

Mouldpro ApS
Nano Mold Coating
Remover
Revised: 04-22-2015
Replaces: 02-26-2015

SAFETY DATA SHEET



1. IDENTIFICATION

Product Identifier: Nano Mold Coating Remover
CAS Number: MIXTURE
Recommended Use: Line flush, adhesive cleaning and ink cleaning
Restrictions on Use: No data available.

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2. HAZARD(S) IDENTIFICATION

GHS Classification(s): Serious Eye Damage/Eye Irritation Category 1
Skin Sensitisation Category 1
Skin Corrosion/Irritation Category 2
Flammable Liquid Category 3
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3
Acute Toxicity - Inhalation Vapour Category 4

GHS Label Elements:

GHS Hazard Symbols:



Signal Word: Danger
Hazard Statements: Flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Harmful if inhaled.
May cause respiratory irritation.

Precautionary Statements:

Prevention: Keep away from heat, sparks, open flames and hot surfaces. – No smoking.
Ground and bond container and receiving equipment.
Use explosion-proof electrical, ventilating, and lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust, gas, mist, vapors or spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see First Aid on SDS or on this label).
If skin irritation or rash occurs: Get medical advice or attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use water fog, carbon dioxide, dry chemical to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store in a secure manner.

Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards Not Otherwise Classified: May be harmful or fatal if swallowed and enters airways.

Percentage of Components with Unknown Acute Toxicity:

Inhalation Vapor: 40 %

Inhalation Dust/Mist: 40 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures:

<u>Chemical or Common Name/Synonyms</u>	<u>CAS Number</u>	<u>% by Wt.</u>
D-Limonene	94266-47-4	< 80 %
Ethyl Lactate	97-64-3	< 80 %
Isobutyl Alcohol	78-83-1	< 50 %

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

4. FIRST-AID MEASURES

Description of Necessary Measures:

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove any contact lens at once. Remove contact lens if easy to do.

Skin Contact: If on skin: Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Do not reuse clothing or shoes until cleaned. If irritation develops or persists, get medical attention. Wash with soap and water. Do not apply oils or ointments unless ordered by the physician. Destroy contaminated leather clothing.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If swallowed: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Rinse mouth with fresh water. Do not leave victim unattended.

Most Important Symptoms/Effects, Acute and Delayed:

Eye Contact: Causes severe irritation. Liquid or vapor may cause: pain. burning sensation. tearing. change of vision. moderate corneal injury.

Skin Contact: Causes mild to moderate irritation. May cause skin sensitization. Prolonged or repeated exposure may cause: drying. cracking. skin damage. Contact may cause: crusting. scaling. weeping. itching. May cause more severe response on covered skin (under clothing, gloves).

Skin Absorption: No data available.

Inhalation: May cause moderate irritation. May cause: nasal discomfort and discharge. hoarseness. coughing. chest pain. difficulty breathing. Vapors may cause: nausea. headache. dizziness. drowsiness. central nervous system effects. Prolonged excessive exposure may cause adverse effects. Symptoms of excessive exposure may cause: anesthetic effects. narcotic effects.

Ingestion: May cause mild to severe irritation. May cause irritation of the: mucous membranes. May cause: vomiting. headache. other medical problems. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Indication of Immediate Medical Attention and Special Treatment Needed: There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Maintain adequate ventilation and oxygenation of the patient.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Water fog. Carbon dioxide. Dry chemical. DO NOT use a solid stream of water directly on the fire as the water may spread the fire to a larger area. CAUTION: Carbon dioxide will displace air in confined spaces and may create an oxygen deficient atmosphere.

Specific Hazards Arising from the Chemical:

Fire and Explosion Hazards: FLAMMABLE LIQUID. Vapors are heavier than air. Vapors may settle in low or confined areas, or travel long distances along the ground or surface to an ignition source where they may ignite, flashback, or explode. Keep away from heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment). PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under a vacuum, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Contact with strong oxidizing agents may cause fire. Rags soaked in solvent can present a fire hazard and should be stored in UL listed or Factory Mutual approved, covered containers. Improperly stored rags, under certain conditions can lead to spontaneous combustion. Vapors may cause a flash fire or ignite explosively. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. May form peroxides of unknown stability.

Hazardous Combustion Products: Carbon oxides. Acrid fumes.

Special Protective Equipment and Precautions for Fire-Fighters: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. CAUTION: Spilled material is slippery. Avoid water accumulation. Product may reignite and burn on the water's surface. Do not use direct water stream. May spread fire. Run-off from fire control may cause pollution.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, Emergency Procedures: FLAMMABLE LIQUID. Eliminate all sources of ignition. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit.

Methods and Materials for Containment and Clean Up: Contain spill, place into drums for proper disposal. Soak up residue with non-flammable absorbent material. DO NOT use sawdust or other cellulose-type material. Place in non-leaking containers for immediate disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Ground all equipment and containers before opening to prevent accumulation of static charge. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Launder contaminated clothing before reuse. Air-dry contaminated clothing in a well ventilated area before laundering. Always open containers slowly to allow any excess pressure to vent.

Conditions for Safe Storage, Including any Incompatibilities: FLAMMABLE LIQUID. Store in a cool, well ventilated area away from all sources of ignition and out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Static electricity may accumulate and create a fire hazard. Ground fixed equipment. Bond and ground transfer containers and equipment. May form peroxides of unknown stability. Minimize exposure to air. Store away from light. If peroxide formation is suspected, do not open or move container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
Isobutyl Alcohol	100 ppm TWA; 300 mg/m ³ TWA

ACGIH Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
Isobutyl Alcohol	50 ppm TWA

Note:

* AIHA Standard for Citrus Terpenes: 8h TWA=30 ppm.

Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are required when handling or using this product to avoid overexposure.

Individual Protection Measures:

Eye/Face Protection: Wear chemical safety goggles while handling this product. Wear a full-face respirator, if needed.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved air-purifying respirator with: Organic vapor cartridge. NIOSH-Approved Supplied Air Respirator (SAR). NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Protective clothing. Rubber boots. Launder contaminated clothing and clean protective equipment before reuse. Full chemical suit.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Color: Clear. Colorless to pale yellow.

Odor: Citrus.
Odor Threshold: N.D.
pH: N.D.
Freezing Point (deg. F): N.D.
Melting Point (deg. F): N.D.
Initial Boiling Point or Boiling Range: 236 °F
Flash Point: 101 °F
Flash Point Method: ASTM D 93.
Evaporation Rate (nBuAc = 1): 0.31
Flammability (solid, gas): N.D.
Lower Explosion Limit: N.A.
Upper Explosion Limit: N.A.
Vapor Pressure (mm Hg): ~7 @ 68 F
Vapor Density (air=1): ~3
Specific Gravity or Relative Density: 0.894
Solubility in Water: Partially
Partition Coefficient (n-octanol/water): N.D.
Autoignition Temperature: No Data
Decomposition Temperature: N.D.
Viscosity: N.D.
% Volatile (wt%): 97+
VOC (wt%): 894 g/l
VOC (lbs/gal): 7.49
Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions.

Conditions to Avoid: Avoid contact with heat, sparks, electric arcs, other hot surfaces, and open flames. Avoid static discharges. Avoid other ignition sources. May form peroxides of unknown stability. Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: Strong oxidizing agents. Strong acids. Strong bases. Acidic clays. Peroxides. Halogens. Iodine pentafluoride. Vinyl chloride. Aluminum. Lead.

Hazardous Decomposition Products: Acrid fumes. Oxides of citrus terpenes, which can result from improper storage and handling, are known to cause skin sensitization.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Eyes. Skin. Inhalation. Ingestion.

Symptoms/Effects: Acute, Delayed and Chronic:

Eye Contact: Causes severe irritation. Liquid or vapor may cause: pain. burning sensation. tearing. change of vision. moderate corneal injury.

Skin Contact: Causes mild to moderate irritation. May cause skin sensitization. Prolonged or repeated exposure may cause: drying. cracking. skin damage. Contact may cause: crusting. scaling. weeping. itching. May cause more severe response on covered skin (under clothing, gloves).

Skin Absorption: No data available.

Inhalation: May cause moderate irritation. May cause: nasal discomfort and discharge. hoarseness. coughing. chest pain. difficulty breathing. Vapors may cause: nausea. headache. dizziness. drowsiness. central nervous

system effects. Prolonged excessive exposure may cause adverse effects. Symptoms of excessive exposure may cause: anesthetic effects. narcotic effects.

Ingestion: May cause mild to severe irritation. May cause irritation of the: mucous membranes. May cause: vomiting. headache. other medical problems. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Numerical Measures of Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl Lactate	Rat: > 2000 mg/kg	Rat: > 5000 mg/kg	No Data
D-Limonene	Rabbit: > 5000 mg/kg	Rabbit: > 5000 mg/kg	Mouse: > 1000 mg/kg
Isobutyl Alcohol	Rat: 2500 mg/kg	Rabbit: > 3404 mg/kg	4H Rat: > 8000 ppm

Acute Toxicity Estimate (ATE):

Inhalation Vapor: 19.513 mg/L

Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

Medical Conditions Aggravated by Exposure to Product: Eye disorders. Respiratory system disorders. Skin disorders. Central nervous system disorders.

Other: Effects of Repeated Exposure: In animals, effects have been reported on the following organs: Liver. Central nervous system. Observations in animals include: Anesthetic or narcotic effects.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.

Chemical Fate Information: Biodegradable. This material is not expected to bioaccumulate. Accidental spillage may lead to penetration in the soil and ground water, however there is no evidence that it will cause adverse ecological effects.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D001

Note: When isobutanol is a spent solvent, it is classified as a hazardous waste from a nonspecific source (F005), as stated in 40 CFR 261.31.

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Identification Number: UN1993
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (CONTAINS D-LIMONENE, ISOBUTANOL)
Hazard Class: 3
Packing Group: III
Marine Pollutant: Yes
Label Required: FLAMMABLE
Reportable Quantity (RQ): 5000# (Isobutyl Alcohol)

15. REGULATORY INFORMATION

TSCA Inventory Status: Pure d-Limonene is listed under TSCA as CAS# 5989-27-5.

This product or all components of this product are listed on the EPAT/TSCA Inventory of Chemical Substances.

SARA Title III Section 311/312 Category Hazards:

<u>Immediate (Acute)</u>	<u>Delayed (Chronic)</u>	<u>Fire Hazard</u>	<u>Pressure Release</u>	<u>Reactive</u>
Yes	No	Yes	No	No

Regulated Components:

<u>Component</u>	<u>CAS</u> <u>Number</u>	<u>CERCLA</u> <u>RQ</u>	<u>SARA</u> <u>EHS</u>	<u>SARA</u> <u>313</u>	<u>U.S.</u> <u>HAP</u>	<u>WI</u> <u>HAP</u>	<u>Prop</u> <u>65</u>
Isobutyl Alcohol	78-83-1	Yes	No	No	No	Yes	No

***Prop 65 - May Contain the Following Trace Components:**

None known.

16. OTHER INFORMATION

Hazard Rating System

Health: 2

Flammability: 2

Reactivity: 0

* = Chronic Health Hazard

NFPA Rating System

Health: 2

Flammability: 2

Reactivity: 0

Special Hazard: None

SDS Abbreviations

N.A. = Not Applicable

N.D. = Not Determined

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

C = Ceiling Limit

N.E./Not Estab. = Not Established

SDS Prepared by:

Reason for Revision: Changes made throughout the SDS. New format.

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The data in this Material Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which Vertec Biosolvents, Inc. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.