No	STEL		TWA	
		mg/m3	ppm	mg/m3	ppm
Toluene	108-88-3	574	150	191	50
3-Aminopropyltriethoxysilane	919-30-2	Contains no substances with occupational exposure limit values.			
n-Butanol Acetate	123-86-4	713	150	950	200

Other Exposure Information

The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week The STEL is the maximum average concentration to which an unprotected worker may be exposed in any fifteen-minute interval during the day. Any fifteen-minute periods in which the average STEL concentration exceeds the permissible level must be separated from each other by at least one hour.

Appropraite Engineering Controls

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Respiratory Protection:

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 – Respiratory Protective Devices and be selected in accordance with AS 1715 – Selection, Use and Maintenance of Respiratory Protective Devices.

Eye Protection:

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin Protection:

Hand protection should comply with AS 2161, Occupational protective gloves – Selection Use and Maintenance. Recommendation: PVC, neoprene or nitile rubber gloves.

Other Protective Clothing Equipment:

Impermeable clothing. Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken..

Hygienic Measures:

Always wash hand before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Footwear:

Safety boots in industrial situations is advisory. Foot protection should comply with AS 2210, occupational protective footwear- Guide to selection, care and use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Form: Liquid

Appearance: Colourless

Odor: slightly ammonia-like

Melting Point: N/A

Boiling Point: not available

Solubility in Water: Reacts with water

Flash Point: : 16 °C

Vapor Pressure: not available

Specific Gravity: not available

Relative Density: 0.92 g/m^3 (at 20° C)

Ignition Temp. ca. 435 °C

Evaporation Rate: not available

Explosion Limits: lower: not available upper: not available

pH (500 g/l H_2O): not available

Dynamic viscosity: not available

Kinematic viscosity not available

Volatile Organic Compounds (VOC): not available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: The material can slowly hydrolyze in the presence of water to form hydrogen and ammonia gases and condensed siloxane., pressure build-up

Conditions to Avoid Heat, sparks, flame, direct sunlight and build up of static electricity.

Incompatibility (Material To Avoid): oxidizing agents, bases, acids,halogenated compounds. Reacts with moisture, water, alchhols and amines to produce ammonia.

Hazardous Decomposition Decomposition products Hydrogen and Ammonia

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicolgical Effects: **Acute toxicity**

LD50 Oral (Rat)	636 mg/kg (tulene)
LD50 Dermal (Rabbit)	12,124 mg/kg (tulene)
LC50 Inhalation (Rat)	4 h > 12,500 – 28,800 mg/m^3 (tulene)
LD50 Oral (Rat)	1,780 mg/kg (3-Aminopropyl triethoxysilane)
LD50 Dermal (Rabbit)	3,800 mg/kg (3-Aminopropyl triethoxysilane)
LC50 Inhalation (Rat)	Not available
LD50 Oral (Rat)	13100 mg/kg (n-Butanol Acetate)
LD50 Dermal (Rabbit)	>5000 mg/kg (n-Butanol Acetate)
LC50 Inhalation (Rat)	4 h > 21.0 mg/l (n-Butanol Acetate)

Other Information: Chronic effects on Humans – nota available
Toxic effects on Humans – not available

General: From our experience and the information provided to us this product does present any adverse health effects if the product is handled in accordance with this Safety Data Sheet and product label.

Ingestion: May cause nausea, vomiting, headache, dizziness and gastric irritation

Eye Contact: May cause irritation and watering. High concentration of vapours may cause irritation.

Skin Contact: Contact with the skin may result in irritation

Inhalation: Where the material is used in a poorly ventilated area, at elevated temperature or in confined spaces, vapour may cause irritation to the mucous membranes of the respiratory tract. May cause headaches, dizziness and nausea.

SECTION 12: ECOLOGICAL INFORMATION

Ecological Information: No ecological problems are expected to occur when the product is handled and used with due care and attention

Ecotoxicity: Avoid contaminating waterways

Further Informtion: no ecotoxicological study available

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Considerations Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local authority, state and federal government regulations.

SECTION 14: TRANSPORT INFORMATION

	Land Transport ADR/RID/GGVS/GGVE	Sea Transport (IMDG / IMO)	Air Transport (IATA / ICAO)
UN Number	2924	2924	2924
Proper Shipping Name	3-Aminopropyltriethoxsilane, Butanols	3-Aminopropyltriethoxsilane, Butanols	3-Aminopropyltriethoxsilane, Butanols
DG Class	3	3	3
Hazchem Code	3YE	3YE	3YE
Packaging Group	II	III	II
Marine pollutant	no	no	no

SECTION 15: REGULATORY INFORMATION

Classification: Highly Flammable

Poisons Schedule: Not scheduled

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information contained in this Safety Data Sheet (SDS) is believed to be correct and was obtained from sources we believe are reliable. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Nilima Nanotechnologies makes no representations, guarantees or warranties of any kind as to the accuracy, suitability for particular applications, hazards connected with the use of the material, or the results to be obtained from the use thereof. User assumes all risks and liability of any use, processing or handling of any material, variations in methods, conditions and equipment used to store, handle or process the material and hazards connected with the use of the material are solely the responsibility of the user and remain at their sole discretion. Compliance with all applicable federal, state, and local laws and regulations remains the responsibility of the user, and the user has the responsibility to provide a safe work place, to examine all aspects of its operation and to determine if or where precautions, in addition to those described herein, are required.