

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: NANOSILVER SOLUTION

The following data have been accumulated from our research and development and also from published documents. While every effort is made to update and validate these data, the accuracy cannot be guaranteed and it is the responsibility of the user to evaluate the information provided. Kindly use them in a prudent manner for any particular purpose.

Prime Oleochemical Industries Sdn. Bhd. assumes no liabilities for the use of these data.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ PREPARATION & COMPANY

Product Name : Nanosilver Solution
Company Name : Prime Oleochemical Industries Sdn Bhd
Company Address : 52 Jalan PJU 1A/14, Taman Perindustrian
Jaya, 47301 Petaling Jaya
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SECTION 2: GENERAL INFORMATION & USAGE OF NANOSILVER SOLUTION

This solution is suitable for use as starting material for industrial production as well as finished product for human consumption.

Common Name : Nanosilver Solution
Chemical Name : N.A.
Synonym : Nano Colloidal Silver Solution
Formula : Composition as attached.
Chemical Family : Mineral solution (water)
Content : 10 ppm (part per million) of silver atoms
or ions in deionised water.

SECTION 3: PHYSICAL PROPERTIES

Physical state	:	Solution
Odour	:	Odourless
Flash Point	:	Incombustible
Solubility in water	:	Homogenous nano particles of silver suspension in water.
Boiling Point (Degree C)	:	100°C as water.
Vapour Pressure (mmHg at 25°C)	:	As pure water.
Melting Point (Degree C)	:	As pure water.

SECTION 4: HAZARDS IDENTIFICATION

1. Physical Hazards

Type of Hazards : As harmless as pure water.

Flash Point : Incombustible.

Method used : Not applicable.

Lower Flammability Limit : Not applicable.

Upper Flammability Limit : Not applicable.

SECTION 5: FIRST AID MEASURES

1. Personal Protection

Eye : As pure water. No vapourised irritation to skin or eye after short or long contact.

Respiratory : As pure water. No vapourised irritation or respiratory hazard.

2. First Aid Procedures

Inhalation : No irritation and no respiratory hazard.

Eye & Skin

No irritation of skin or eye on short or long term contact.

Ingestion

At 10 ppm, nanosilver particles (size below 10 nm) in solution, it is completely safe and harmless to swallow even in big amount.

A single dose of 5g/kg. body weight was garaged to 20 rats. The animals were observed for up to 14 days for any signs of toxicity. Under this study, there was no mortality or significant evidence of toxicity observed in the rats. This test indicated that the dose of 5g/kg. by the oral route in the rat is non toxic (American Biotech Labs, Utah 84004, USA). This is equivalent to a 200 pound (90 kg.) man taking 192 teaspoons or about 4 full 8 ounce (907.20 ml) of 10 ppm solution at one time (whereas normal adult dosage is 3 to 4 teaspoons/day).

SECTION 6: FIRE FIGHTING HAZARDS

1. Extinguishing Media
Not applicable.
2. Special Fire Fighting Procedure
Not applicable.
3. Materials/Condition To Avoid
As water, it is stable under proper storage in cool and dry area. Do not freeze or expose to direct sunlight to prevent photo-oxidation of silver solution. Photo-oxidation turns the colourless silver solution to light yellow depending on the duration of exposure.
4. Unusual Fire, Explosion & Stability Hazards
Only small amount of water may evaporate from the container. There is no build up of combustible vapour to cause any explosion.

SECTION 7: ACCIDENTAL RELEASE MEASURES

1. Spill, Release & Waste Disposal Procedures
This solution is as safe and harmless as ordinary drinking mineral water or tap water. Therefore, no disposal precaution is required.

SECTION 8: STORAGE & HANDLING

It is recommended that this material be stored in cool and dry place with good ventilation away from direct light.

SECTION 9: EXPOSURE CONTROLS, PERSONAL PROTECTION

1. Equipment & Apparel

No protection is required as it can be handled as mineral water or tap water.

2. Ventilation

Normal adequate ventilation is required.

SECTION 10: STABILITY AND REACTIVITY

Conditions to avoid : Avoid exposure to strong light to cause photo-oxidation.

Incompatibilities : Avoid strong direct light to cause photo-oxidation.

Decomposition Products upon heating: Water vapour.

Hazardous polymerisation : None.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity Date : LD₅₀ (oral rate) > 5g/kg. body weight.

Mutagenicity : None.

Primary Eye Irritation : None.

Primary Skin Irritation : None.

Sensitisation : None.

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate : To be absorbed as natural mineral.

Aquatic Toxicity : Non toxic to aquatic life.

SECTION 13: DISPOSAL INFORMATION

To be treated as mineral water or tap water with no disposal or precautionary requirement.

SECTION 14: TRANSPORT INFORMATION

It can be transported freely as drinking water in good and proper packaging.

SECTION 15: REGULATORY INFORMATION

Nanosilver solution is classified by Ministry of Health, Malaysia under food.

SECTION 16: OTHER INFORMATION

The information provided in this MSDS is correct to the best of our knowledge. However, we do not accept any responsibility or liability for loss, injury or damage as a result of misuse due to ignorance or negligence.