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(according to (EC) 1907/2006)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier — **Morpel® Repellent 326, II**

Synonyms: MORPEL® 326, MORPEL® 326 II, Di-n-propyl 2, 5-pyridinedicarboxylate

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

For Manufacturing of End-Use Insect Repellent Products Only

1.3. Details of the supplier of the safety data sheet

Vertellus Performance Materials Inc.
2110 High Point Road
Greensboro, NC 27403 USA
1-336-292-1781
e-mail Address: msds@vertellus.com

1.4. Emergency telephone number

Vertellus: 1-336-292-1781
CHEMTREC (USA): 1-800-424-9300 (collect calls accepted); (Int'l): 1-703-527-3887 (collect calls accepted; 011 prefix not needed)

SECTION 2: Hazards identification

HMIS Rating	
HEALTH	1
FLAMMABILITY	1
REACTIVITY	1

2.1. Classification of the substance or mixture

(According to Regulation (EC) No 1272/2008)
Environmental Acute Category 1
Skin Corrosion/Irritation Category 2

(According to Directive 67/548/EEC)

Symbol:	N, Xi
Risk Phrases:	R38: Irritating to the skin.
	R50: Very toxic to aquatic organisms.
Safety Phrases:	S2: Keep out of the reach of children.
	S23: Do not breathe gas/fumes/vapour/spray.
	S29: Do not empty into drains.
	S36/37: Wear suitable protective clothing and gloves.
	S51: Use only in well ventilated areas.
	S61: Avoid release to the environment. Refer to special instructions/safety data

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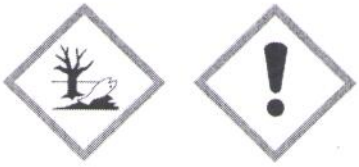
sheet.

2.2. Label elements

Hazard Symbols (Pictogram):



Signal Word:
Warning

Hazard Precautions:
H315 - Causes skin irritation.
H400 - Very toxic to aquatic life.

Prevention Precautionary Statements:
P264 - Wash hands thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

First Aid Precautionary Statements:
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P321 - Specific treatment (see supplemental information on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P391 - Collect spillage.

Storage Precautionary Statements:
Not required.

Disposal Precautionary Statements:
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

2.3. Other hazards

Signs and Symptoms of Potential Overexposure:	Can cause skin irritation. May cause burning and irritation. Causes moderate eye irritation. Can cause a burning or prickling sensation on more sensitive areas (face, eyes, mouth). Excessive inhalation may cause nasal and respiratory irritation. Harmful if absorbed through the skin. Harmful if swallowed
Primary Route(s) of Exposure:	Skin contact and absorption, eye contact, ingestion, inhalation.
Medical Conditions Aggravated by Exposure:	No data found

SECTION 3: Composition/information on ingredients

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3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (%)	EINECS / ELINCS	CLP Inventory/ Annex VI	EU DSD Classification (67/548/EEC)	EU CLP Classification (1272/2008)
Di-n-propyl isocinchomeronate (MORPEL® 326)	136-45-8	~ 100	205-245-9	Not listed.	Xi, N R38- R50	Aquatic Acute 1; H400 Skin Irrit. 2; H315

NOTE: See Section 8 of this MSDS for exposure limit data for these ingredients.
See Section 15 of this MSDS for trade secret information (where applicable).
See Section 16 of this MSDS for the full text of the R-phrases above.

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact: Immediately flush with water for 15 minutes. Wash the contaminated skin with soap and water. If irritation develops, call a physician.

Eye Contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel. GET MEDICAL ATTENTION.

Inhalation: Remove from exposure. If not breathing, give artificial respiration and call a physician.

Ingestion: Immediately give 1 or 2 glasses of water and get prompt medical attention.

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

Acute: Can cause skin irritation. May cause burning and irritation. Causes moderate eye irritation. Can cause a burning or prickling sensation on more sensitive areas (face, eyes, mouth). Excessive inhalation may cause nasal and respiratory irritation. Harmful if absorbed through the skin. Harmful if swallowed

Delayed Effects: None known.

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

Thermal Exposure: Not applicable.

Note to Physician: No additional first aid information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media: Foam Carbon dioxide Dry chemical

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion: Combustion will produce carbon monoxide, carbon dioxide and oxides of nitrogen.

Potential for Dust Explosion: not available

Special Flammability Hazards: Potential explosion hazard in the form of vapor (within flammability limits) when exposed to heat, flame or static discharge.

5.3. Advice for firefighters

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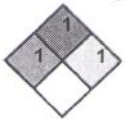
Basic Fire Fighting Guidance: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Flammability Classification (OSHA): Not applicable.

NFPA Rating



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures: Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Special Instructions: Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions

Prevent releases to soils, drains, sewers, and waterways.

6.3. Methods and material for containment and cleaning up

Containment Techniques and Clean-up Procedures: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. For small spills, use suitable absorbent material and collect for later disposal. LARGE SPILLS: Shut off leak if safe to do so. Contain the discharged material. Do not allow the spilled product to enter public drainage system or open waterways. For large spills, the area may require diking to contain the spill. Wear protective equipment during clean-up.

Special Reporting Requirements: Notify appropriate authorities if required by regulation. See Section 15 for additional information.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards: Not applicable.

Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material.

Special Handling Equipment: Not applicable.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations: Store in a tightly closed container Maintain dry, ventilated conditions for storage. S2: Keep out of reach of children.

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Dangerous Incompatibility Reactions: Strong acids Strong alkalies

Incompatibilities with Materials of Construction: none known

7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits (United States): **OSHA PEL:** Not established **ACGIH TLV:** Not established

8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Personal Protective Equipment: Impervious gloves, boots, and clothing, chemical goggles or face shield where necessary, and a NIOSH approved chemical cartridge respirator or supplied air breathing apparatus. Do not smoke or eat in areas where this material is handled. Wash hands thoroughly before eating or smoking.

Respirator Caution: Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.

Ventilation: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.

Other Engineering Controls: All appropriate engineering controls should be used to minimize exposure potential. Use exhaust ventilation to keep airborne concentrations below exposure limits.

Thermal Hazards: Not applicable.

Additive or Synergistic Effects: None known.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance, State & Odor (ambient temperature):	Clear, oily liquid with mild, characteristic odor.		
Molecular Formula:	C13H17O4N	**Molecular Weight:**	251.27 g/mol
Vapor Pressure:	0.000000492 mm Hg @ 25°C	**Evaporation Rate:**	Not determined
Specific Gravity or Density:	1.114	**Vapor Density (air = 1):**	Not available.
Boiling Point:	Not available.	**Freezing / Melting Point:**	Not available.
Solubility in Water:	Insoluble in water.	**Octanol / Water Coefficient:**	Not available.
pH:	Not available.	**Odor Threshold:**	Not available.
Viscosity:	Not available.	**Autoignition Temperature:**	Not available.
Flash Point and Method:	> 200F (> 93C) Tag Closed Cup	**Flammable Limits:**	Not available. (LEL) – Not available. (UEL)

9.2. Other information

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Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity	Not classified as dangerously reactive.
10.2. Chemical stability	Stable
10.3. Possibility of hazardous reactions	Not expected to occur.
10.4. Conditions to avoid	Incompatibles.
10.5. Incompatible materials	Strong acids; Strong alkalies
10.6. Hazardous decomposition products	Combustion will produce carbon monoxide, carbon dioxide and oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD_{50}:	Oral LD50 (rat) 5230 mg/kg	Di-n-propyl isocinchomeronate (MORPEL® 326)
Acute Dermal LD_{50}:	Dermal LD50 (rabbit) 9500 mg/kg Dermal LD50 (rat) 9400 mg/kg	Di-n-propyl isocinchomeronate (MORPEL® 326)
Acute Inhalation LC_{50}:	Inhalation LC50 (4h) (rat) 6.09 mg/L	Di-n-propyl isocinchomeronate (MORPEL® 326)
Skin Irritation:	Moderately irritating to skin.	
Skin Sensitization:	Negative skin sensitizer	
Eye Irritation:	Non-irritating to eyes.	
Target Organs:	No data available.	
Carcinogenicity:	Di-n-propyl isocinchomeronate (Morpel 326, 326 II) is classified as BY US EPA as a tentative Class B carcinogen. None of he components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as being carcinogens. (18 month mouse) The occurrence of benign nodular lesions observed in a single sex at the high-dose levels which exceeded the MTD, with no associated increase in carcinomas does not demonstrate a carcinogenic effect. (2 year feeding rat) Rats tolerated Morpel 326 (326 II) in the diet for two years up to 100 mg/kg/day. Morpel 326 (326 II) increased the incidence of liver tumors (males and females) in the 100 mg/kg/day group. The tumor rates in both sexes in the 65 and 250 mg/kg/day groups were comparable to those of the control group. Morpel 326 (326 II) produced increases in the incidence of benign interstitial cell tumors in the testis and benign uterine tumors. Group mean body weights were significantly decreased for males and females at the 1000 mg/kg/day doasge level when compared to the controls. Body weights were similar to control values at the 65 and 250 mg/kg/day dosage level. The marked reduction in body weight gain clearly indciates that MTD was exceeded. The observed increase incidence of benign and malignant hepatic neoplasms occurred only in the presence of hepatotoxicity. There was no dose response on the incidence for either benign or malignant neoplasms and there was a no-effect level of 250 mg/kg/day. The findings in the reproductive organs were within the range of the historical control data of the performing laboratory. (1 year feeding dog) No effect levels for male and female dogs were 1000 ppm (34 mg/kg/day) and 4000 ppm (130 mg/kg/day) respectively, based on body weight effects.	

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Teratogenicity:	The no observable effect level (NOEL) of Morpel 326 (326 II) is considered to be 65 mg/kg/day.
Reproduction:	(Albino rabbit) The NOEL (developmental toxicity) is 100 mg/kg/day. (Rat embryo) 1000 mg/kg/day was found to be non-teratogenic for the rat embryo.
Neurotoxicity:	No data available.
Mutagenicity:	This product was found to be non-mutagenic in various Ames assays, both with and without metabolic activation.
Additional Toxicity Information:	Subchronic studies: 3 month dermal toxicity (rat): 100 mg/kg/day NOEL. 3 month inhalation toxicity (rat): The histopathology seen in the larynx, lungs and nasopharynx was considered to be a localized direct effect of the exposure to Morpel 326 (326 II). There was no indication that any systematic effects were produced in these tissues or any other tissue. Based on thee results 351 mg/m3 (the highest achievable exposure level) is considered to be the NOAEL.

SECTION 12: Ecological information

12.1. Toxicity	Aquatic EC50 (48h) Daphnia magna = 18 mg/L Aquatic LC50 Oncorhynchus mykiss (rainbow trout) = 1 mg/L Aquatic LC50 LEPOMIS MACROCHIRUS = 0.44 mg/L Aquatic LC50 Colinus virginianus (Northern bobwhite quail) 1375 mg/kg
12.2. Persistence and degradability	No data
12.3. Bioaccumulative potential	No data
12.4. Mobility in soil	No data
12.5. Results of PBT and vPvB assessment	Not available.
12.6. Other adverse effects	This product is toxic to fish. Do not contaminate water by cleaning equipment or disposal of wastes. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a NPDES permit and authorities have been notified in writing prior to discharge. Do not discharge effluent containing this product into sewage treatment systems without first notifying the local sewage tretment authorities. For guidance, contact your State Water Board or regional officce of the US EPA.

	Component Name:
German Water Hazard Classification:	Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

US EPA Waste Number:	Not applicable
Waste Disposal:	Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

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SECTION 14: Transport information

14.1. UN number	Not applicable
14.2. UN proper shipping name	Chemicals, n.o.s. (Di-n-propyl isocinchomeronate)
14.3. Transport hazard class(es)	Not applicable
14.4. Packing group	Not applicable
14.5. Environmental hazards	Not applicable
14.6. Special precautions for user	For transport OUTSIDE the United States the proper shipping name is: UN3082, Environmentally Hazardous substance, liquid, n.o.s., (Di-n-propyl isocinchomeronate), 9, PG III (Marine Pollutant).

NA Emergency Guidebook Numbers: Not applicable

IMDG EMS: Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

SECTION 15: Regulatory information

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

OSHA Hazards: **Health:** Irritant. **Physical:** Not applicable.

WHMIS Classification: Class D, Division 2, Subdivision B: Toxic Material.

Chemical Inventory Lists:	Status
TSCA:	Exempt from TSCA; regulated by FIFRA
EINECS:	205-245-9
Canada(DSL/NDSL):	DSL
Japan:	(5)-746
Korea:	Not listed.
Australia:	Present
New Zealand:	Present
China:	Not listed.
Philippines:	Not listed.
Switzerland:	Not listed.

New Zealand GHS Classification: Acute toxicity - Oral - Category 4: H302 Harmful if swallowed. (Approval: HSR003742); Carcinogenicity - Category 2: H351 Suspected of causing cancer. (Approval: HSR003742); Hazardous to aquatic environment - acute hazard - Category 1: H400 Very toxic to aquatic life. (Approval: HSR003742); Hazardous to aquatic environment - chronic hazard - Category 3: H412 Harmful to aquatic life with long lasting effects. (Approval: HSR003742); Terrestrial Vertebrate Ecotoxicity - Category 3: H433 Harmful to terrestrial vertebrates. (Approval: HSR003742)

Japan GHS Classification: Not classified by this country.

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Korea (MOL) GHS Classification:	Not classified by this country.
Australia GHS Classification:	Not classified by this country.
Taiwan GHS Classification:	Not classified by this country.
Indonesia GHS Classification:	Not classified by this country.

		Component Name:
SARA 313:	1.0 % de minimis concentration	Dipropyl isocinchomeronate

Other Regulatory Listings:	This product is NOT on the EPA Toxic Substances Control Act (TSCA) inventory. This product contains < 1% Volatile Organic Compounds (VOC).

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

Full text of R phrases in Section 3:	R38: Irritating to the skin. R50: Very toxic to aquatic organisms.
Legend of abbreviations:	ACGIH = American Conference on Governmental Industrial Hygienists. CAS = Chemical Abstracts Service. CERCLA = Comprehensive Environmental, Response, Compensation and Liability Act (1990). CFR = Code of Federal Regulations. DSL/NDSL = Domestic Substances List/Non-Domestic Substances List. EC = European Community. EEC = European Economic Community. EINECS = European Inventory of Existing Commercial chemical Substances. ELINCS = European List of Notified Chemical Substances. EU = European Union. GHS = Globally Harmonized System. LC = Lethal concentration. LD = Lethal dose. MOL = Ministry of Labor. NEMA = National Emergency Management Agency. NFPA = National Fire Protection Association. NIOSH = National Institute of Occupational Safety and Health. NTP = National Toxicological Program. OSHA = Occupational Safely and Health Administration PEL = Permissible exposure limit. RQ = Reportable quantity.

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SARA = Superfund Amendments and Reauthorization Act of 1986.
TLV = Threshold limit value.
WHMIS = Workplace Hazardous Materials Information System.

Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of 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.

Revision Date:	Nov 01, 2011	**Original Date of Issue:**	10/15/2010
Issued By:	Regulatory Management Department		
Revision Details:	Revised SARA 313 data in section 15.		