

**TESLA NANOCOATINGS, INC.
SAFETY DATA SHEET**

This Safety Data Sheet has been prepared to comply with the EU Regulation and the OSHA Hazard Communication Standard.

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION
AND THE COMPANY/UNDERTAKING**

1.1 Product Identifier:

Trade Name: TESLAN® 3100n Low VOC CNT Epoxy Topcoat – Part B

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:

Product Use: Topcoat Coating

Uses Advised Against: None

1.3 Details of the Supplier of the Safety Data Sheet:

Manufacturer: Tesla NanoCoatings, Inc.

50 North Avenue NW
Massillon, OH 44647 USA

Information Phone Number: 1-800-424-9300 / +1 703-527-3887

Contact: CHEMTREC

Only Representative (REACH)/Nominated EU Importer:

nEMCEL LTD.
Myllarintie 1
40640 JYVASKYLA, Finland
Tel: +040-171-3894

1.4 Emergency Telephone Number: +1-330-417-3550 or +040-171-3894

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture:

GHS Classification:

Skin Corrosive Cat 1B (H314)

Serious Eye Damage Category 1 (H318)

Skin Sensitization Category 1 (H317)

EU Classification:

Irritant (Xi), Harmful (Xn), R22, R37/38, R43, R52/53

2.2 Label Elements:

Danger!



Contains: Triethylenetetramine, Fatty acids

Hazard Phrases

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

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Precautionary Phrases

P261	Avoid breathing dust, fume, gas, mist, vapours, or spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth Do NOT induce vomiting.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor or physician.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333 + P313	If skin irritation or rash occurs: Get medical advice or attention.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents and container to an approved waste disposal plant.

2.3 Other Hazards: Causes severe skin burns and eye damage. Causes serious eye damage. May cause an allergic skin reaction.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture:

Chemical Name	CAS#	EINECS#	EU Classification (67/548/EEC)	CLP Annex VI Classification	%
Triethylenetetramine	112-24-3	203-950-6	N/A	Acute Tox. Cat 4, Oral (H302), Acute Tox. Cat 4, Dermal (H312) Skin Corr. Cat 1B (H314), Skin Sens. Cat 1 (H317), Aq. Acute Cat 3 (H402) Aq. Chronic Cat 3 (H412)	80 - 90
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	68953-36-6	273-201-6	Xi R36/37/38, R43	Skin Corr. Cat 1B (H314), Skin Sens. Cat 1 (H317), Aq. Toxicity Cat 1 (H400), Aq. Chronic Cat 1 (H410)	5 - 10
3,6,9-Triazaundecamethylenediamine	112-57-2	203-986-2	C, Xn, N R21/22, R34, R43, R51/53	Acute Tox. Cat 4 (H302, H312), Skin Corr. Cat 1B (H314), Skin Sens. Cat 1 (H317), Aq. Chronic Cat 2 (H411)	> 1

See Section 16 for further information on EU and GHS Classification.

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures:

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General Advice: Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Eye: Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Rinse immediately with plenty of water for at least 15 minutes.

Skin: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Flush immediately with copious amounts of water. Initiate and maintain continuous irrigation until patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately. NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation. Wash off immediately with soap and plenty of water.

Inhalation: Move to fresh air. If breathing is irregular or stopped, administer artificial respiration.

Ingestion: Do not induce vomiting without medical advice. If a person vomits when lying on their back, place them in the recovery position. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.

4.2 Most important symptoms and effects, both acute and delayed: Repeated/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat.

4.3 Indication of any immediate medical attention and special treatment needed: Treat symptomatically

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media: Use alcohol-resistant foam, carbon dioxide (CO₂), dry chemical, dry sand, limestone powder.

5.2 Special Hazards Arising from the Substance or Mixture:

Unusual Fire and Explosion Hazards: No data available

Specific hazards: Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NO_x) is to be expected. Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

5.3 Advice for Fire-Fighters:

Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary. Avoid contact with skin. A face shield should be worn. Do not allow run-off from firefighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing.

6.2 Environmental Precautions:

Construct a dike to prevent spreading. Report spills and releases as required to appropriate authorities.

6.3 Methods and Material for Containment and Cleaning Up:

Approach suspected leak areas with caution. Call Emergency Response number for advice. If possible, stop flow of product. Open enclosed spaces to outside atmosphere. Place in appropriate chemical waste container.

6.4 Reference to Other Sections:

Refer to Section 8 for Personal Protective Equipment and Section 13 for Disposal information.

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SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling: Spraying increases the risk of hazardous exposure. In atmospheres where the material is sprayed, workers should avoid contact with aerosols. Use personal protective equipment. Provide readily accessible eye wash stations and safety showers. Wash hands at the end of each workshift and before eating, smoking or using the toilet. Do not use sodium nitrate or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Avoid contact with skin and eyes. Use only in well-ventilated areas. Avoid breathing vapors and or aerosols. Use personal protective equipment. Discard contaminated leather articles. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Adhere to work practice rules established by government regulations.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Do not store in reactive metal containers. Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end use(s): Industrial use only

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	Exposure Limits
Triethylenetetramine	1 ppm 6mg/m ³ TWA AIHA WEEL (Skin; DSEN). Can be absorbed through the skin.
3.6.9-Triazaundecamethylenediamine – Vapor.	1 ppm 5mg/m ³ TWA WEEL

8.2 Exposure Controls:

Engineering Controls: Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Personal Protective Equipment:

Eye Protection: Full face shield with chemical resistant goggles underneath.

Skin Protection:

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary - Impervious gloves, butyl-rubber, nitrile rubber, neoprene glove or PVC disposable gloves.

Skin and body protection: No specific recommendation. Impervious clothing – full rubber suit, rubber or plastic boots, long sleeve shirts and trousers without cuffs, slicker suit.

Respiratory Protection: Not required for properly ventilated areas. Spraying increases the risk of hazardous exposure. In atmospheres where the material is sprayed, workers should avoid contact with aerosols through proper engineering controls such as exhaust ventilation and/or proper protective equipment such as a full-face air-supplied respirator.

Other Protective Equipment: Provide readily accessible eye wash stations and safety showers.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic Physical and Chemical Properties:

Appearance: Amber liquid	Vapor Density: No data available
Odor: Irritating	Specific Gravity: 1.007
Odor Threshold: No data available	Solubility: No data available
pH: Alkalines	Octanol/Water Partition Coefficient: No data available
Melting Point/Freezing Point: No data available	Autoignition Temperature: No data available
Boiling Point: > 95 °F (> 35 °C)	Decomposition Temperature: No data available
Flash Point: > 199 °F (> 93 °C)	Viscosity: No data available

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Evaporation Rate: No data available	Explosive Properties: No data available
Flammable Limits: No data available	Oxidizing Properties: No data available
Vapor Pressure: No data available	Relative Density: No data available
Molecular Formula: Mixture	Flammability (solid, gas): No data available
Molecular Weight: Mixture	

9.2 Other Information: No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: See section "Possibility of hazardous reactions"

10.2 Chemical Stability: Stable under normal conditions.

10.3 Possibility of Hazardous Reactions: No data available.

10.4 Conditions to Avoid: No data available.

10.5 Incompatible Materials: Reactive metals. Materials reactive with hydroxyl compounds. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids, sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents

10.6 Hazardous Decomposition Products: Nitric acid, Ammonia, Nitrogen oxides (NOx), Nitrogen oxide can react with water vapors to form corrosive nitric acid, Carbon monoxide, Carbon dioxide (CO₂), Aldehydes, Flammable hydrocarbon fragments, Nitrosamine

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Acute Toxicity Values:

Oral: LD 50 (Rat): >2,000 mg/kg

Inhalation: No data available.

Dermal: LD 50 (Rabbit): >2,000 mg/kg

Irritation/corrosion of the skin: no data available.

Serious eye damage/eye irritation: Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. This effect is temporary and has no know residual effect. Product vapor can cause glauropsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere.

Respirator/skin sensitization: Sensitization has occurred in laboratory animals after repeated exposures. May cause sensitization by skin contact.

Repeated dose toxicity: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity: None of the components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH and the EU CLP.

Reproductive Toxicity: No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

No data available for the mixture. The following information is for the components:

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12.2 Persistence and Degradability: No data available

12.3 Bioaccumulative Potential: No data available

12.4 Mobility in Soil: No data available

12.5 Results of PBT and vPvB Assessment: No data available

12.6 Other Adverse Effects: Do not allow to enter soil, waterways or waste water canal.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Dispose of container and unused contents in accordance with federal, state and local requirements. Contact supplier if guidance is required.

SECTION 14: TRANSPORTATION INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	UN2259	Triethylenetetramine Solution	8	PG II	No
Canadian TDG	UN2259	Triethylenetetramine Solution	8	PG II	No
EU ADR/RID	UN2259	Triethylenetetramine Solution	8	PG II	No
IMDG	UN2259	TRIETHYLENETETRAMINE SOLUTION	8	PG II	No
IATA/ICAO	UN2259	Triethylenetetramine Solution	8	PG II	No

14.6 Special Precautions for User: Not applicable

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environment Regulations/Legislation Specific for the Substance or Mixture:

U.S. FEDERAL REGULATIONS: Acute Health Hazard

CERCLA 103 Reportable Quantity: None

SARA TITLE III: Acute Health Hazard

Hazard Category for Section 312: Acute Health

Section 313 Toxic Chemicals: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this mixture are listed on the TSCA inventory.

INTERNATIONAL REGULATIONS:

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EUROPEAN REGULATIONS

REACH: Tesla NanoCoatings, Inc. products comply with REACH regulation as applicable. For more information, contact Tesla NanoCoatings, Inc.

SVHC: This product contains the following Substances of Very High Concern (SVHCs): None.

15.2 Chemical Safety Assessment: None Required

SECTION 16: OTHER INFORMATION

HMIS Ratings: Health - 3 Flammability - 1 Physical Hazard - 0
NFPA Ratings: Health - 3 Flammability - 1 Instability - 0

SDS Revision History:

- 5/29/14: New SDS
- 2/29/16: Revised/Updated SDS
- 8/13/19: Revised/Updated SDS
- 9/17/19: Revised/Updated SDS

GHS Classification for Reference (See Sections 2 and 3):

- Acute Tox. Cat 4
- Skin Corr. Cat 1B
- Skin Sen. Cat 1
- Aq. Toxicity Cat 1
- Aq. Chronic Cat 1
- Aq. Chronic Cat 2
- Aq. Acute Cat 3
- Aq. Chronic Cat 3
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H400 Very toxic to aquatic life
- H402 Harmful to aquatic life
- H410 Very toxic to aquatic life with long lasting effects
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):

- C Corrosive
 - Xi Irritant
 - Xn Harmful
 - R20/22 Harmful by inhalation and if swallowed.
 - R21/22 Harmful in contact with skin and if swallowed.
 - R22 Harmful if swallowed.
 - R34 Causes burns.
 - R36/37/38 Irritating to eyes, respiratory system and skin.
 - R37/38 Irritating to respiratory system and skin.
 - R38 Irritating to the skin.
 - R41 Risk of serious damage to eyes.
 - R43 May cause sensitization by skin contact.
 - R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- =====

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This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Tesla NanoCoatings, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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