

SAFETY DATA SHEET



Section 1. Identification

Product Name: Vertical Mender™ (B-Side)

VersaFlex Incorporated

686 S. Adams Street

Kansas City, KS 66105

913.321.9000

Spill, leak, fire, exposure, or accident, call

CHEMTREC day or night

Domestic North America **800.424.9300**

International **703.527.3887**

e-mail: ehs@versaflex.com

Section 2. Hazards Identification

GHS Ratings:

Dermal Toxicity	Acute Tox. 3	Dermal>200+<=1000mg/kg
Skin corrosive	1B	Destruction of dermal tissue: Exposure < 1 hour Observation < 14 days, visible necrosis in at least one animal
Eye corrosive	1	Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity >= 3, Iritis > 1.5
Skin sensitizer	1	Skin sensitizer
Mutagen	2	Suspected/Possible: May include heritable mutations in human germ cells, Positive evidence from tests in mammals and somatic cell tests, In vivo somatic genotoxicity supported by in vitro mutagenicity
Reproductive toxin	2	Human or animal evidence possibly with other information

GHS Hazards

H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H341	Suspected of causing genetic defects
H361	Suspected of damaging fertility or the unborn child

GHS Precautions

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash exposed skin thoroughly after handling
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves/protective clothing/eye protection/face protection
P281	Use personal protective equipment as required
P310	Immediately call a POISON CENTER or doctor/physician

P312	Call a POISON CENTER or doctor/physician if you feel unwell
P321	Specific treatment (as detailed on this label)
P322	Specific measures (see ... on this label)
P361	Remove/Take off immediately all contaminated clothing
P363	Wash contaminated clothing before reuse
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P352	IF ON SKIN: Wash with soap and water
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
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 continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing
P308+P313	IF exposed or concerned: Get medical advice/attention
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention
P405	Store locked up
P501	Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Danger



Section 3. Composites/Information on Ingredients

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Isophorone diamine 2855-13-2 20 to 30%	OELs not established	OELs not established	
Benzyl alcohol 100-51-6 20 to 30%	OELs not established	OELs not established	
Trade Secret 20 to 30%	OELs not established	OELs not established	
Triethylenetetramine 112-24-3 10 to 20%	OELs not established	OELs not established	

Diethylenetriamine 111-40-0 1 to 5%	vacated PELs - 1 ppm TWA vacated PELs - 4 mg/m ³ TWA	TLV - 1 ppm TWA	
Trimethylhexamethylenediamine 25620-58-0 1 to 5%	OELs not established	OELs not established	
Bisphenol A 80-05-7 1 to 5%	OELs not established	OELs not established	
Phenol 108-95-2 0.1 to 1.0%	PELs - 5 ppm TWA PELs - 19 mg/m ³ TWA	TLV - 5 ppm TWA TLV - 250 mg/g creatinine Medium: urine Time: end of shift Parameter: Phenol with hydrolysis (background, nonspecific)	

Section 4. First-aid Measures

Move exposed person to fresh air. If breathing is labored, oxygen should be administered by qualified personnel.

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

After contact with skin, wash immediately with plenty of warm, soapy water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water. Get medical attention if symptoms appear.

Section 5. Fire-fighting Measures

Extinguishing Media: Water, Foam, CO₂ or dry powder.

Caution:

Heating or fire can release toxic gas.

Hazardous decomposition products:

Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, and hydrocarbons.

Special protective actions for fire-fighters:

Promptly isolate the scene by removing all persons from the vicinity of the incident, if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

Section 6. Accidental Release Measures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers . Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get into eyes.

Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and may be hazardous.

Material is to be stored in accordance with local regulations. Store in original container protected from direct sunlight in a dry and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

Use appropriate containment to avoid environmental contamination.

Unsuitable containers: Do not store in containers made of copper, copper alloys or galvanized surfaces .

Section 8. Exposure Controls/Personal Protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Isophorone diamine 2855-13-2	OELs not established	OELs not established	
Benzyl alcohol 100-51-6	OELs not established	OELs not established	
Trade Secret N/A	OELs not established	OELs not established	
Triethylenetetramine 112-24-3	OELs not established	OELs not established	
Diethylenetriamine 111-40-0	vacated PELs - 1 ppm TWA vacated PELs - 4 mg/m3 TWA	TLV - 1 ppm TWA	
Trimethylhexamethylenedia mine 25620-58-0	OELs not established	OELs not established	
Bisphenol A 80-05-7	OELs not established	OELs not established	

Phenol 108-95-2	PELs - 5 ppm TWA PELs - 19 mg/m3 TWA	TLV - 5 ppm TWA TLV - 250 mg/g creatinine Medium: urine Time: end of shift Parameter: Phenol with hydrolysis (background, nonspecific)	
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Engineering Controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Smell is not an adequate indicator of hazard.

Ventilation: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Protective Gear: In case of inadequate ventilation, wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 9. Physical and Chemical Properties

<p>Appearance: Amber</p> <p>Vapor Pressure: No Data</p> <p>pH: No Data</p> <p>Freezing point: No Data</p> <p>Evaporation rate: No Data</p> <p>Explosive Limits: No Data</p> <p>Vapor Density: No Data</p> <p>Solubility: No Data</p> <p>Boiling range: No Data</p> <p>Decomposition temperature: No Data</p> <p>% Weight Volatile (VOC) 0.00</p>	<p>Odor: Faint odor</p> <p>Odor threshold: No Data</p> <p>Melting point: No Data</p> <p>Flash point: 212 F, 100 C</p> <p>Flammability: No Data</p> <p>Vapor pressure: No Data</p> <p>Specific Gravity 0.999</p> <p>Partition coefficient (n-octanol/water): No Data</p> <p>Autoignition temperature: No Data</p> <p>Viscosity: N/A</p>
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Section 10. Stability and Reactivity

Chemical Stability: Stable at room temperature. No specific test data related to reactivity is available for this product or its ingredients.

Hazardous reactions: None known. Stable under normal conditions.

Section 11. Toxicological Information

Oral Toxicity LD50: 2,101mg/kg
Dermal Toxicity LD50: 204mg/kg
Inhalation Toxicity LC50: 70mg/L

Routes of Entry

Inhalation Skin Contact Eye Contact Ingestion

Target Organs

Eyes Kidneys Liver Central Nervous System Skin Peripheral Nervous System

Effects of Overexposure

Carcinogenicity

<u>CAS Number</u>	<u>Description</u>	<u>% Weight</u>	<u>Carcinogen Rating</u>
None			No Data

Section 12. Ecological Information

Only component information is listed, if any. No testing has been performed on this mixture as it relates to ecological impact.

Component Ecotoxicity

Isophorone diamine	72 Hr EC50 Desmodesmus subspicatus: 37 mg/L; 48 Hr EC50 Daphnia magna: 14.6 - 21.5 mg/L [semi-static]
Benzyl alcohol	96 Hr LC50 Pimephales promelas: 460 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 10 mg/L [static]; 48 Hr EC50 water flea: 23 mg/L
Triethylenetetramine	72 Hr EC50 Desmodesmus subspicatus: 2.5 mg/L; 72 Hr EC50 Pseudokirchneriella subcapitata: 20 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: 3.7 mg/L; 96 Hr LC50 Poecilia reticulata: 570 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas: 495 mg/L; 48 Hr EC50 Daphnia magna: 31.1 mg/L
Diethylenetriamine	72 Hr EC50 Pseudokirchneriella subcapitata: 1164 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: 345.6 mg/L; 96 Hr EC50 Desmodesmus subspicatus: 592 mg/L; 96 Hr LC50 Poecilia reticulata: 248 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 1014 mg/L [semi-static]; 48 Hr EC50 Daphnia magna: 16 mg/L
Trimethylhexamethylenediamine	72 Hr EC50 Desmodesmus subspicatus: 29.5 mg/L
Bisphenol A	96 Hr EC50 Pseudokirchneriella subcapitata: 2.5 mg/L; 96 Hr LC50 Pimephales promelas: 3.6 - 5.4 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 4.0 - 5.5 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 4 mg/L; 96 Hr LC50 Brachydanio rerio: 9.9 mg/L [static]; 48 Hr EC50 Daphnia magna: 10.2 mg/L; 48 Hr EC50 Daphnia magna: 3.9 mg/L; 48 Hr EC50 Daphnia magna: 9.2 - 11.4 mg/L [Static]

Phenol

56 Days LC100 Eisenia foetida: 6900 mg/kg [soil dry weight]; 96 Hr EC50 Pseudokirchneriella subcapitata: 46.42 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: 0.0188 - 0.1044 mg/L [static]; 72 Hr EC50 Desmodesmus subspicatus: 187 - 279 mg/L [static]; 96 Hr LC50 Pimephales promelas: 11.9 - 50.5 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 20.5 - 25.6 mg/L [static]; 96 Hr LC50 Pimephales promelas: 32 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 5.449 - 6.789 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 7.5 - 14 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 4.23 - 7.49 mg/L [semi-static]; 96 Hr LC50 Oncorhynchus mykiss: 5.0 - 12.0 mg/L; 96 Hr LC50 Lepomis macrochirus: 13.5 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 11.9 - 25.3 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 11.5 mg/L [semi-static]; 96 Hr LC50 Poecilia reticulata: 34.09 - 47.64 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 31 mg/L [semi-static]; 96 Hr LC50 Brachydanio rerio: 27.8 mg/L; 96 Hr LC50 Cyprinus carpio: 0.00175 mg/L [semi-static]; 96 Hr LC50 Oryzias latipes: 33.9 - 43.3 mg/L [flow-through]; 96 Hr LC50 Oryzias latipes: 23.4 - 36.6 mg/L [static]; 48 Hr EC50 Daphnia magna: 4.24 - 10.7 mg/L [Static]; 48 Hr EC50 Daphnia magna: 10.2 - 15.5 mg/L

Section 13. Disposal Considerations

The generation of waste should be avoided or minimized by using excess product in an alternate, beneficial application wherever possible.

Empty containers may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers .

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport Information

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT	Polyamines, liquid, corrosive n.o.s. "Amine Hardener"	UN2735	II	8
IATA	Polyamines, liquid, corrosive n.o.s. "Amine Hardener"	UN2735	II	8
IMDG	Polyamines, liquid, corrosive n.o.s. "Amine Hardener"	UN2735	II	8

Section 15. Regulatory Information

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.



WHMIS Symbol(s)

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30, unless listed below:

- None

This product contains the following substance(s), which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372:

- 80-05-7 Bisphenol A 1.0 - 5%
- 108-95-2 Phenol 0.1 - 1.0%

Section 16. Other Information

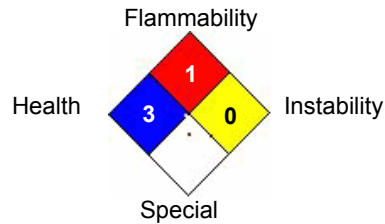
The customer is responsible for determining the proper PPE code for this material within their respective process.

Hazardous Material Information System (HMIS)

HEALTH	<input type="text" value="3"/>
FLAMMABILITY	<input type="text" value="1"/>
PHYSICAL HAZARD	<input type="text" value="0"/>
PERSONAL PROTECTION	<input type="text" value="X"/>

HMIS & NFPA Hazard Rating Legend
 * = Chronic Health Hazard
 0 = INSIGNIFICANT
 1 = SLIGHT
 2 = MODERATE
 3 = HIGH

National Fire Protection Association (NFPA)



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Reviewer Revision 4

Notice to reader:

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PUPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.