

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® 3102 Low VOC Epoxy CNT Topcoat – Part B

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

Product Use: Topcoat
Uses Advised Against: None

1.3 Details of the Supplier of the Safety Data Sheet:

Manufacturer: Tesla NanoCoatings, Inc.
50 North Avenue N.W.
Massillon, Ohio 44647 USA

Information Phone Number: +1-330-417-3550

Contact: Todd Hawkins

Email: todd@teslanano.com

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:

Serious Eye Damage Category 1 (H318)
Skin Corrosion Category 1B, 1C (H314)
Skin Sensitization Category 1 (H317)
Specific Target Organ Toxicity Repeated Exposure Oral Category 2 (H373)

2.2 Label Elements:

Danger!



Hazard Phrases

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H373a	May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary Phrases

P260	Do not breathe mist, vapours, or spray.
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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.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P363	Wash contaminated clothing before reuse.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310	Immediately call a POISON CENTER or doctor or physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: Corrosive. Components of the product may affect the nervous system. May cause sensitization by skin contact.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture:

Chemical Name	CAS#	EINECS#	EU Classification (67/548/EEC)	CLP Annex VI Classification	%
Cycloaliphatic amine	Not Available				10-30
Aliphatic amines	Not Available				1-5

CHEMICAL FAMILY: Amine. The remaining components are trade secret.

See Section 16 for further information on GHS Classification.

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures:

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.

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 the 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.

Inhalation: 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. Move to fresh air.

Ingestion: If victim vomits when lying on his back, place in the recovery position. Never give anything by mouth to an

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unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.

4.2 Most Important symptoms and effects, both acute and delayed: Eye disease. Skin disorders and allergies. Asthma. Neurological disorders, Liver disorders.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical attention is required for all routes.

NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media: Use Alcohol-resistant foam, carbon dioxide, dry chemical, dry sand or limestone powder.

5.2 Special Hazards Arising from the Substance or Mixture:

Formulation of gases: Incomplete combustion may form carbon monoxide. 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:

Avoid contact with skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

Do not allow run-off from fire fighting 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:

Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.

6.2 Environmental Precautions:

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

6.3 Methods and Material for Containment and Cleaning Up:

Approach suspected leak area with caution. Cover with an inert absorbent material and collect into an appropriate chemical waste container for disposal.

6.4 Reference to Other Sections:

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

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. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Use personal protective equipment. When using, do not eat, drink or smoke.

7.2 Conditions for Safe Storage, Including any Incompatibilities: 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

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8.1 Control Parameters:

Chemical Name	Exposure Limits
Aliphatic amines	6 mg/m ³ TWA WEEL; 1 ppm

8.2 Engineering Measures:

Ventilation: Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Eye Wash/Safety Showers: Provide readily accessible eye wash stations and safety showers.

Personal Protective Equipment:

Respiratory Protection: 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 respirators. Wear appropriate respirator when ventilation is inadequate.

Skin Protection: Impervious clothing. Full rubber suit, (rain gear), slicker suit. Rubber or plastic boots. Impervious chemical resistant gloves are required. Contact your glove supplier for selection assistance.

Eye Protection: Chemical safety goggles and a face shield are recommended.

Other Protective Equipment: Impervious clothing as needed to avoid skin contact and contamination of personal clothing. An eye wash facility and safety shower should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic Physical and Chemical Properties:

Appearance: Amber liquid	Water Solubility: No data available
Odor: Ammonia like odor	Relative vapour density: Not applicable
Odor Threshold: No data available	Relative density: No data available
pH: Alkaline	Partition coefficient (n-octanol:water): No data available
Melting Point/Freezing Point: No data available	Autoignition Temperature: No data available
Boiling Point: >212°F (>100°C)	Decomposition Temperature: No data available
Flash Point: 200°F (>93.4°C)	Viscosity: 2,000 – 3500 mPa.s at 77°F (25°C)
Evaporation Rate: No data available	Molecular Weight: No data available
Flammable Limits: Not applicable	Density: 63.052 lb/ft ³ (1.01 g/cm ³) at 70°F (21°C)
Vapor Pressure: 10.37mmHg at 70°F (21°C)	

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No data available.

10.2 Chemical Stability: Stable under normal storage and handling conditions.

10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur. 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. Product may slowly corrode copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

10.4 Conditions to Avoid: No data available.

10.5 Materials to Avoid: Reactive metals (e.g. sodium, calcium, zinc etc.). 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 (e.g. acetic acid, citric acid etc.). Mineral acids. Sodium hypochlorite. Product slowly corrodes copper,

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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: Combustion will produce oxides of carbon and nitrogen, ammonia, nitric acid, nitrosamine, smoke and hydrocarbons. Aldehydes. Flammable hydrocarbon fragments.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

Eye: Corneal edema may give rise to a perception of “blue haze” or “fog” around lights. Exposed individuals may see rings around bright lights. This effect is temporary and has no known residual effect. Product vapour can cause glaucoma (corneal edema) when absorbed into the tissue of the eye from the atmosphere. Causes eye burns. May cause blindness.

Skin: Causes skin burns. If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.

Inhalation: This product presents an elevated inhalation health risk when used in spray or aerosol applications. Harmful if inhaled and may cause delayed lung injury. Can cause severe eye, skin and respiratory tract burns. Risk of serious damage to the lungs (by inhalation). May cause nose, throat, and lung irritation. Inhalation of aerosol may cause irritation to the upper respiratory tract. May cause central nervous system effects such as, headaches, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. In high concentrations, may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.

Ingestion: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: No data available.

Acute Toxicity Values:

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

Cycloaliphatic amine: Oral rat LD50-625 mg/kg; Skin rabbit LD50-2110 mg/kg

Aliphatic amines: Oral rat LD50-1716 mg/kg; Skin rabbit LD50-1465 mg/kg

Skin corrosion/irritation: No data available.

Eye damage/irritation: No data available.

Respiratory Irritation: No data available.

Respiratory Sensitization: No data available.

Skin Sensitization: May cause sensitization of susceptible persons by skin contact. Dermal sensitization to this product or component of this product has been found to cause mild skin sensitization in guinea pigs. Sensitization has occurred in laboratory animals after repeated exposures.

Germ Cell Mutagenicity: This product or a component was mutagenic in a bacterial assay. This product or a component did not cause chromosome damage in an in vivo micronucleus assay.

Carcinogenicity: No data available.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity:

Single Exposure: No data available

Repeat Exposure: No data available.

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Aspiration Hazard: No data available.

Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. May cause allergic skin reaction. Eye disease. Skin disorders and allergies. Asthma. Neurological disorders. Liver disorders.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

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

Cycloaliphatic amine: 96 hr LC0 Golden orfe (*Leuciscus idus*)- 46 mg/L; 96 hr LC50 Golden orfe (*Leuciscus idus*)- >100 mg/L; 48 hr EC50 *Daphnia magna*-6.84 mg/L; 72 hr EC50 *Algea*- 140-200 mg/L

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: Not applicable

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Waste from residues/unused products: Contact supplier if guidance is required.

Contaminated Packaging: Dispose in accordance with all local, state and federal regulations.

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	UN2735	Amines, liquid, corrosive, n.o.s., (Cycloaliphatic amine, Aliphatic amines)	8	PG III	No
Canadian TDG	UN2735	Amines, liquid, corrosive, n.o.s., (Cycloaliphatic amine, Aliphatic amines)	8	PG III	No
EU ADR/RID	UN2735	Amines, liquid, corrosive, n.o.s., (Cycloaliphatic amine, Aliphatic amines)	8	PG III	No
IMDG	UN2735	Amines, liquid, corrosive, n.o.s., (Cycloaliphatic amine, Aliphatic amines)	8	PG III	No
IATA/ICAO	UN2735	Amines, liquid, corrosive, n.o.s., (Cycloaliphatic amine, Aliphatic amines)	8	PG III	No

SECTION 15: REGULATORY INFORMATION

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

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U.S. FEDERAL REGULATIONS:

Toxic Substance Control Act (TSCA) 12(b) Components(s): None

SARA TITLE III:

Hazard Category for Section 312: Acute Health

Section 313 Toxic Chemicals: None

STATE REGULATIONS:

California Proposition 65: This product does not contain substances known in the State of California to cause cancer and/or reproductive harm.

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:
12/14/16: New SDS

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

- Eye Dam. Cat 1 Eye Damage Category 1
- Skin Corr. Cat 1B Skin Corrosion Category 1B
- Skin Corr. Cat 1C Skin Corrosion Category 1C
- Skin Sens. Cat 1 Skin Sensitization Category 1
- Specific Target Organ Toxicity Repeated Exposure Oral Category 2
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H373a May cause damage to organs through prolonged or repeated exposure if swallowed.

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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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