

**TESLA NANO COATINGS, 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® 3100 Low VOC CNT Epoxy Topcoat – Part A

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.
Mylarintie 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:

Flammable Liquid Category 2 (H225)
Eye Irritant Category 2 (H319)
Skin Irritant Category 2 (H315)
Skin Sensitizer Category 1 (H317)
Aquatic Chronic Toxicity Category 2 (H411)

EU Classification:

Highly Flammable (F), Irritant (Xi), Dangerous for the Environment (N) R11, R36/38, R43, R51/53

2.2 Label Elements:

Danger!



Contains: Epoxy Resin, Tert-Butyl Acetate

Hazard Phrases

H225	Highly flammable liquid and vapour.
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H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Phrases

P210	Keep away from heat, sparks, open flames, and hot surfaces. –No smoking.
P233	Keep container tightly closed.
P240	Ground or bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating, or lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing mist, vapours, or spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the work place.
P273	Avoid release to the environment.
P280	Wear protective gloves, 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.
P337 + P313	If eye irritation persists: Get medical advice or attention.
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.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P370 + P378	In case of fire: Use water fog or spray, universal foam, carbon dioxide or dry chemical to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture:

Chemical Name	CAS#	EINECS#	EU Classification (67/548/EEC)	CLP Annex VI Classification	%
Titanium dioxide	13463-67-7	236-675-5	No EU Classification or R phrase	No GHS Classification	20-35
Epoxy Resin	25068-38-6	500-033-5	Xi, N R36/38, R43, R51/53	Skin Irrit. Cat 2 (H315), Eye Irrit. Cat 2 (H319), Skin Sens. Cat 1 (H317), Aq. Chronic Cat 2 (H411)	15-30
Talc	14807-96-6	238-877-9	No EU Classification or R phrase	No GHS Classification	15-25
Tert-Butyl Acetate	540-88-5	208-760-7	F R11, R66	Flam. Liq. Cat 2 (H225) EUH066	10-20

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Trimethylbenzene	25551-13-7	247-099-9	Xi, Xn R10, R21/22, R36/38	Flam. Liq. Cat 3 (H226), Acute Tox. Cat 4 (H302, H312), Skin Irrit. Cat 2 (H315), Eye Irrit. Cat 2 (H319)	<5
1,2,4-Trimethylbenzene	95-63-6	202-436-9	Xi, Xn, N R10, R20, R36/37/38, R51/53	Flam. Liq. Cat 3 (H226), Acute Tox. Cat 4 (H332), Skin Irrit. Cat 2 (H315), Eye Irrit. Cat 2 (H319), STOT SE Cat 3 (H335), Aq. Chronic Cat 2 (H411)	<5

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

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures:

Eye: Immediately rinse thoroughly with water for at least 15 minutes, while holding the eye lids open to be sure the material is washed out. Get medical attention if irritation persists.

Skin: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or rash occurs. Launder clothing before re-use.

Inhalation: Remove victim to fresh air. Give artificial respiration if needed. Get medical attention if you feel unwell.

Ingestion: If the victim is conscious, give 1-2 glasses of water to dilute. Do not induce vomiting unless directed to do so by medical personnel. If irritation or discomfort occurs, get medical attention.

4.2 Most Important symptoms and effects, both acute and delayed: May cause moderate eye and skin irritation. May cause respiratory irritation. May cause skin sensitization. Refer to Section 11 for detailed information.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical attention should not be required.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media: Use water fog or spray, universal foam, carbon dioxide or dry chemical.

5.2 Special Hazards Arising from the Substance or Mixture:

Unusual Fire and Explosion Hazards: Highly flammable liquid and vapor. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Vapors may form explosive mixtures with air in confined areas.

Combustion Products: Oxides of carbon, smoke and hydrocarbons.

5.3 Advice for Fire-Fighters:

Wear an approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water. Contain water used in firefighting from entering sewers or natural waterways.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Evacuate spill area and keep unprotected personnel away. Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Use non-sparking tools and equipment. Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed. Ventilate area with explosion proof equipment.

6.2 Environmental Precautions:

Avoid releases to the environment. Report spills and releases as required to appropriate authorities.

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6.3 Methods and Material for Containment and Cleaning Up:

Cover with an inert absorbent material and collect into an appropriate container for disposal. Use only non-sparking tools. Dispose of any contaminated cleaning materials in a sealed container.

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: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, dry, well-ventilated location away from oxidizing agents and other incompatible materials. Keep containers closed when not in use.

7.3 Specific end use(s): Industrial use only

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	Exposure Limits
Epoxy Resin	None Established
Talc (containing no asbestos fibers)	2 mg/m ³ (Respirable) TWA ACGIH TLV 20 mppcf TWA OSHA PEL (containing <1% quartz) 1 mg/m ³ (Respirable aerosol) TWA UK WEL
Tert-Butyl Acetate	200 ppm TWA ACGIH TLV 200 ppm TWA OSHA PEL 50 ppm TWA, 200 ppm STEL DFG MAK 200 ppm TWA, 250 ppm STEL UK WEL
Trimethylbenzene (As Trimethyl benzene, all isomers)	25 ppm TWA ACGIH TLV 20 ppm TWA, 40 ppm STEL DFG MAK 20 ppm TWA EU OEL 25 ppm TWA UK WEL
1,2,4-Trimethylbenzene (As Trimethyl benzene, all isomers)	25 ppm TWA ACGIH TLV 20 ppm TWA, 40 ppm STEL DFG MAK 20 ppm TWA EU OEL 25 ppm TWA UK WEL

8.2 Exposure Controls:

Ventilation: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

Personal Protective Equipment:

Respiratory Protection: In operations where the occupational exposure limits are exceeded, an approved respirator with applicable cartridges or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice. For paint mixing, tight fitting elastomeric half-mask respirators with combination cartridges designed to reduce exposure to organic vapors are appropriate. For blaster and painters, supplied-air respiratory protection (e.g., PAPR) or tight fitting

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elastomeric half-mask respirators with combination cartridges designed to reduce exposure to particulates and organic vapors are appropriate.

Skin Protection: Impervious gloves such as nitrile rubber are recommended to prevent skin contact. Contact your glove supplier for selection assistance.

Eye Protection: Chemical safety goggles 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: Black liquid	Vapor Density: No data available
Odor: Mild odor	Specific Gravity: 1.295
Odor Threshold: No data available	Solubility: No data available
pH: Not available	Octanol/Water Partition Coefficient: No data available
Melting Point/Freezing Point: No data available	Autoignition Temperature: No data available
Boiling Point: 208.0°F (97.8°C) (Tert-Butyl Acetate)	Decomposition Temperature: No data available
Flash Point: 40°F (4.4°C) (Tert-Butyl Acetate)	Viscosity: No data available
Evaporation Rate: Faster than n-Butyl Acetate	Explosive Properties: Not explosive
Flammable Limits: LEL: 1.0% UEL: 7.0%	Oxidizing Properties: Not an oxidizer
Vapor Pressure: No data available	Relative Density: No data available
Molecular Formula: Mixture	Flammability (solid, gas): Not applicable
Molecular Weight: Mixture	

9.2 Other Information: VOC: 0.51 lbs/gal / 61.2 g/L (calculated on non-exempt (US EPA) solvent basis), % Volatile weight: 24.8%, % Volatile volume: 37.1%

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Not reactive.

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

10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4 Conditions to Avoid: Keep away from heat, sparks, flames and other sources of ignition.

10.5 Incompatible Materials: Strong oxidizing, acids, and alkalis.

10.6 Hazardous Decomposition Products: Combustion will produce oxides of carbon, smoke and hydrocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

Eye: May cause moderate eye irritation. Corneal injury is unlikely.

Skin: Product may cause moderate irritation, defatting and dermatitis. May cause allergic skin reaction (sensitization).

Inhalation: Inhalation of vapors or mists may cause mucous membrane and respiratory tract irritation, dizziness, weakness, fatigue nausea and headache.

Ingestion: Swallowing may cause gastrointestinal irritation.

Chronic Hazards: None known.

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Acute Toxicity Values:

Epoxy Resin: Oral rat LD50->2000 mg/kg; Skin rat LD50- >2000 mg/kg
Talc: No toxicity data available
Tert-Butyl Acetate: Oral rat LD50-4500 mg/kg; Inhalation rat LC50-12.52 mg/L/4hr; Skin rabbit LD50->2000 mg/kg
Trimethylbenzene: Oral rat LD50-8970 mg/kg
1,2,4-Trimethylbenzene: Oral rat LD50-3280 mg/kg; Inhalation rat LC50- 10.2 mg/L/4hr; Skin rabbit LD50->2000 mg/kg

Skin corrosion/irritation: No data available for the mixture. This product is classified as a skin irritant.

Eye damage/irritation: No data available for the mixture. This product is classified as an eye irritant.

Respiratory Irritation: No data available for the mixture.

Respiratory Sensitization: No data available.

Skin Sensitization: No data available for the mixture. This product is classified as a skin sensitizer.

Germ Cell Mutagenicity: No data available.

Carcinogenicity: None of the components of this product listed at greater than 0.1% are listed as carcinogens by OSHA, IARC, NTP, ACGIH and the EU CLP.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity:

Single Exposure: No data available

Repeat Exposure: No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:

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

Epoxy Resin: 96 hr LC50 Rainbow trout-1.2 mg/L; 48 hr EC50 Daphna magna- 1.1-2.8 mg/L
Talc: 24 hr LC50 Zebra fish- >100 g/L
Tert-Butyl Acetate: 96 hr LC50 Rainbow trout- 240 mg/L; 48 hr EC50 Daphnia magna- 350 mg/L; 72 hr EC50 Green algae – 16 mg/L, 96 hr EC50 Green algae – 64 mg/L (NOEC- 2.3 mg/L)
Trimethylbenzene: 96 hr LC50 Bluegill sunfish- 5.0 mg/L
1,2,4-Trimethylbenzene: 96hr LC50 Fathead minnow – 7.72 mg/L; 48 hr EC50 Daphnia magna- 3.6 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

Trade Name:	TESLAN® 3100n Low VOC Epoxy CNT Topcoat – Part A
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13.1 Waste Treatment Methods:

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	UN1263	Paint*	3	PG III	No
Canadian TDG	UN1263	Paint	3	PG III	No
EU ADR/RID	UN1263	Paint	3	PG III	Marine Pollutant
IMDG	UN1263	Paint	3	PG III	Marine Pollutant
IATA/ICAO	UN1263	Paint	3	PG III	No

* Hazardous Substance (49CFR172.101): Tert-Butyl Acetate (RQ 5,000 lbs) (25,000 lbs. product)

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:

CERCLA 103 Reportable Quantity: This product has an RQ of 25,000 lbs. (based on the RQ of Tert-Butyl Acetate of 5,000 lbs. present at 10-20%). Some states have more stringent reporting requirements. Report all spills in accordance with local, state, and federal regulations.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Fire Hazard

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

1,2,4-trimethylbenzene	95-63-6	<5%
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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:

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

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SECTION 16: OTHER INFORMATION

HMIS Ratings: Health - 2 Flammability - 3 Physical Hazard - 0
NFPA Ratings: Health - 2 Flammability - 3 Instability - 0

SDS Revision History:

- 5/29/14: New SDS
- 2/29/16: Revised/Updated SDS
- 7/30/19: Revised/Updated SDS
- 9/20/19: Revised/Updated SDS

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

- Acute Tox. Cat 4 Acute Toxicity Category 4
- Aq. Chronic Cat 2 Aquatic Chronic Toxicity Category 2
- Eye Irrit. Cat 2A Eye Irritant Category 2A
- Flam. Liq. Cat 2 Flammable Liquid Category 2
- Flam. Liq. Cat 3 Flammable Liquid Category 3
- Skin Irrit. Cat 2 Skin Irritant Category 2
- Skin Sens. Cat 1 Skin Sensitizer Category 1
- STOT SE Cat 3 Specific Target Organ Toxicity Single Exposure Category 3
- H225 Highly flammable liquid and vapor.
- H226 Flammable liquid and vapor.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H411 Toxic to aquatic life with long lasting effects.
- EUH066 Repeated exposure may cause skin dryness or cracking.

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

- F Highly flammable
- N Dangerous for the Environment.
- Xi Irritant
- Xn Harmful
- R10 Flammable
- R11 Highly flammable
- R20 Harmful by inhalation.
- R21/22 Harmful in contact with skin and if swallowed.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R36/38 Irritating to eyes and skin.
- R43 May cause sensitization by skin contact.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R66 Repeated exposure may cause skin dryness or cracking.

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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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