MSDS

SAFETY DATA SHEET
NanosSwiss™ GRAPHENE GLASS
&
NanosSwiss™ PHOTOVOLTAIC PANEL

ANTI STAIN, NO STICK AND WATTERPROOFING FOR GLASS AND MIRROr

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SECTION 01: IDENTIFICATION OF THE SUBSTANCE/MIXTURES AND OF THE COMPANY /UNDERTAKING.

1.1 TECNICIAN PRODUCT NAME NanoSwiss™ GRAPHENE GLASS.

1.2 COMMERCIAL PRODUCT NAMES NanoSwiss™ GRAPHENE GLASS.
NanoSwiss™ GRAPHENE PHOTOVOLTAIC PANEL.

1.3 PACKAGING

02.01.001000 – NanoSwiss™ Graphene Glass1000.
02.01.000140 – NanoSwiss™ Graphene Glass140.
02.01.000100 – NanoSwiss™ Graphene Glass 100
02.01.000063 – NanoSwiss™ Graphene Glass63
02.01.000060 – NanoSwiss™ Graphene Glass60
02.01.000020 – NanoSwiss™ Graphene Glass20
02.01.000019 – NanoSwiss™ Graphene Glass19
02.01.000010 – NanoSwiss™ Graphene Glass10.
02.01.000005 – NanoSwiss™ Graphene Glass5

Presentations in USA & CANADA.

- 1 liter.
- 140 ml
- 63 ml.
- 19 ml.

Presentations in BRAZIL.

- 1 liter.
- 100 ml.
- 60 ml.
- 20 ml.
- 10 ml.
- 5 ml

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

Product for coating.

1.5 IMPORTER/MANUFACTURER - USA:

NanoSwiss Nanotechnology of America Inc.
marcelo@nanoswiss.net
Tel.:+1 214 853 0619.
www.nanoswiss.net
www.nanoswiss.us
www.nanoswiss.store

1.5.1 IMPORTER/MANUFACTURER - BRAZIL:

Provida Comercial Importação e Exportação Ltda.
rubio@nanoswiss.net
Tel.:+1 469 345 3433. (Latin América)
Tel.:+55 47 9 9983 7850. (Brazil)
www.nanoswiss.net
www.nanoswiss.us
www.nanoswiss.store

1.6 EMERGENCY TELEPHONE NUMBER:

Notrufnummer des Lieferanten
Poison centre in Freiburg (Vergiftungs-Informations-Zentrale Freiburg) +49 (0) 761 19240

1.7 CHEMICAL NAME	Proprietary.
CHEMICAL FAMILY	Proprietary.
CHEMICAL FORMULA	Proprietary.

1.8 USE

- WATTERPROOFING AND NON STAIN
- GLASS AND MIRROW.

1.9 APPLICABLE SURFACES

- Windows
- Stoves
- Bathroom Box
- Automotive Glass.
- Yacht Glasses.

SECTION 02: HAZARDS IDENTIFICATION.

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE.

The product is classified as hazardous according to the provisions said in Regulation (EC) 1272/2008 (CLP) (and subsequent amendments). The product thus requires a safety data sheet compliant with the provisions of Regulation (EC) no. 1907/2006 and subsequent amendments.
Any additional information concerning the risks for health and/or environmental hazards can be found in sections 11 and 12 of this document.

FOR HUMAN: The handling of the product must be with the use of the indicated PPE.

2.1.1 EFFECTS ON HUMAN HEALTH:

- Contact with eyes may cause serious eye irritation or damage.
- Aspiration hazard (Category 1) H304 May be fatal if swallowed and enters airways.

2.2 EFFECTS ON THE ENVIRONMENT:

- Waste, content/container must be disposed of in an industrial or sanitary landfill in accordance with current local legislation. Do not dispose of waste into sewers, water courses or household garbage.
- Chronic toxicity for aquatic environments (Category 3) H412 Harmful to aquatic life with long-lasting effects.

2.3 EMERGENCY OVERVIEW.

2.4 ENTRY ROUTES: Inhalation, cutaneous and ingestion.

2.5 POTENCIAL HEALTH EFFECTS:

2.5.1 Eyes:

Serious Eye Damage (Category 1) H318 Causes serious eye damage.
Skin corrosion (Category 1B) H314 Causes severe skin burns and serious eye damage.

2.5.2 SKIN: May cause cutaneous skin damage.
Skin corrosion (Category 1B) H314 Causes severe skin burns and serious eye damage.
Skin Sensitization (Category 1B) H317 May cause an allergic skin reaction.
Acute toxicity Dermal (Category 4) H312 Harmful in contact with skin.

2.5.3 ACUTE HELTH HAZARDS:

Avoid inhaling mists, vapors and aerosols. May cause respiratory irritation.
STOT -single exposure Respiratory system (Category 3) H335 May cause respiratory irritation
Aspiration hazard (Category 1) H304 May be fatal if swallowed and enters airways.

2.5.4 CHRONIC HEALTH HAZARDS: UNKNOWN.

2.5.5 GENERAL MEDICAL CONDITIONS AGGRAVATED TO EXPOSURE:

STOT -repeated exposure Central nervous system, Liver, Kidney (Category 2) H373 May cause damage to organs through prolonged or repeated exposure.

2.5.6 CARCINOGENICITY: Unknown.

2.6 LABEL ELEMENTS:

Pictogram:

May cause allergic skin reaction or serious eye irritation; harm if swalloed or inhalaled.
Avoid skind and eye contact.
Avoid realese to environment.

Flammable.
Do not heat, or spray on an open flame.

May cause several skin burns and eye damage.
Keep in original container, wear protective gloves, glass and face protection.

May damage allergies or asthma symptons, damage organs.
Read safety precautions before use. Avoid breathing dust or fumes.

2.7 SIGNAL WORD: DANGER

Hazard statements:
H225: Highly flammable liquid and vapour.
H302+H312: Harmful if swallowed or in contact with skin.
H304: May be fatal if swallowed and enters airways.
H373: May cause damage to organs through prolonged or repeated exposure.
H335: May cause respiratory irritation.
H317: May cause an allergic skin reaction.
H314: Causes severe skin burns and serious eye damage.
H412: Harmful to aquatic life with long-lasting effects.

Precautionary statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260: Do not breathe dust/fumes/gas/mist/vapours/spray.
P331: Do NOT induce vomiting.
P303 + P361 + P353 IF IN SKIN (or hair): Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Contains:
- Xylene (mixture of isomers)
- Ethylbenzene
- Polymers with chlorine methyl vinyl silane, dichloro methyl silane and ammonia N-butyl-N - [(triethoxysilyl) methyl] butan-1-amine

2.8 OTHERS HAZARDS:

On the basis of available data, the product does not contain PBT or vPvB substances and endocrine disruptors in a percentage greater than 0.1%.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 MIXTURES:

Substance	Quantity	CAS N. EC N. REACH N.	Classification according to Regulation 1272 / 2008 / EC Danger class	 Hazard statements
Organic Polymer with chlorine methy l vinyl silane, dicloro methyl silane and ammonia	30-40 %	-	Flam. Liq.2 Acute Tox.4 Acute Tox.4 Skin Corr.1B Eye Dam.1	H225 H302 H312 H314 H318
Graphene	1-1,5 %		Acute Tox. 4	H312
Distillates (petroleum), hydrotreated light	1-1,5 %		Asp. Tox. 1	H304, EUHO66
N-butil-N-[(trietossisilil)metal] butan-1-ammina	1-1,5 %		Skin Sens. 1B	H317
N-(3-(trietossisilil)propel)etilendiammina	0.1-0.15 %		Eye Dam. 1 Skin Sens. 1B	H318 H317

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures:
General advice:
Remove contaminated, soaked clothing immediately.
In case of problems, contact a doctor and show him/her the Safety Data Sheet.
Self-protection of the rescuer.
In case of eye contact:
If present, remove contact lenses. Tilt the head in the direction of the affected eye, open eyelids and rinse with plenty of water for 15 minutes and contact a physician.
In case of skin contact:
Wash skin with plenty of soap and water for at least 15 minutes.
Remove contaminated clothing, shoes, glasses and clean thoroughly before reuse.
Consult a physician.
If inhaled:
Bring the injured person into the open air and keep him/her calm.
Consult a doctor immediately and show him/her the Safety Data Sheet.
Rescuers must not perform mouth-to mouth resuscitation.
If swallowed:
Do NOT induce vomiting. If the person is conscious, washout his mouth with water. Find immediate medical attention or call the Poison Centre.
4.2 Most important symptoms and effects, both acute and delayed:
To the best four knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
4.3 Indication of any immediate medical attention and special treatment needed:
See instructions in Section 4.1. If necessary, consult a doctor and deliver the Material Safety Data Sheet.

SECTION 5: FIREFIGHTING MEASURES.

5.1 Extinguishing media
Suitable extinguishing media:
Powder, carbon dioxide or foam extinguishers.
Not suitable extinguishing media:
Do not use water jet. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.
5.2 Special hazards arising from the substance or mixture:

Over pressure can be created in containers exposed to fire with danger of explosion. Avoid breathing combustion products.
Avoid breathing combustion products (Carbon Monoxide CO, Carbon Dioxide CO2, Nitrogen Oxide NOX).

5.3 Advice for firefighters:

Always wear full fire protection, such as a compressed air breathing apparatus open circuit(EN 137), flame retardant suit (EN469), flame-resistant gloves(EN659) and boots for Fire Department operators (HOA29 or A30). Cool containers with water flux in order to prevent explosion.

SECTION 06: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures:

Stop the loss if there is no danger.
Wear suitable protective equipment (including personal protective equipment referred to in section 8) to prevent contamination of skin, eyes and personal clothing. These indications are valid both for workers in charge of processing and for emergency interventions.
Keep unequipped people away. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) or heat from the area where the leak occurred.

6.2 Environmental precautions:

Prevent leakage or spillage if this can be done without danger. Do not let product enter drains. Discharge into the environment must be avoided. In case of seepage into water or sewage, alert authorities. Stay away from sources of ignition.

6.3 Methods and materials for containment and cleaning up:

Soak up with inert absorbent material and dispose as hazardous waste(see Section13).Keep in suitable, closed containers for disposal. If necessary, wash with water and/or suitable detergent. Ensure adequate ventilation of the area of the leakage. Silicone oils are slippery and spilled substances are a safety hazard.
To improve friction, spread sand or inert and granular material.
Provide sufficient ventilation of the place affected by the leak. Disposal of contaminated material must be carried out in accordance with the provisions of section 13.

6.4 Reference to other sections:

For safe handling ,refer to Section 7.
For information on PPE, refer to Section 8. For disposal, refer to Section 13.

SECTION 07: HANDLING AND STORAGE.

7.1 Precautions for safe handling:

Do not breathe in vapors or aerosol. Avoid contact with skin or clothing. See Section 8 for personal protection equipment. Use only in the areas equipped with suitable ventilation systems.
Keep away from flames and sparks - No Smoking. Avoid the accumulation of electrostatic charges. (For ex: connect to the electrical ground during transfer of the liquid).

7.2 Conditions for safe storage, including any incompatibilities:

Store only in the original container. Open the container regularly to reduce pressure that may be generated inside (ammonia). Keep the container hermetically closed in a dry and well-ventilated environment. Protect from the light. Do not store at temperatures higher than 25 °C. Store and transport separately from food products.

7.3 Specific end use(s):

No other specific uses are provided in addition to the uses described in Section 1.2.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

EU OEL EU Directive (EU) 2017/2398;
Directive (EU) 2017/164;
Directive 2009/161 / EU;

Directive 2006/15 / EC;
Directive 2004/37 / EC;
Directive 2000/39 / EC;
Directive 91/322 / EEC.

8.2 Exposure control

General safety and industrial hygiene standards.

As the use of adequate technical equipment must always take priority over personal protection equipment, ensure good ventilation at the workplace through effective room aspiration. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke while working with the product to avoid contact with the skin or mouth. It's necessary to wash immediately after you move/manipulate the product. Wash hands before breaks and at the end of the workday. Dispose of contaminated clothing, shoes, glasses, etc. and clean thoroughly before reuse. In case that an individual protection device is necessary, appropriate personal protective equipment (PPE) should be used for:

Eye/face protection

Wear face shield, goggles or face shield shielding conforming to EN 166 for protection from liquid splashes. There must be a way to wash the eyes with water.

Skin protection

Handle with gloves. Gloves must be inspected before being used.

Protect your hands with gloves category III (Directive 89/686/EEC and standard EN 374). For selection of glove material it's necessary to take in consideration: degradation, breakage times and permeation. In the case of chemical reactions, the resistance of protective gloves should be checked before use, as it can be unpredictable. The gloves have a time limit of effectiveness, which depends on the duration of exposure. Wear work clothes with long sleeves and safety footwear for professional use of category II (ref. Regulation 2016/425 and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

Respiratory protection

In case of exceeding the threshold value (if available) of one or more of the substances present in the product, for daily exposure in the workplace or to a fraction established by the company's prevention and protection , wear a filter mask with combined filters AX (according to standard DIN EN) class 1,2 or 3 according to threshold concentration limit during use (EN 14387 norm). If there are gases or vapours of a different nature and / or gases or vapours with particles (aerosols, fumes, mists, etc.), combined filters must be provided. The use of respiratory protective equipment, such as masks of the type described above, it is necessary in the absence of technical measures limiting worker exposure. The protection provided by masks is in any case limited. In the case where the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in case of emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% in volume, wear a compressed air breathing apparatus open circuit (UNI EN 137) or fresh air breathing apparatus, in combination with full face mask, half mask or mouthpiece (UNI EN 138).

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties:

a) Appearance: whitish liquid.
b) Odour: light of ammonia.
c) Odour threshold: not available.
d) pH: not available.
e) Melting/freezing point: not available
f) Initial boiling point and boiling range: not available
g) Flash point: 53°C
h) Evapouration rate: not available
i) Flammability (solid, gas): flammable mixture
j) Upper/lower flammability or explosive limits: not available

k) Vapour pressure: not available
l) Vapour density: not available
m) Relative density: 0.9 kg/L
n) Water Solubility: react with water.
o) Partition coefficient n-octanol/water: not available
p) Auto-ignition temperature: not available
q) Decomposition temperature: not available
r) Viscosity: not available
s) Explosive properties: not available
t) Oxidizing properties: not available

9.2 Other safety information:
No other information available.

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity
This material can slowly hydrolyse in the presence of water, forming gaseous hydrogenand ammonia as well as condensed siloxanes.
10.2 Chemical stability
The product is stable under normal conditions of use and storage.
10.3 Possibility of hazardous reactions
Vapours can form explosive mixtures with air. May react in contact with highly oxidizing agents.
This material can slowly hydrolyse in the presence of water, forming gaseous hydrogen and ammonia as well as condensed siloxanes and an increase in pressure.
10.4 Conditions to avoid
Conditions to be avoided: Heat, flames, sparks.
Avoid storing containers at elevated temperatures (above 50 °C) or in direct sunlight.
10.5 Incompatible materials
Strong oxidizing agents. Strong acids and bases. Alogenated components. Materials at high temperature.
10.6 Hazardous decomposition products
Due to thermal decomposition or in the event of fire, gases and vapors that are potentially harmful to health (for example formaldehyde) can be released.
Other dangerous decomposition products: hydrogen, ammonia, condensed siloxanes, ethanol, methane, styrene, hydrogen.

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects
In the absence of experimental toxicological data on the product itself, any health hazards of the product have been assessed on the basis of the properties of the substances contained, according to the criteria provided for by the reference legislation for classification. The product does not meet the classification criteria:
Acute toxicity
LC50 (Inhalation) of the mixture > 20 mg / l
LD50 (Oral) of the mixture: 1176.47 mg / kg
LD50 (Dermal) of the mixture: 1375.00 mg / kg
Skin corrosion / irritation
Corrosive to the skin.
Serious eye damage / eye irritation
Causes serious eye damage.
Respiratory or skin sensitization
Skin sensitizer.
Germ cell mutagenicity
It does not meet the classification criteria for this hazard class.
Carcinogenicity

It does not meet the classification criteria for this hazard class.
Reproductive toxicity
It does not meet the classification criteria for this hazard class.
Specific Target Organ Toxicity (STOT) - single exposure
It can irritate the respiratory tract.
Specific target organ toxicity (STOT) - repeated exposure
It can cause damage to organs.
Aspiration hazard
Toxic by aspiration.
11.2 Information on other hazards

SECTION 12: ECOTOXICOLOGICAL INFORMATION.

There are no data available on the product.
12.1 Ecotoxicity
No data available.
12.2 Persistence and degradability
No data available
12.3 Bioaccumulative potential
No data available.
12.4 Mobility
No data available.
12.5 Results of PBT and vPvB assessment
No data available.
12.6 Other adverse effects
No data available.

SECTION 13: TRANSPORT CONSIDERATIONS.

13.1 Waste treatment methods:
Do not mix with water wastes or wastes containing protic substances.
Subject to compliance with regulations in force and, if necessary, after an agreement with the waste disposal company and competent authorities, the product must be transferred to a suitable and authorised waste treatment plant.
Non-washable packaging must be disposed of in the same ways the contents it contained.

SECTION 14: TRANSPORT CONSIDERATIONS.

14.1 UN number
ADR/ADN: UN 2924 IMDG: UN 2924 ICAO/IATA: UN 2924
14.2 UN proper shipping name
ADR/ADN: FLAMMABLE LIQUID, CORROSIVE, N.O.S
IMDG: Flammable liquid, corrosive, n.o.s.
ICAO/IATA: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
14.3 Transport hazard class(es)
ADR/ADN: 3 IMDG: 3 ICAO/IATA: 3
14.4 Packaging group
ADR/ADN: II IMDG: II ICAO/IATA: II
14.5 Environmental hazards
ADR/ADN: Not dangerous for environment
IMDG: Not marine pollutant
ICAO/IATA: Not dangerous for environment
14.6 Special precautions for user
ADR / RID: HIN - Kemler: 338 Limited quantity: 1 L

IMDG: EMS: F-E, S-C Limited quantity: 1 L
IATA: Cargo: Limited quantity: 5 L
Pass.: Limited quantity: 1 L
Special instructions: A3
14.7 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**
Not relevant.

SECTION 15: REGULATORY INFORMATION.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:
The information provided about regulation cannot be considered as exhaustive. This product may be subject to other regulations.

- **EC Regulation 18/12/2006 n. 1907**
  "Registration, Evaluation, Authorisation and Restriction of Chemicals" (REACH).
- **EC Regulation 16/12/2008 n. 1272**
  "Classification, labelling and packaging of substances and mixtures, with amending and repealing Directives 67/548/EEC and 1999/45/EC and Regulation 1907/2006/EC".

Chemical Safety Assessment:
A chemical safety assessment for the mixture has not been carried out.

SECTION 16: OTHERS INFORMATIONS.

Flam. Liq. 2 Flammable liquid, category 2
Flam. Liq. 3 Flammable liquid, category 3
Acute Tox. 4 Acute toxicity, category 4
Asp. Tox. 1 Aspiration hazard, category 1
STOT RE 2 Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B Skin corrosion, category 1B
Eye Dam. 1 Serious eye damage, category 1
Eye Irrit. 2 Eye irritation, category 2
Skin Irrit. 2 Skin irritation, category 2
STOT SE 3 Specific target organ toxicity - single exposure, category 3
Skin Sens. 1B Skin sensitization, category 1B
Aquatic Chronic 3 Hazardous to the aquatic environment, chronic toxicity, category 3
H225 Highly flammable liquid and vapor.
H226 Flammable liquid and vapor.
H302 + H312 Harmful if swallowed or in contact with skin.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H304 May be fatal if swallowed and enters airways.
H373 May cause damage to organs through prolonged or repeated exposure.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H335 May cause respiratory irritation.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

Further information
The information contained in this data sheet reflects the current knowledge and it is safe to predict that

the product is used according to the prescribed conditions and in accordance with the application specified on the packaging and / or in the technical guidance literature. Any other use of the product, including the use of the product in combination with any other product or any other process is the responsibility of the user. Of course, the user is responsible for defining security measures and implement legislation covering its activities.

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