



MATERIAL SAFETY DATA SHEET (MSDS) NANO-STAR'S MBC MOISTURE BARRIER COAT

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code **MBC**
Product name **Nano-Star's MBC Moisture Barrier Coat**

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

Intended use **Negative side waterproofing for leakages and seepages**

1.3 Emergency Telephone Number / Address

Refer to **+62 21 2188 5378**
PT Teknologi Nano Indonesia
Scientia Business Park Tower II, 2nd Floor
Jl. Boulevard Gading Serpong O/2, Tangerang, Banten 15810
info@nanostar.co.id

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture.

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).
It only requires a SDS with appropriate information, compliant to EC Regulation 1907/2005 and subsequent amendments.

2.2. Label elements.

Hazard pictograms: --

Signal words: --

Hazard statements:

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Precautionary statements:

P261 Avoid breathing dust.

P271 Use outdoors and in well-ventilated areas

2.3. Other hazards.

Nil.

SECTION 3: Composition/information on ingredients

3.1. Chemical Characterization.

Nanostructured emulsion of titania based molecules.

3.2. Mixtures.

The product does not contain dangerous ingredients.



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SECTION 4: First aid measures

4.1. Description of first aid measures.

Not specifically necessary. Observance of good industrial hygiene is recommended.

4.2. Most important symptoms and effects, both acute and delayed.

No episodes of damage to health ascribable to the product have been reported.

4.3. Indication of any immediate medical attention and special treatment needed.

Information not available.

4.4. Contact or Ingestion:

On contact with eyes:	Flush with water and open eyelids fully.
On contact with skin:	Remove contaminated clothing and rinse with shower.
In inhaled:	Remove to fresh air
If ingested:	Drink plenty of water.

SECTION 5: Firefighting measures

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water.

5.2. Special hazards arising from the substance or mixture.

None known.

5.3. Advice for firefighters.

GENERAL INFORMATION

A self-contained respirator and protective clothing should be worn. Keep containers cool with water spray until well after the fire is out. Determine the need to evacuate or isolate the area according to your local emergency plan.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures.

Wear proper protective equipment.

6.2. Environmental precautions.

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.

6.3. Methods and material for containment and cleaning up.

Determine the need to evacuate or isolate the area according to your local emergency plan. Very large spills should be contained by banding procedures. Mop, wipe, or soak up with absorbent materials and place in a container with a lid. The spilled products produces an extremely slippery surface.

SECTION 7: Handling and storage

7.1. Precautions for safe handling.

Avoid skin and eye contact. Do not breathe spray or mist. General and local ventilation are recommended.

7.2. Conditions for safe storage, including any incompatibilities.

Do not store with oxidizing agents.

7.3. Specific end use(s).

Unsuitable packaging none known.



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SECTION 8: Exposure controls/personal protection

8.1. Engineering Controls

Ventilation, refer to section 7 (Handling & Storage)

8.2. Exposure controls to hazardous components

1000 ppm TWA as ethanol (ACGIH)

8.3. Personal Protection Equipment

HAND PROTECTION

Chemical protective gloves should be worn.

SKIN PROTECTION

Wear impervious overalls for significant skin occur applications.

EYE PROTECTION

Safety goggles.

RESPIRATORY PROTECTION

Suitable respiratory protection should be worn if the product is used in large quantities, confined spaces or in other circumstances where the OEL may be approached or exceeded. A suitable respirator must be worn if the product is used in any circumstances where an aerosol or mist may be generated, such as during spraying or similar activities.

ENVIRONMENTAL EXPOSURE CONTROLS.

Refer to Section 6 (Accidental Release Measures) & 12 (Ecological).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties.

Physical Condition:	Gray powder
Colour:	Gray
Odour:	None
pH:	9.2
Flash Point:	> 100 degree celcius
Relative Density:	-
Viscosity:	-
VOC:	
VOC (volatile carbon):	

SECTION 10: Stability and reactivity

10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

10.4. Conditions to avoid.

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials.

Information not available.

10.6. Hazardous decomposition products.

Information not available.



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SECTION 11: Toxicological information

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product. This product contains sensitizing substance/s and may cause allergic reactions.

SECTION 12: Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity.

Information not available.

12.2. Persistence and degradability.

Information not available.

12.3. Bioaccumulative potential.

Information not available.

12.4. Mobility in soil

Information not available.

12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods.

Reuse, when possible. Neat product residues should be considered special non-hazardous waste. Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations. CONTAMINATED PACKAGING Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14: Transport information

14.1. UN number.

Not applicable.

14.2. UN proper shipping name.

Not applicable.

14.3. Transport hazard class(es).

Not applicable.

14.4. Packing group.

Not applicable.

14.5. Environmental hazards.

Not applicable.

14.6. Special precautions for user.

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Information not relevant.



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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.

Seveso category.

None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

None.

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Information not available.

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.



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SECTION 16: Other information

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.