



# MATERIAL SAFETY DATA SHEET

Prepared in accordance with ISO 11014-1/ ANSI standard  
Z400.1-2004

Revision Date: 4/12/2013  
MSDS No.: ND4201

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** VT 801

**Synonyms:** VT 801

**Use of the Substance/Preparation:** Laminating adhesive

**Supplier:**

ND Industries, Inc.  
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## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW-  
CAUTION:**



Amber / Brown Liquid. Can cause irritation to skin, eyes and respiratory system. Can cause skin sensitization. Avoid contact with skin. Avoid breathing vapors. Do not spray or aerosolize materials.

**Principle Routes of Exposure:** Dermal, Inhalation, ingestion

**POTENTIAL HEALTH EFFECTS:**

<b>Eye Contact:</b>	May cause moderate eye irritation.
<b>Skin Contact:</b>	Prolonged contact with skin may cause irritation or staining of skin.
<b>Inhalation:</b>	Inhalation of vapors can cause respiratory irritation and sanitization.
<b>Ingestion:</b>	Not expected to be a route of exposure. If ingested seek medical attention.
<b>Carcinogenic Effects:</b>	Not established for product itself.
<b>Target Organ Effects:</b>	Not established for product itself.
<b>Medical Conditions Aggravated by Exposure:</b>	May aggravate pre-existing skin and respiratory conditions
<b>Potential Environmental Effects:</b>	Not established for product itself.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS Number	Weight %	EU Classification
Polymeric MDI	9016-87-9 / 101-68-8	202-966-0	50-60	Carc. Cat. 3; R40 Xn; R20-48/20 Xi; R36/37/38 R42/43
Diisodecyl phthalate	68515-49-1	271-091-4	< 3	Xi: R36/37/38

4. FIRST AID MEASURES

**Skin Contact:** Immediately wash affected are with soap and water. Remove contaminated clothing and wash before re-use. Seek medical attention id irritation persists.

**Eye Contact:** Immediately flush eyes with water for at least 15 minutes. Seek medical attention.

**Inhalation:** Move person to fresh air. If not breathing give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Seek medical attention.

**Ingestion:** If swallowed seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

**Notes to Physician:** Maintain adequate ventilation and oxygenation of patient. May cause respiratory sensitization r asthma-like symptoms.

5. FIRE AND IGNITION INFORMATION

**Flash Point** >200°F

**Explosion Limits in Air – Upper (%):** Not established for product itself.

**Explosion Limits in Air – Lower (%):** Not established for product itself.

**OSHA Flammability Classification:** Combustible

**Auto-ignition Temperature:** Not established for product itself.

**Extinguishing Media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire.

**Special Protective Equipment for Firefighters:** Fire fighters should wear appropriate protective equipment including self-contained breathing apparatus with full face piece, operated in positive pressure mode.

**Specific Hazards:** Not established for product itself.

**Hazardous Decomposition and/or Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon Dioxide.

**Risk of Dust Explosion:** Not established for product itself.

6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Only trained personnel should clean a chemical spill. Avoid contact with skin and eyes. Wear appropriate personal protective equipment. Work in a well-ventilated area. Avoid

**Methods for Cleaning Up:** breathing vapor  
 Evacuate non-emergency personnel. Isolate the area and prevent access. Ensure adequate ventilation. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Transfer to a waste container. Keep the material damp and exposed to the air in a secure area (CO<sub>2</sub>-formation!) until completely solidified. The waste can then be disposed of on an approved landfill or a special refuse dump. Ensure adequate ventilation.  
 In the event of a large spill, treat spill area with decontamination solution. Preparation of decontamination solution: Prepare a mixture of 0.2 - 0.5% liquid detergent and 3 - 8% concentrated ammonium hydroxide in water (5 - 10% sodium carbonate may be substituted for the ammonium hydroxide).

**Environmental Precautions:** See Section 7 for information on safe handling.  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.  
 Do not allow spilled product into soil, sewers, drains, rivers or other watercourses.

**7. HANDLING AND STORAGE**

**Handling:** Avoid skin and eye contact. Wear appropriate personal protective equipment. Avoid breathing vapors. Work in a well-ventilated area. Do not ingest. Safety showers and eyewash stations should be available for use in the immediate work area. Wash hands after using this product, and before eating, drinking smoking or using the lavatory.

**Storage:** Store in a cool, dry location. Do not store at temperature above 85°F. Keep container closed when not in use. Unopened pails and drums have a self-life of 3 months from date of shipment. Keep away from heat, sparks, open flame, and other ignition sources. Do not reuse empty container.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**EXPOSURE LIMITS**

Exposure Limits for the Product itself have not been established.

Exposure limits for those components with limits or have constituents with limits are stated below.

<b>Diisodecyl Phthalate, CAS RN: 68515-49-1</b>	US OSHA – PEL: 5 mg/m <sup>3</sup> * (* based on similar phthalate esters) US ACGIH – TLV: 5 mg/m <sup>3</sup> * (* based on similar phthalate esters)
<b>4,4 – Methylene diphenyl diisocyanate, CAS RN: 101-68-8</b>	US OSHA – Ceiling: 0.02 ppm US ACGIH – TLV: 0.005 ppm TWA
<b>Ethyl benzene, CAS RN: 100-41-4</b>	US OSHA – PEL: 100 ppm TWA US ACGIH – TLV 20 ppm TWA US ACGIH – Ceiling: 125 ppm

**Toluene, CAS RN: 108-88-3**

US OSHA – PEL: 200 ppm TWA  
 US OSHA – Ceiling: 300 ppm  
 US ACGIH – TLV: 20 ppm TWA (Skin)

**Xylene, CAS RN:1330-20-7**

US OSHA – PEL: 100 ppm TWA  
 US ACGIH – TLV 100 ppm TWA  
 US ACGIH – Ceiling: 150 ppm

**Ceiling:**

Absolute exposure limit that should not be exceeded at any time

**PEL: Permissible Exposure Limit**

An airborne concentration in which nearly all workers may be repeatedly exposed ... without adverse health effects. Establish by US OSHA

**STEL: Short Term Exposure Limit**

One time exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day

**TLV: Threshold Limit Value**

An airborne concentration in which nearly all workers may be repeatedly exposed ... without adverse health effects. Established by US ACGIH

**TWA: Time Weighted Average**

Average exposure on the basis of a 8h/day, 40h/week work schedule

**US ACGIH:**

United States American Conference of Governmental Industrial Hygienists

**US OSHA:**

United States Occupational Safety and Health Administration

**ENGINEERING CONTROLS**

Use only with adequate ventilation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) stated above. The use of both general dilution and local exhaust ventilation is recommended to control airborne exposures to mist, vapor, or spray. Do not use in a confined area or areas with little or no air movement.

**PERSONAL PROTECTIVE EQUIPMENT**

**Respiratory Protection:**

When atmospheric levels may exceed the exposure guideline, use a NIOSH approved air-purifying respirator equipped with an organic vapor sorbent and particle filter. For situations where atmospheric levels may exceed the level for which an air-purifying respirator is effective, use positive-pressure air-supplying respiratory (air-line or self-contained breathing apparatus).

**Hand Protection:**

Use gloves chemically resistant to this material. Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment.

**Eye Protection:**

Wear safety glasses with side shields. Chemical safety goggles and face shield should be used if splash hazard exists. Eyewash fountain should be located in the immediate work area.

**Skin and Body Protection:**

Wear chemical resistant clothing suitable to the job. Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment.

**Other:**

NA

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:**

Amber / Brown

**Odor:**

Characteristic

**pH**

Not established for product itself.

**Vapor Pressure:**

Not established for product itself.

<b>Boiling Point/Range:</b>	Not established for product itself.
<b>Melting Point/Range:</b>	Not established for product itself.
<b>Water Solubility:</b>	Insoluble
<b>Density:</b>	1.108 (9.24 lb/gal)
<b>Specific Gravity:</b>	Not established for product itself.
<b>% Volatile (by Volume):</b>	Not established for product itself.
<b>Evaporation Rate:</b>	Not established for product itself.
<b>Viscosity:</b>	10,000 cps @ 75°F

**10. STABILITY AND REACTIVITY**

<b>Stability:</b>	Stable under recommended storage conditions. See section 7.
<b>Hazardous Polymerization:</b>	May occur.
<b>Mechanical Sensitivity (shock):</b>	NA
<b>Conditions to Avoid:</b>	Avoid temperatures above 85°F. Elevated temperatures accelerate reaction times. Avoid contact with Acids, Alcohols, Amines, Water, Ammonia, Bases. Avoid Moisture
<b>Hazardous Decomposition and/or Combustion Products:</b>	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon Dioxide.
<b>Static Discharge Effects:</b>	NA

**11. TOXICOLOGICAL INFORMATION**

Toxicological data has not been established for the product itself.

Components with established toxicological data are given below

**ACUTE TOXICITY**

<b>Oral LD50:</b>	4,4 – Methylenediphenyl diisocyanate - > 10,000 mg/kg (rat)
<b>Inhalation LC50:</b>	4,4 – Methylenediphenyl diisocyanate – Aerosol, 490 mg/m <sup>3</sup> (rat)
<b>Dermal LC50:</b>	4,4 – Methylenediphenyl diisocyanate - > 2,000 mg/kg (rabbit)
<b>Eye Irritation:</b>	No data available at this time
<b>Skin Irritation:</b>	4, 4 – Methylenediphenyl diisocyanate – may cause allergic skin reaction.

**CHRONIC TOXICITY**

<b>Carcinogenic Effects:</b>	4,4 – Methylenediphenyl diisocyanate – Lung tumors have been observed in laboratory animals exposed to aerosol droplets (6 mg/m <sup>3</sup> ) for their lifetime. Current exposure guidelines protect against these effects for MDI
<b>Mutagenic Effects:</b>	4,4 – Methylenediphenyl diisocyanate – Genetic toxicity data on MDI are inconclusive,
<b>Reproductive Toxicity:</b>	4,4 – Methylenediphenyl diisocyanate – in lab animals MDI did not cause birth defects
<b>Sensitizing Effects:</b>	May cause allergic respiratory response.
<b>Synergistic Materials:</b>	No data available at this time

**12. ECOLOGICAL INFORMATION**

Information given is based on data on the components and the toxicology of similar products.

**Aquatic Toxicity:** No data available on the product itself.

**ENVIRONMENTAL FATE**

**Mobility:** In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

**Bioaccumulation:** No data available on the product itself.

**Persistence / Degradability:** In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable.

**Distribution to Environmental Compartments:** No data available on the product itself.

**13. DISPOSAL CONSIDERATIONS**

**Disclaimer:** Information in this section pertains to the product as shipped in its intended composition as described in Section 2 of this MSDS. Contamination or processing may change waste characteristics and requirements. Regulations may also apply to empty containers, liners or rinsate. State/provincial and local regulations may be different from federal regulations.

**RCRA Classification (40 CFR 261):** Dispose of in accordance with all applicable local, state, and federal regulations.

**Unused and Uncontaminated Product:** Dispose of in accordance with all applicable local, state, and federal regulations.

**14. TRANSPORTATION INFORMATION****DOT:**

**Non-Bulk:** Single containers less than 5,000 lbs. are not regulated.

**Bulk:** Single containers with  $\geq 5,000$  lbs. are considered Environmentally Hazardous Substance

UN/NA Number: NA3082

Proper Shipping name: Environmentally Hazardous Substance, liquids, n.o.s. (MDI)

Hazard Class: 9

Packing Group: III

**15. REGULATORY INFORMATION****Hazard Classification**

**United States – OSHA (29 CFR 1910.1200):** Hazardous

**International Inventories**

**All components of this product are listed on or exempt from the following inventories:**

- Yes - Australian Inventory of Chemical Substances (AICS)
- Yes - Domestic Substances List (DSL)
- Yes - Chinese Inventory
- Yes - European Inventory of Existing Commercial Substances (EINECS)

- Yes - Japanese Existing and New Chemical Substances (ENCS)
- Yes - Korean Existing Chemicals List (KECL)
- Yes - New Zealand Hazardous Substances and New Organisms Act (HSNO)
- Yes - Philippine Inventory of Chemicals and Chemical Substances (PICCS)
- Yes - United States Toxic Substances Control Act (TSCA) Inventory

**U.S. Federal Regulations**

**TSCA 12(b) Export Notification:** None

**Clean Air Act amendments of 1990 (CAA, Section 11240: CFR 82):** None

**Clean Water Act (CWA, 40 CFR 116):** None

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 40 CFR 302):** No

**Superfund Amendments and Reauthorization Act, Title III (SARA):**

**SARA Section 302 (40 CFR 355) Extremely Hazardous Substances:** No

**SARA Section 311/312 (40 CFR 370) Hazard Category:** Acute Health Hazard

**SARA Section 313 (40 CFR 372) Toxics Release Inventory:** Yes

Component	CAS #	Amount
4,4 – Methylenediphenyl diisocyanate	9016-87-9 / 101-68-8	50-60%

**U.S. State Regulations**

**California Proposition 65:** This product contains or may contain chemicals known to the State of California to cause cancer or reproductive effects.

**16. OTHER INFORMATION**

**HMIS Rating**

**HMIS Index:** \*- chronic, 0 – Minimal, 1 – slight, 2- moderate, 3 – serious, 4 –severe

- Health:** \*2
- Flammability:** 1
- Physical Hazard:** 1

**Additional Contacts:**

**Prepared by:** ND Industries, Inc. – Safety, Health and Environmental Affairs  
**Revision Date:** 4/12/2013  
**Previous Revision Date:** N/A  
**Reasons for Revision:** Creation of MSDS

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