



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

1. Identification

1.1. Product identifier

Product Identity Nano-Clear[®] NCI for Industrial Applications
Alternate Names Nano-Clear[®] NCI for Industrial Applications, Polyurethane Hybrid
Product Identifier: NCI

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

Intended use Industrial Paint
Application Method See Technical Data Sheet

1.3. Details of the supplier of the safety data sheet

Company Name Nanovere Technologies, LLC.
4023 S. Old US 23
Brighton, MI 48114

Contact Information

Medical or Transportation * Emergency Only:

CHEMTREC +1.800.424.9300

- * Chemical Emergency ONLY (spill, leak, fire, exposure, or accident). Available: 24 / 7

Customer Service / Non-Emergency Inquiries:

Nanovere Technologies, LLC. +1.810.227.0077

2. Hazard(s) Identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3;H226 Flammable liquid and vapor.
Asp. Tox. 1;H304 May be fatal if swallowed and enters airways.

2.2. Label elements

According to Regulation (EC) No 1272/2008



DANGER

H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

[Prevention]:

- P210 Keep away from heat, sparks, open flames, and other ignition sources - No smoking.
- P233 Keep container tightly closed.
- P240 Ground, bond container and receiving equipment.
- P241 Use explosion-proof electrical, ventilating, light, equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P280 Wear protective gloves, eye protection, face protection.

[Response]:

- P301+310 IF SWALLOWED: Immediately call a POISON CENTER, doctor or physician.
- P303+361+353 IF ON SKIN (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower.
- P312 Call a POISON CENTER, doctor or physician if you feel unwell.
- P331 Do NOT induce vomiting.
- P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

- P403+235 Store in a well ventilated place. Keep cool.
- P405 Store locked up.

[Disposal]:

- P501 Dispose of contents or container in accordance with local and national regulations.

2.3. Other Hazards:

This product contains no PBT/vPvB chemicals.

3. Composition/Information on Ingredients

3.2. Mixtures

If the product contains substances that present a hazard according to Regulation (EC) No. 1272/2008 [CLP/GHS] (as amended by (EU) 2015/830), they are listed below.

Ingredient/Chemical Designations	Weight %	EC No. 1272/2008 Classification*	Notes
Tert-Butyl Acetate CAS Number: 0000540-88-5 EC No.: 208-760-7 Index No.: 607-026-00-7	50 - 75	Flam. Liq. 2;H225	C [^] CLP 3.1 [1] [2]
Polyurethane Hybrid CAS Number: Proprietary EC No.: Index No.:	25 - 50	Not Classified	[1]
Solvent naphtha (petroleum), light aromatic CAS Number: 0064742-95-6 EC No.: 265-199-0 Index No.: 649-356-00-4	10 - 25	Asp. Tox. 1:H304	H; P [^] CLP 3.1 [1]



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

^{^CLP 31} Reference EC No. 1272/2008 1.1.3.1. Notes relating to the identification, classification and labelling of substances (Table 3.1).

In accordance with paragraph(i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First Aid Measures

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Not defined.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

Overview There are no data available on the preparation itself. The preparation has been assessed following the conventional method and classified for toxicological hazards accordingly. Contains Hexamethylene diisocyanate oligomers. May produce an allergic reaction. See sections 3 and 15 for details Treat symptomatically. See section 2 for further details.

Skin May be harmful in contact with skin.

Ingestion May be fatal if swallowed and enters airways.

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

Notes to physician Treat symptomatically.

5. Fire-fighting Measures

5.1. Extinguishing media

Dry chemical (monoammonium phosphate, potassium sulphate and potassium chloride), carbon dioxide, high expansion chemical foam and sand (never use water).



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

5.2. Special hazards arising from the substance or mixture

Exclude sources of ignition and ventilate area Avoid breathing vapor or mist Refer to protective measures listed in sections 7 and 8.

Hazardous decomposition: Under normal conditions of storage and use, hazardous decomposition products should not be produced. The product slowly reacts with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and in extreme cases bursting of the container.

Do not allow to enter drains or water courses.

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

Keep container tightly closed.

Ground, bond container and receiving equipment.

Use explosion-proof electrical, ventilating, light, equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

5.3. Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

May form toxic isocyanate vapors if heated Fire will produce dense black smoke; Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates. Exposure to decomposition products may cause a health hazard.

As in any fire wear self-contained breathing apparatus pressure demand, MSHS / NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

Exclude sources of ignition and ventilate area Avoid breathing vapor or mist Refer to protective measures listed in sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or water courses.

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

6.3. Methods and material for containment and cleaning up

Exclude sources of ignition and ventilate area Avoid breathing vapor or mist Refer to protective measures listed in sections 7 and 8.

Ventilate area, absorb spill with appropriate absorbent material (sand, earth, vermiculite or diatomaceous earth and place in a close container Cleanup the area immediately with a non-flammable decontaminant comprising (by volume) 5 parts of sodium carbonate and 95 parts water. Take note of any information in section 8 for suitable and unsuitable materials to contain spillage and also refer for additional information on hygiene measures..

6.4. Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

7. Handling and Storage

7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Avoid contact with skin & eyes. Avoid inhalation of dust, particulates, spray or mist arising from the application of the preparation.

Prevent creation of flammable or explosive concentrations of vapors in air (keep the containers tightly closed). Avoid exposure to moisture while opening & re-opening the containers / drums.

Use protected electrical equipment and appropriate techniques to dissipate static electricity during transfer. Keep away from heat sparks and flame.

Eating, drinking and smoking should be strictly prohibited in areas where this material is handled stored and processed.

Always put on appropriate protective equipment while handling.

Comply with the health and safety at work laws.

Vapors are heavier than air and may spread along floors and may form explosive mixtures with air.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Keep away from oxidizing agents, strong alkalis and strong acids.

Observe label precautions. Store in a dry, cool and well-ventilated area.

Keep away from heat and direct sunlight (Do Not store above 40°C).

Keep away from sources of ignition. Containers that have been opened must be carefully closed air-tight and kept upright to prevent leakage and exposure to atmospheric moisture.

Other precautions:

Isocyanate compounds may react violently with water, alcohols, glycols, and strong bases. Violent container rupture may result if this material is placed in a closed container with other reactive materials.



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

Incompatible materials:

Keep away from: Oxidizing agents, strong alkalis, strong acids, amines, alcohols and water. Uncontrolled exothermic reactions occur with amines and alcohols.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure Controls and Personal Protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0000540-88-5	Tert-Butyl Acetate	OSHA	TWA 200 ppm (950 mg/m ³)
		ACGIH	TWA 200 ppm
		NIOSH	TWA 200 ppm (950 mg/m ³)
0064742-95-6	Solvent naphtha (petroleum), light aromatic	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
Proprietary	Polyurethane Hybrid	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit

8.2. Exposure controls

Respiratory

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Eyes

Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered to a minimum.

Hand Protection Description: Barrier Creams can be used prior to exposure. Wear appropriate protective gloves.

Consult glove manufacturer's data for permeability data.

Skin

A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, spray painting, or any other circumstances where air purifying respirators may not provide adequate protection.

Engineering Controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

Other Work Practices Eyewash and deluge shower should be available. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See Section 2 for further details.

9. Physical and Chemical Properties

Appearance	Clear Liquid
Odor	Solvent Odor
Odor threshold	Not Determined
pH	Not Measured
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	135 - 142°C (275 - 288°F)
Flash Point	35°F (95°F)
Evaporation rate (Ether = 1)	Slower than n-Butyl Acetate
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Lower: 1.26% Upper Explosive Limit: Uppder: 6.88% (t-Butyl acetate)
Vapor pressure (Pa)	Not Measured
Vapor Density	Heavier than air
Relative density	0.98 - 0.99
Solubility in Water	Not Measured
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
VOC Content	1.25 lbs / gallon
Percent Volatile (by volume)	65% By Volume
Flammability	Flammable liquid. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back.
Specific Gravity D792	0.96 g/ml
Weight per gallon	8.0 lbs

9.2. Other information

No other relevant information.



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

10. Stability and Reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Exposure to direct heat / sunlight (Do not allow exposure to temperatures above 40°C). In case of fire, hazardous decomposition products may be produced.

10.5. Incompatible materials

Keep away from: Oxidizing agents, strong alkalis, strong acids, amines, alcohols and water. Uncontrolled exothermic reactions occur with amines and alcohols.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. The product slowly reacts with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and in extreme cases bursting of the container.

11. Toxicological Information

Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Tert-Butyl Acetate - (540-88-5)	4,100.00, Rat - Category: 5	2,000.00, Rabbit - Category: 4	No data available	No data available	No data available
Solvent naphtha (petroleum), light aromatic - (64742-95-6)	6,800.00, Rat - Category: NA	3,400.00, Rabbit - Category: 5	No data available	No data available	No data available
Polyurethane Hybrid - (Proprietary)	No data available	No data available	No data available	No data available	No data available



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

Carcinogen Data

CAS No.	Ingredient	Source	Value
0000540-88-5	Tert-Butyl Acetate	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit
0064742-95-6	Solvent naphtha (petroleum), light aromatic	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit
Proprietary	Polyurethane Hybrid	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	No Established Limit

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	5	May be harmful in contact with skin. (Not adopted by EU CLP)
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	1	May be fatal if swallowed and enters airways.



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

12. Ecological Information

12.1. Toxicity

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and GHS and is not classified as dangerous for the environment, but contains substance(s) dangerous for the environment. See section 3 for details.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l	3hr IC50 Bacteria mg/l	Biodegradability %
Tert-Butyl Acetate - (540-88-5)	327.00, Pimephales promelas	Not Available	1,300.00 (24 hr), Chlorococcales	---	---
Solvent naphtha (petroleum), light aromatic - (64742-95-6)	9.22, Oncorhynchus mykiss	6.14, Daphnia magna	19.00 (72 hr), Selenastrum capricornutum	---	---
Polyurethane Hybrid - (Proprietary)	Not Available	Not Available	Not Available	---	---

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal Considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

14. Transport Information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN1263	UN1263	UN1263
14.2. UN proper shipping name	UN1263, Paint, 3, III	Paint	Paint
14.3. Transport hazard class(es)	DOT Hazard Class: 3	IMDG: 3 Sub Class: Not Applicable	Air Class: 3
14.4. Packing group	III	III	III

14.5. Environmental Hazards IMDG

Marine Pollutant: No;

14.6. Special precautions for user

Not Applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable

15. Regulatory Information

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

EU Legislation

REGULATION (EU) 2015/830 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

National Legislation

None noted.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out



SAFETY DATA SHEET

NANO-CLEAR[®] FOR INDUSTRIAL APPLICATIONS

SDS Revision Date: July 24, 2019

16. Other Information

SDS Revision Date 07/24/2022

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

H304 May be fatal if swallowed and enters airways.

The information contained herein is furnished without warranty of any kind. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers

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