

AMS NHD

Revision Date: 01February, 2016

1) IDENTIFICATION

PRODUCT NAME NHD
IDENTIFICATION NUMBER
PRODUCT USE/CLASS DIPENTENE
CAS NUMBER N.A.

SUPPLIER:

Applied Material Solutions, Inc.
1001 E. Centralia Street
Elkhorn, WI 53121
Phone: (262)723-6595 Fax: (262)723-3830

Emergency telephone: 1-800-535-5053 (INFOTRAC)
24 Hours day / 7 Days week

2) HAZARDS

Classification: Product is classified as hazardous under GHS criteria or OASHA Hazard Communication Standard (29 CFR 1910.1200)
Flammable, Cat 2
Skin Irritation, Cat 2
Eye Irritation, Cat 2A
Marine Pollutant, Cat 2

GHS Label Elements:

Symbol(s):



Signal Word(s):

Danger

Hazard statement(s):

H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

AMS NHD**Precautionary statement(s):****Prevention:**

P210 Keep away from heat/sparks/open flames/hot surfaces.- No smoking
 P240 Ground/bound container and receiving equipment
 P242 Use only non-sparking tools
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray
 P264 Wash hands thoroughly after handling
 P270 Do not eat, drink or smoke when using this product
 P273 Avoid release to the environment

Response:

P302+P330+P331 If SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P302+P352 IF ON SKIN: Wash with plenty of soap and water
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 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 persist: Get medical advice/attention.
 P370+376 In case of fire: Stop leak if safe to do so.
 P370+P378 In case of fire: Use carbon dioxide, alcohol foam, dry chemical for extinction.

Storage:

P404+P233 Store in a well-ventilated place. Keep container tightly closed

Disposal:

P501 Dispose of contents/container to a certified hazardous material handler in accordance with local/regional/national/international regulations.

Other Hazards:

None known

3) COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENT NAME</u>	<u>CAS NUMBER</u>	<u>Concentration (% by wt)</u>
Dipentene	68956-56-9	95.0
Terpene Alcohols	98-55-5	5.0

Other Comments: This product does contain hazardous ingredients as defined by OSHA regulations. Flammable liquid and vapor.

4) FIRST AID MEASURES**First aid measures:**

Eye: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists
 Skin: Wash with soap and water. Get medical attention if irritation develops or persists.
 Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
 Oral: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call

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a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Most important symptoms/effects:

Notes to physician:

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. For acute or short term repeated exposures to petroleum distillates of related hydrocarbons:

Primary threat to life, from pure petroleum distillate ingestions and/or inhalation is respiratory failure.

Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachpnoea, intercostal retraction, obtundation) and be given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO₂ 50 mm Hg) should be intubated.

5) FIRE FIGHTING MEASURES

Flammability assessment:	Flammable liquid
Unsuitable extinguishing media:	Water spray or fog will spread the material.
Specific firefighting measures:	DRY CHEMICAL, FOAM, or Carbon Dioxide, do not use water jet as that will spread the fire of this material.
Specific hazards during firefighting:	Combustible Liquid. This product can form explosive mixtures at temperatures at or above the flashpoint.
Special protective equipment and Precautions for firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear

6) ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

For personal protective equipment, see Section 8.

Methods and materials for containment and cleaning up:

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways

7) HANDLING AND STORAGE

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Precautions for safe handling:

Wash thoroughly after handling.

Conditions for safe storage:

Keep away from heat, sparks and flame. Keep container closed in a dry, cool place when not in use.

8) EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Component	CAS #	OSHA PEL		ACGIH TLV		NIOSH REL		FORM
Dipentene	68956-56-9	TWA N.E.	CEILING N.E.	TWA 30 ppm	STEL N.E.			MIST

Engineering Controls:

Local Ventilation: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

General Ventilation: Recommended

Personal Protective Equipment for Routine Handling and Spills:

Eyes: Wear safety glasses with side shields (or goggles) and a face shield.

Skin: Where contact is likely, wear chemical safety gloves, and safety goggles/glasses.

Suitable Gloves: Chemical resistant rubber, nitrile

Inhalation/Suitable Respirator: A NIOSH/MSHA 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 or any other circumstances where air purifying respirators may not provide adequate protection.

Precautionary Measures: Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well ventilated area. Avoid prolonged or repeated contact with skin. Avoid breathing vapors from heated material. Avoid contact with eyes, skin, and clothing.

9) PHYSICAL AND CHEMICAL PROPERTIES

Flash Point:	117 F
Flammability Limits in Air:	Lower Limit 0.7%
	Upper Limit 6.1%
Auto-ignition Temperature:	458 F (237 C)
Decomposition Temperature:	N.D.

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Flammability:	Flammable Liquid
Appearance:	Clear liquid
Odor:	Mild
Odor Threshold:	N.D
pH (0.0 % @ 25°C):	N.A.
Melting/Freezing Point:	N.D.
Boiling Point:	329 - 329 F
Evaporation Rate:	Is faster than Butyl Acetate
Viscosity @ 25°C:	N.D.
Volatile Organic %:	100 %
Vapor Pressure:	N.D
Vapor Density (Air=):	4.7
Bulk Density @ 25°C:	0.86-0.875 @ 20 C
Relative Density @ 25°C:	ND
Solubility in Water:	Insoluble
Partition Coefficient (n-octanol/water):	N.D.

The Physical data presented here are representative values, as the actual product's values may vary slightly.

10) STABILITY AND REACTIVITY

Reactivity:	Will not occur under normal conditions
Chemical stability:	Stable
Possibility of hazardous reactions:	Will not occur under normal conditions
Conditions to avoid:	Eliminate ignition sources and prevent build-up of static electrical charges. Completely isolate and thoroughly clean all equipment, piping, or vessels before beginning maintenance or repairs
Incompatible materials:	Incompatible with: oxidizing agents and acid catalysts.
Hazardous decomposition products:	CO, CO ₂ , formaldehyde

11) TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral:	LD50 >2000 mg/kg, 14 days, Rat
Dermal:	LD50 5000 mg/kg, 14 days, Rabbit
Inhalation:	NOAEL 500 mg/kg/day 90 days, Mouse.
Skin corrosion/irritation:	The Material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

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Serious eye damage/irritation:	Not known
Respiratory sensitization:	Not known
Skin sensitization:	The Material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
Specific Target Organ Toxicity (single exposure): Aspiration hazard:	Not known

Chronic Effects:

Germ cell mutagenicity:	Not known
Carcinogenicity:	Not known
Reproductive toxicity:	Not known
Specific Target Organ Toxicity (repeated exposure):	Not known

Likely Routes of Exposure/Symptoms:

The Material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

D-limonene is readily absorbed by inhalation and ingestions. Dermal absorption is reported to be lower than by inhalation route.

Limonene exhibits low acute toxicity⁶ by all three routes in animals

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria.

Eye:	Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.
Skin:	Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).
Inhalation:	Inhalation of vapor may cause respiratory tract irritation
Oral:	Irritating to mouth, throat and stomach.

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12) ECOLOGICAL INFORMATION

Ecotoxicity:	Algae	EC50	8 mg/l, 72 hr.
	Daphnia Magna	EC50	0.36 mg/lm 48 hr.
	Fathead minnow	LC50	0.72 mg/l, 96 hr.
Persistence and degradability:	Very toxic to aquatic organisms may cause long-term adverse effects in aquatic environment.		
Bioaccumulative potential:	Material is biodegradable however; material can cause long-term effects in the environment.		
Mobility in soil:	Not known		
Other adverse effects:	None anticipated.		

13) DISPOSAL CONSIDERATIONS

Disposal considerations:

Incineration in accordance with applicable regulations is the recommended disposal method. Disposal should be in accordance with all applicable Federal, State and local regulations. Do not dump into sewers, on the ground, or into any body of water.

Empty container warnings:

This material and its container must be disposed of as hazardous waste

14) TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101):

UN Number:	UN2319
DOT Proper Shipping Name:	TERPENE HYDROCARBONS, N.O.S.
DOT Technical Name:	(PARA-MENTHADIENES)
DOT Hazard Class(es):	3 (Flammable Liquid)
DOT Packing Group:	III
Marine Pollutant:	YES

Air Shipment (IATA): See above

Ocean Shipment (IMDG): See above

Transport in bulk:

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Special precautions: None Known

15) REGULATORY INFORMATION

International Chemical Inventory Status:

USA (TSCA):	Components of this product are listed
Korea	Components of this product are listed
DSL:	Components of this product are listed
EINICS:	Components of this product are listed
AICS:	Components of this product are listed
Canada WHIMS	Not a WHMIS control material.
China	
CANADIAN WHMIS:	This SDS has been prepared in compliance with Controlled Product Regulations except for use of the 16 headings.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:

Component Name	CAS Number	wt %	Hazard
Dipentene	68956-56-9	95.0	Fire Hazard
Terpene Alcohols	98-55-5	5.0	Fire Hazard

Section 304 CERCLA Hazardous Substances:

Component Name	CAS Number	wt%	Reportable Quantity (#)
None			

Section 312 Hazard Class:

Acute:	☒	Yes	☐	No
Chronic:	☒	Yes	☐	No
Fire:	☒	Yes	☐	No
Pressure:	☐	Yes	☒	No
Reactivity:	☐	Yes	☒	No

Section 313 Toxic Chemicals: Only chemicals which exceed the reporting threshold are included below:

Component Name	CAS Number	wt%
None		

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Other Regulatory Concerns:

State right to know:

Components	CAS Number	CA Prop 65	NJ	PA	MA
None					

16) - OTHER INFORMATION

Revision date: 01 February, 2016
 Reason for change: Update to AMSi SDS format
 Revised by: MJ
 Reviewed by: MC
 Approval date: 01 February, 2016
 Version: 1.0

	Health	Fire	Reactivity	Special
HMIS:	2	2	0	

Note: HMIS ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information in the SDS must be considered.

HMIS = Hazardous Material Information System

*Chronic effect

Disclaimer: This safety data sheet (SDS) was prepared in accordance with the 29 CFR 1910.1200. The information contained herein is based upon data available to us and reflects our best professional judgement. However, no warranty is expressed or implied regarding the accuracy of such information or the results obtained from the use thereof. We assume no legal responsibility whatsoever for any damage resulting from reliance upon this information since it is being furnished upon the condition that the person receiving it shall make his or her own determination of the suitability of the material described herein for a particular application, storage, or disposal situation.