

SECTION 1: PRODUCT & COMPANY IDENTIFICATION

1.1 Product Identifiers

Product Name: NANOMYTE® MEND 3000-UVP (Part A)
 CAS Number: A CAS number has not been assigned to this material

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

This product is intended for use as a self-healing coating for plastics, metals, and other surfaces.

1.3 Details of the Supplier of the Safety Data Sheet

Company: NEI Corporation
 Address: 400 Apgar Drive, Unit E | Somerset, NJ 08873 – USA
 Phone: +1 (732) 868-3141 Fax: +1 (732) 868-3143
 Email: productinfo@neicorporation.com

1.4 Emergency Telephone Numbers

Manufacturer: +1 (732) 868-3142 (9am to 6pm EST / UTC -0500)
 U.S. Poison Control Center: +1 (800) 222-1222
 ChemTel (North America): +1 (800) 255-3924 (during transportation only)
 ChemTel (International): +1 (813) 248-0585 (during transportation only – collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225 – Toluene, Ethylbenzene, Methyl methacrylate
 Aspiration hazard (Category 1), H304 – Toluene, Ethylbenzene, Naptha
 Skin irritation (Category 2), H315 – Toluene, Methyl methacrylate
 Skin sensitization (Category 1), H317 – Methyl methacrylate
 Acute toxicity, Inhalation (Category 4), H332 – Ethylbenzene
 Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336 – Toluene
 Germ cell mutagenicity (Category 1B), H340 – Naptha
 Carcinogenicity (Category 2), H351 – Ethylbenzene
 Reproductive toxicity (Category 2), H361 – Toluene
 Specific target organ toxicity - repeated exposure (Category 2), H373 – Toluene, Ethylbenzene
 Acute aquatic toxicity (Category 2), H401 – Toluene, Ethylbenzene
 Acute aquatic toxicity (Category 3), H402 – Methyl methacrylate
 Chronic aquatic toxicity (Category 3), H412 – Ethylbenzene

2.2 GHS Label elements, including precautionary statements

Pictogram(s): 

Signal Word: Danger

Hazard Statement(s):

H225 Highly flammable liquid and vapor
 H304 May be fatal if swallowed and enters airways
 H315 Causes skin irritation
 H317 May cause an allergic skin reaction
 H332 Harmful if inhaled
 H336 May cause drowsiness or dizziness
 H340 May cause genetic defects

- H351 Suspected of causing cancer
- H361 Suspected of damaging fertility or the unborn child
- H373 May cause damage to organs through prolonged or repeated exposure
- H401 Toxic to aquatic life
- H402 Harmful to aquatic life
- H412 Harmful to aquatic life with long lasting effects

Precautionary Statement(s):

- P202 Do not handle until all safety precautions have been read and understood
- P210 Keep away from heat / sparks / open flames / hot surfaces — no smoking
- P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment
- P243 Take precautionary measures against static discharge
- P260 Do not breathe dust / fume / gas / mist / vapors / spray
- P264 Wash hands thoroughly after handling
- P272 Contaminated work clothing should not be allowed out of the workplace
- P273 Avoid release to the environment
- P280 Wear protective gloves, protective clothing, eye protection, face protection
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- P303 + P361 + P353 IF ON SKIN (or hair): Remove / take off immediately all contaminated clothing. Rinse skin with water / shower.
- P304 + P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
- P314 Get medical advice/attention if you feel unwell
- P308 + P313 If exposed or concerned: Get medical advice/attention.
- P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention
- P362 Take off contaminated clothing and wash before reuse
- P363 Wash contaminated clothing before reuse
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up
- P412 Store at temperatures not exceeding 5 °C / 41 °F. Keep cool.
- P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Component Name	CAS #	Concentration
Toluene	108-88-3	35 – 40 wt%
Acrylic polymers	n/a	20 – 30 wt%
Propylene Glycol Monomethyl Ether Acetate [PGMEA]	108-65-6	12 – 18 wt%
NEI proprietary	Proprietary	10 – 15 wt%
Ethylbenzene	100-41-4	6 – 9 wt%
Naphtha	8030-30-6	4 – 6 wt%
Methyl Methacrylate	80-62-6	< 1 wt%
Residual monomers	n/a	< 1900 ppm

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice:

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

After Inhalation:

If breathed in, move person into fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

After Skin Contact:

Wash off with soap and plenty of water. Seek medical attention.

After Eye Contact:

Flush eyes with water as a precaution. Seek medical attention if irritation persists.

After Swallowing:

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek immediate medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in section 2 and/or in section 11.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

No Data Available (Note to physician - In acute cases of naphtha overexposure or ingestion, patients should be evaluated for signs of respiratory distress. Careful gastric lavage may be indicated.)

SECTION 5: FIREFIGHTING MEASURES

5.1 Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2 Special Hazards Arising from the Substance or Mixture

Carbon oxides

5.3 Advice for Firefighters

Wear self-contained breathing apparatus for firefighting if necessary. Do not breathe smoke, gases, or vapors generated.

5.4 Other Information

Use water spray to cool unopened containers. Vapors may cause a flash fire or ignite explosively.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Contains a potential sensitizer. For personal protection, see section 8.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided – contains components toxic to aquatic life.

6.3 Methods and Materials for Containment and Cleaning Up

Dike area to prevent spreading. Absorb on vermiculite, sand or other inert absorbing material. Dispose of as a chemical waste in accordance with current local, state and federal regulations.

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite), and then collect with an electrically protected vacuum cleaner or by wet-brushing. Transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to Other Sections

For safe handling, see Section 7; for personal protection, see Section 8; for disposal, see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Contains a potential sensitizer! Appropriate personal protective equipment should be used at all times. Provide good ventilation or extraction. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapor or mist. Keep away from heat, sparks, flames and other sources of ignition – no smoking. Take measures to prevent the buildup of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for Safe Storage (including any incompatibilities)

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Ambient temperature storage is preferred; avoid temperature extremes. Avoid contamination with incompatible materials. Keep away from heat, sparks, flames and other sources of ignition. Residual vapors might explode on ignition. Do not apply heat, cut, drill, and grind or weld on or near this container. Storage class (TRGS 510): Flammable liquids

7.3 Specific End Uses

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Components with workplace control parameters

Component Name	CAS #	Value	OSHA (OEL)	ACGIH (TLV)	NIOSH (REL)
Toluene	108-88-3	TWA	200 ppm (PEL)	20 ppm (75 mg/m ³)	100 ppm (375 mg/m ³)
Ethylbenzene	100-41-4	TWA	100 ppm (435 mg/m ³)	20 ppm (87 mg/m ³)	100 ppm (435 mg/m ³)
Naphtha	8030-30-6	TWA	100 ppm (400 mg/m ³)	n/a	100 ppm (400 mg/m ³)
Methyl Methacrylate	80-62-6	TWA	100 ppm (410 mg/m ³)	50 ppm (205 mg/m ³)	100 ppm (410 mg/m ³)

Component Name	CAS #	Value	Parameter	Basis
PGMEA	108-65-6	TWA	50 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

Notes: OEL – Occupational Exposure Limit; TLV – Threshold Limit Values; REL – Recommended Exposure Limits

8.2 Exposure Controls

Appropriate Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. Keep away from food and beverages. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and end of workday. Provide appropriate ventilation.

Personal Protective Equipment

Respiratory Protection:

Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with appropriate respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye / Face Protection:

Face shield and/or safety glasses should be worn. Use eye protection equipment that is tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand Protection:

Handle with chemical resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands after use.

Skin and Body Protection:

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Control of Environmental Exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Form:	Liquid
Color:	Slight yellow
Odor:	Solvent-like
pH:	No Data Available
Melting point/range:	No Data Available
Density (20 °C):	No Data Available
Viscosity (20 °C):	No Data Available
Boiling Point:	No Data Available
Flashpoint:	No Data Available
Ignition Temperature:	No Data Available
Auto-ignition Temperature:	No Data Available
Lower Explosion Limit:	No Data Available
Upper Explosion Limit:	No Data Available
Vapor Pressure:	No Data Available
Vapor Density:	No Data Available
Evaporation Rate:	No Data Available

9.2 Other Information

Solids Content: 20 – 30%

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No Data Available

10.2 Chemical Stability

Stable under recommended storage conditions (see Section 7.2)

10.3 Possibility of Hazardous Reactions

Vapors may form explosive mixture with air

10.4 Conditions to Avoid

Heat, flames and sparks

10.5 Incompatible Materials

Strong oxidizing agents, strong acids, strong bases

10.6 Hazardous Decomposition Products

No Data Available; in the event of fire, see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. No data is available for the product; data provided is for the individual components, when available, and should not be considered complete.

Acute Toxicity

Oral LD50:	>5,000 mg/kg (Rat) propylene glycol monomethyl ether acetate (PGMEA) and toluene; 7,900 mg/kg (Rat) MM; 3,500 mg/kg (Rat) EB; 5,170 mg/kg (Rat) N
Inhalation LC50:	LCO: 4,345 ppm, 6 h (rat) for PGMEA; Rat - 4 h - 12,500 - 28,800 mg/m ³ for toluene; Rat - 4h - 29.8 mg/ for MM; Rat - 4 h - 17.2 mg/l/4000ppm for EB; Rat - 4 h - >39.6mg/l/12408ppm for N
Dermal LD50:	>2,000 mg/kg (rat) for PGMEA; Rabbit - 12,196 mg/kg for toluene; >5,000 mg/kg Rabbit for MM; 15,500 mg/kg Rabbit for EB; >2,000 mg/kg Rabbit for N
Other Information:	No Data Available

Skin corrosion/irritation

PP: rabbit, 8 hours – slightly irritating; PGMEA: rabbit, non-irritant; Toluene: rabbit, Skin irritation - 24 h; MM: moderate irritation; EB: moderate irritation, with skin burns after prolonged contact; N: irritation

Serious eye damage/eye irritation

PGMEA: rabbit, slightly irritating; Toluene: rabbit, no irritation; MM: slightly irritating; EB: moderate irritation

Respiratory or skin sensitization

PGMEA: Dermal: non-sensitizer (Guinea pig, Magnusson/Kligmann (Maximization Test)); Toluene: No data available; MM: Allergic skin reactions in humans; EB: No allergic skin reactions in humans

Germ cell mutagenicity

PGMEA: Genetic toxicity in vitro: Ames: negative (salmonella typhimurium, Metabolic activation: with/without). Toluene: Rat, liver, DNA damage; EB: Negative;

Carcinogenicity

IARC: Group 3: Not classifiable as to its carcinogenicity to humans (Toluene & Methyl Methacrylate)
Group 2B: Possibly carcinogenic to humans (Ethylbenzene)
Group 1: Carcinogenic to humans (Naptha)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

EB: Causes cancer in animals, but not likely relevant to humans; N: IARC Group 2B – possibly carcinogenic to humans, ACGIH A3 – confirmed animal carcinogen with unknown relevance to humans

Reproductive toxicity

For toluene only:

Damage to fetus possible

Suspected human reproductive toxicant

Reproductive toxicity - Rat - Inhalation

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Experiments have shown reproductive toxicity effects in male and female laboratory animals.

Developmental Toxicity - Rat - Oral

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Teratogenicity

PGMEA: Rat, female, inhalation, 6 hrs/day 7 days/week, NOAEL (teratogenicity): >4,000 ppm, no teratogenic effects observed at doses tested.

Specific target organ toxicity - single exposure (Globally Harmonized System)

No Data Available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No Data Available

Aspiration hazard

MM: may be harmful if swallowed and enters airways; EB: Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. May be fatal if swallowed and enters airways

Other information

May cause an allergic skin reaction and irritation.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

The toxicological properties of this material have not been fully investigated. No data is available for the product; data provided is for the individual components, when available, and should not be considered complete.

Ecological Data for Propylene Glycol Monomethyl Ether Acetate:

Biodegradation

Aerobic, 100 %, Exposure time: 8 Days
Acute and Prolonged Toxicity to Fish
LC50: 161 mg/l (Fathead minnow (Pimephales promelas), 96 h)
Acute Toxicity to Aquatic Invertebrates
EC50: 408 mg/l (Water flea (Daphnia magna), 48 h)

Toxicological Data for Toluene:

Toxicity to fish: LC50 - Oncorhynchus mykiss (rainbow trout) - 7.63 mg/l - 96 h
NOEC - Pimephales promelas (fathead minnow) - 5.44 mg/l - 7 d
Toxicity to daphnia and other aquatic invertebrates:
EC50 - Daphnia magna (Water flea) - 8.00 mg/l - 24 h
Immobilization EC50 - Daphnia magna (Water flea) - 6 mg/l - 48 h
Toxicity to algae:
EC50 - Chlorella vulgaris (Fresh water algae) - 245.00 mg/l - 24 h
EC50 - Pseudokirchneriella subcapitata (green algae) - 10.00 mg/l - 24 h

Toxicological Data for MM:

Acute Toxicity to fish: Slightly toxic to aquatic organisms on an acute basis (LC50/EC50 10-100 mg/L in the most sensitive species tested).

Toxicological Data for EB:

Acute Toxicity to fish: Moderately toxic to aquatic organisms on an acute basis (LC50/EC50 10-10 mg/L in the most sensitive species tested).

Toxicological Data for N:

Acute Toxicity to fish: LC50, Fathead minnow (Pimephales promelas), 96 Hour, 2.5 mg/l, OECD Test Guideline 203.

12.2 Persistence and Degradability

Toluene: Biodegradability Result: - Readily biodegradable; MM: Readily biodegradable; EB: Readily biodegradable.

12.3 Bioaccumulative Potential

Toluene: Bioaccumulation Leuciscus idus (Golden orfe) - 3 d - 0.05 mg/l - Bioconcentration factor (BCF): 90
MM: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
EB: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

12.4 Mobility in Soil

MM: Potential for mobility in soil is high (Koc between 50 and 150)
PGMEA: Potential for mobility in soil is very high (Koc between 0 and 50)
EB: Potential for mobility in soil is low (Koc between 500 and 2000)

12.5 Results of PBT and vPvB Assessment

PBT/vPvB assessment not available as chemical safety assessment not conducted

12.6 Other Adverse Effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Product

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging

Dispose of as unused product and discard container according to proper regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 Department of Transportation (DOT - US)

UN number: 1866 Class: 3 Packing Group: II
Proper Shipping Name: Resin solution, flammable

14.2 International Maritime Dangerous Goods (IMDG)

UN number: 1866 Class: 3 Packing Group: II
 Proper Shipping Name: Resin solution, flammable

14.3 International Air Transport Association (IATA)

UN number: 1866 Class: 3 Packing Group: II
 Proper Shipping Name: Resin solution, flammable

14.4 Other

HS Code (first 6 digits) / HTS-US #: 3208.90.0000

SECTION 15: REGULATORY INFORMATION

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

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

<u>Component Name</u>	<u>CAS #</u>
Toluene	108-88-3
Ethylbenzene	100-41-4
Methyl Methacrylate	80-62-6

SARA 311/312 Hazards

<u>Component Name</u>	<u>CAS #</u>	<u>Hazards</u>
Toluene	108-88-3	Fire Hazard, Acute Health Hazard, Chronic Health Hazard
PGMEA	108-65-6	Fire Hazard, Chronic Health Hazard
Ethylbenzene	100-41-4	Fire Hazard, Chronic Health Hazard
Methyl Methacrylate	80-62-6	Fire Hazard, Acute Health Hazard, Chronic Health Hazard

The following product components are cited on the lists below:

<u>Component</u>	<u>CAS #</u>	<u>List Citations</u>
Toluene	108-88-3	MA, NJ, PA Right to Know
PGMEA	108-65-6	NJ, PA Right to Know
Ethylbenzene	100-41-4	MA, NJ, PA Right to Know
Naphtha	8030-30-6	MA, NJ, PA Right to Know
Methyl Methacrylate	80-62-6	MA, NJ, PA Right to Know

CALIFORNIA PROPOSITION 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Component</u>	<u>CAS #</u>
Toluene	108-88-3
Ethylbenzene	100-41-4

15.2 Chemical Safety Assessment

A chemical safety assessment was not carried out for this product

SECTION 16: OTHER INFORMATION

REACH Number

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

HMIS Classification

Health Hazard: 2

NFPA Rating

Health Hazard: 2

Flammability Hazard: 3

Physical Hazard: 0

Flammability Hazard: 3

Reactivity Hazard: 0

Further Information

NEI has attempted to provide current and accurate information to the best of its knowledge. NEI makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, injury of any kind which may result from or arise out of the use of or reliance on the information by any person. Employers should use this information only as a supplement to other information gathered by them and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.