

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

1.1. Product identifiers

Product name : Anti-dust and Water Repellent Solar Panel Coating Solution
Product code : A1-1
Brand : Nano Coating Tech

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

Identified uses : Solar panel.

1.3. Details of the supplier of the safety data sheet

Company : Nano Coating Tech Co., Ltd.
208/1 Ranong 1 road, Thanonnakornchaisri, Dusit, Bangkok
10300. Thailand (Head official)
Telephone : +66 828 239796

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Eye irritation (Category 2), H319
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
For the full text of the H-Statements mentioned in this Section, see Section 16

2.2. Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261

Avoid breathing vapours.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

None.

2.3. Other hazards: This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Synonyms : Colloidal silica in Isopropyl alcohol
Colloidal silica in Isopropanol
Content : 20%V of Colloidal silica
80%V of Isopropanol
Molecular weight : 60.28 g/mol

CAS-No. Colloidal silica: 7631-86-9 Isopropanol: 67-63-0
EC-No. Colloidal silica: 231-545-4 Isopropanol: 200-661-7

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in too much, move a person into fresh air. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. If irritation persists, Consult a physician.

In case of eye contact

Rinse cautiously with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Highly flammable liquid and vapour. In case of fire, hazardous combustion products may include carbon oxides.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and full protective gear for firefighting if necessary.

5.4. Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow product to enter drains, surface water or soil.

6.3. Methods and materials for containment and cleaning up

Contain the spill and collect using an electrically protected vacuum cleaner or by wet brushing. Place collected material into a suitable container for disposal in accordance with local regulations (see Section 13).

6.4. Reference to other sections

For disposal considerations, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Ensure adequate ventilation. Keep away from heat, sparks, open flames and other sources of ignition. No smoking. Take precautionary measures against static discharge.

For precautions, see Section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Handle and store under inert gas. hygroscopic

Storage class (TRGS 510): Flammable liquids

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No occupational exposure limit values available for this mixture. For individual components, observe applicable national exposure limits.

8.2. Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with protective gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the outer surface of the glove) to avoid skin contact. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands after use.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and EN 374.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: ≥ 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: ≥ 60 min

Body Protection

Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment indicates air-purifying respirators are appropriate, use respirators approved under NIOSH (US) or respirators fitted with type ABEK cartridges (EN 14387) as a backup to engineering controls.

In case of high vapour concentrations, use a full-face supplied-air respirator.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not allow product to enter drains, surface water or soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance	Form: liquid Colour: lite mike
b) Odour	alcohol-like
c) Odour Threshold	22 ppm
d) pH	No data available
e) Melting point/freezing point	Melting point/range: -89.5 °C
f) Initial boiling point and boiling range	82.5 °C
g) Flash point	12.0 °C - closed cup
h) Evaporation rate	3.0
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 12.7 %(V) Lower explosion limit: 2.0 %(V)
k) Vapour pressure	32.4 mmHg at 20.0 °C 44.0 mmHg at 25.0 °C
l) Vapour density	2.1
m) Relative density	0.785 g/mL at 25 °C
n) Water solubility	Completely miscible
o) Partition coefficient: n-octanol/water	log Pow: 0.05
p) Auto-ignition temperature	425.0 °C
q) Decomposition temperature	No data available
r) Viscosity	2.0 mPa·s at 25 °C
s) Explosive properties	Not explosive
t) Oxidizing properties	Not oxidizing

9.2. Other safety information

Surface tension	20.8 mN/m at 25.0 °C
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SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No hazardous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat, hot surfaces, sparks, open flames and other sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents, Acid anhydrides, Aluminium, Halogenated compounds, Acids

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 5,045 mg/kg (A1-1)

Remarks: Behavioral effects including altered sleep time (changes in righting reflex) and somnolence (general depressed activity).LC50 Inhalation - Rat - 8 h – 16,000 ppm (A1-1)

LD50 Dermal - Rabbit - 12,800 mg/kg (A1-1)

Skin corrosion/irritation

Skin – Rabbit (A1-1)

Result: Mild skin irritation

Serious eye damage/eye irritation

Eyes – Rabbit (A1-1)

Result: Eye irritation - 24 h

Respiratory or skin sensitization

Skin – Human (A1-1)

Result: Mild skin irritation

Pulmonary cell – Human (A1-1)

Result: Passed

Carcinogenicity

This product is not classifiable as to its carcinogenicity according to available data. (A1-1)

Reproductive toxicity

No data available (A1-1)

Specific target organ toxicity - single exposure

Inhalation, Oral - May cause drowsiness or dizziness. (A1-1)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available (A1-1)

Additional Information

RTECS: NT8050000

Central nervous system depression, prolonged or repeated exposure can cause:, Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects. Kidney irregularities have been reported based on human evidence.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (A1-1)

Kidney - Irregularities - Based on Human Evidence (A1-1)

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l–96h (A1-1)

Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 5,102.00 mg/l - 24 h (A1-1)

and other aquatic invertebrates

Immobilization EC50 - Daphnia magna (Water flea) - 6,851 mg/l - 24 h (A1-1)

Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h (A1-1)

EC50 - Algae - > 1,000.00 mg/l - 24 h (A1-1)

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No bioaccumulation is to be expected ($\log Pow \leq 4$).

12.4. Mobility in soil

No data available (A1-1)

12.5. Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber. This product is highly flammable. Offer surplus and non-recyclable material to a licensed waste disposal company in accordance with local, regional, and national regulations.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1. UN number

ADR/RID: 1219

MDG: 1219

IATA: 1219

14.2. UN proper shipping name

ADR/RID:

Modified Colloidal Silica

14.3. Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4. Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5. Environmental hazards

ADR/RID: No

IMDG Marine pollutant: No

IATA: No

14.6. Special precautions for user

No data available

SECTION 15: Regulatory information

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

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Disclaimer/Statement of Liability

This material is intended for industrial manufacturing only. Not for food, drug, cosmetic or consumer use. The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to its use in combination with any other material or in any process.