






VERT-2-GO^{Bio}



Biotechnology In Cleaning

 November 2007




Agenda

- Why add Vert-2-Go Bio line?
- What are enzymes and bacteria?
- What is the difference between traditional chemistry and Bio?
- How does Bio chemistry work?
- Overview of product line


Why add biotechnology to the line?

- Perfect complement to the **VERT-2-GO**
- Environmentally friendly alternative to traditional cleaning
- Can be used where everyday chemicals have failed
- Effective cleaning ability by digesting organic and petroleum matter
- Continuous action






What are bio Cleaners?

- **Naturally** sourced, **don't cause illness** and are classified by the CDC as "Class One Non Pathogens"
- Green sustainability. Uses the **power of nature** to provide deeper cleaning and breakdown waste.
- **Biodegradable** and meet the Environmental Choice Program Criteria/ Terra Choice **EcoLogo[®]** 
- **Environmentally friendly** because the chemicals selected cannot harm the environment or the users.
- **Specially selected strains** produce the **specific enzymes** needed to breakdown the dirt so that the microorganisms can digest them.
- Convert waste into **water** and **carbon dioxide**.


What are bio Cleaners?

- Vert-2-Go Bio Products have 2 main components:
 - **Traditional chemistry** – ingredients that get dirt into solution
 - **Bio chemistry** – bacteria and enzymes
 - Work in concert with traditional chemistry
 - Help degrade a wide range of soils faster
 - Degrade material that cause soils to adhere to surfaces – increase efficacy of traditional chemistry

What is an enzyme?

- Protein molecule that catalyzes a chemical reaction
- Enzymes breakdown the long chainlike molecules of soils into shorter fragments
- Enzymes are found in bacteria, plants and animals



What is bacteria?

- Bacteria is the smallest of microscopic organisms widely found in nature
- Bacteria multiply with incredible rapidity, by fission and by spores
- Some bacteria are active agents in fermentation, while some are non pathogenic and beneficial to mankind

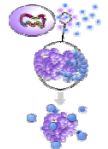
What is the difference between enzymes and bacteria?

<p>Enzymes:</p> <ul style="list-style-type: none"> • Break down organic matter into smaller pieces and simply displace it without completely eliminating it. • Will spread organics apart therefore not eliminating odours • Not living and do not grow • Work really fast and last only a few hours after application 	<p>Bacteria:</p> <ul style="list-style-type: none"> • Break up organic matter into smaller pieces and digest as well as transform it into carbon dioxide and water therefore completely getting rid of it. • Eat up the sources of mal odours • Living organisms • They grow : one cell is divided in 2 as long as there is food available • They produce enzymes to help them break down food • Last up to 80 hours after application after application
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What is the difference between bacteria based products and regular cleaner?

<p>Bacteria based:</p> <ul style="list-style-type: none"> • 2 components: chemical formulation and bacteria work together to clean and deodorize • Provide in-depth residual, long-term effects 	<p>Regular cleaners:</p> <ul style="list-style-type: none"> • 1 component: chemical formulation to dissolve or remove soils • Provide immediate effect without the long-term results
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How it works?



Step 1:
The VERT-2-GCBio product is applied and the bacteria are ready for action.

Step 2:
The bacteria senses organic matter and it releases enzymes.

Step 3:
The enzymes attack the organic matter and break it up into smaller pieces.

Step 4:
Small pieces of organic matter are returned to the bacteria for digestion.

Step 5:
The digestion process results in water and carbon dioxide.

This cycle is repeated until all organic matter is digested.

What is organic matter?

<p>Organic soil</p> <ul style="list-style-type: none"> • Urine • Feces • Blood • Kitchen grease • Perspiration 	<p>Non organic soil</p> <ul style="list-style-type: none"> • Synthetic motor oil • Sand • Paint
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The ideal working environment for Bio products

- Bacteria work as long as there is moisture and organic matter
 - 1 bacteria generates 1 billion bacteria every 10 hours
- Bacteria is destroyed if in contact with bleach, chlorine, quat, hydrogen peroxyde or excessive heat
- Diluted solution shelf-life: 7 days

Are they safe?

YES! **VERT-2-GO^{Bio}** products :

- Contain spores that are CDC (Center for Disease Control) "Class One: Non-Pathogenic"
- Bacteria replace poisonous, strong acids, strong alkaline products and surfactants
- Bacteria generate enzymes that are non-poisonous, non-irritating, non-gaseous and non-flammable.
- Safe on all water compatible surfaces.

VERT-2-GO^{Bio} offering

- 4 products under the **VERT-2-GO^{Bio}**
 - Floor Degreaser
 - Washroom Cleaner and Deodorizer
 - Odour Control
 - Carpet Prespray and Fabric Cleaner/Deodorizer
- Odour neutral
- Color free

Other products to be developed as line progresses

VERT-2-GO^{Bio} Floor Degreaser

05-12210-02 -04 -20



VERT-2-GO^{Bio} Floor Degreaser Description

- Ideal for food service floors and hard surfaces including tiles, ceramics, and sealed wood.
- Applications: school and industrial cafeterias, long-term care facilities, hospitals, grocery stores, processing plants, fast food and full service restaurants.
- Triple Action formula:
 1. Lifts greasy surface soils for easy removal
 2. Extra lipase enzymes quickly break down organic soils
 3. Bacteria digest residual soils

VERT-2-GO^{Bio} Floor Degreaser Description (cont)

- Special lipase enzyme accelerates the degrading process of oil and grease.
- Especially effective on build-up and grout.
- No rinsing required- improves traction and appearance.
- Acts as a deodorizer eliminating sources of bad odours.
- Continues to work for up to 80 hours after application.
- Safe for users and surfaces
- Replaces high alkaline &/or chlorinated cleaners

VERT-2-GO^{Bio} Floor Degreaser Certifications




- EcoLogo^M certified
Meets standard CCD-110.
- CFIA certified for Food Plants




Canadian Food Inspection Agency / Agence canadienne d'inspection des aliments

VERT-2-GO^{Bio} Floor Degreaser Application & Dilution

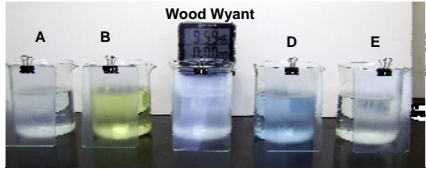
Apply according to recommended method and dilution:


METHOD	WATER	NUMBER OF PARTS	mL/L	%
Heavy duty cleaning	warm	1:16	60	6
Apply with a mop or a cloth and leave overnight. Wipe or brush the area to loosen residues. Do not rinse.				
Regular maintenance or Automatic Scrubber	warm	1:64	15	1.5
Apply with a mop, a cloth, an autoscrubber, or by spray to the area that needs to be cleaned. Do not rinse.				

Do not mix with other cleaning products.
Safe on all water washable surfaces.
Do not rinse.

VERT-2-GO^{Bio} Floor Degreaser Testing

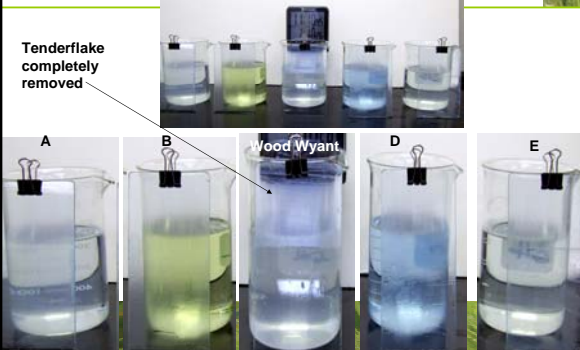


Wood Wyant



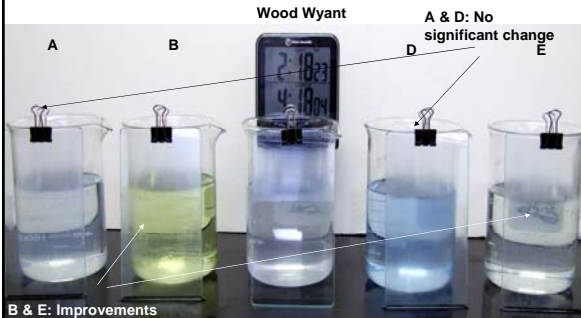
Tenderflake

VERT-2-GO^{Bio} Floor Degreaser Out Performs after 1:10 h



Tenderflake completely removed

VERT-2-GO^{Bio} Floor Degreaser Out Performs after 4:18 h

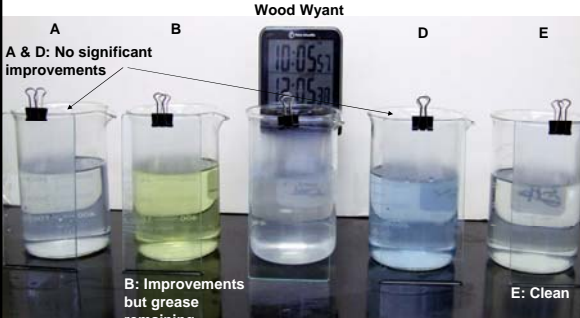


Wood Wyant

A & D: No significant change

B & E: Improvements noticed

VERT-2-GO^{Bio} Floor Degreaser Out Performs after 12:05 h



Wood Wyant

A & D: No significant improvements

B: Improvements but grease remaining

E: Clean

VERT-2-GO^{Bio} Floor Degreaser (play movies)




VERT-2-GO^{Bio}

Washroom Cleaner and Deodorizer



11-12235 -02 -04




VERT-2-GO^{Bio} Washroom Cleaner and Deodorizer Description

- Cleans and controls odours exceptionally well.
- Recommended for cleaning hard surfaces in a washroom including:
 - floors, walls, ceilings, counter tops, sinks, faucets, toilets (inside/outside), urinals (inside/outside) and drains.
- Will not remove scale build-up (need acid cleaner).
- Specific micro-organisms which target human urine, feces, blood, bodily fluids and toilet paper as a food source.

VERT-2-GO^{Bio} Washroom Cleaner and Deodorizer Description (Cont)

- Works long after application due to its bacterial activity.
- Can be used as a re-fresh spray or a drip for toilets and urinals.
- Odour neutral, dye free
- User friendly and will not damage surfaces





VERT-2-GO^{Bio} Washroom Cleaner and Deodorizer Certification

- EcoLogo^M certified


Meets standard CCD-110.







VERT-2-GO^{Bio} Washroom Cleaner and Deodorizer Application

Apply according to recommended method and dilution




METHOD	WATER	NUMBER OF PARTS	mL/L	%
Regular maintenance	warm	1:32	30	3
If required, pre-clean heavily soiled surfaces. Apply with a mop or cloth to the area that needs to be cleaned. Let air dry.				
Spot cleaning during high traffic periods	warm	1:64	16	1.5
Spray the areas generating odours. These areas usually include toilets and urinals, on the floors around these fixtures. Let air dry.				

Not recommended for mirrors and windows.
Do not mix with other cleaning products.
Safe on all water washable surfaces.

Washroom Cleaner

Play movie





VERT-2-GO^{Bio}

Odour Control
20-12280 -11 -04






VERT-2-GO^{Bio} Odour Control Description


- Effective on:
 - tobacco smoke, vomit, urine, food waste, perspiration, human fluids, and other common odours.
- Ideal for use in institutional, universities, public schools, hospitality, transportation, sports and healthcare markets.
- Produces immediate results by eliminating the source of odours (captures and destroys).
- Continues to work for up to 80 hours.
- Odour Neutral
- Dye free




VERT-2-GO^{Bio} Odour Control Certification



EcoLogo^M certified
Meets standard CCD-115.







VERT-2-GO^{Bio} Odour Control Dilution & Application

Apply according to recommended method and dilution:

METHOD	WATER	NUMBER OF PARTS	mL/L	%
Regular duty (spot control)	-	pure	-	-
Spray directly onto any surface generating unwanted odours in your facility (inside or outside). Do not spray on or over people. Do not rinse.				
Regular duty (large area)	warm	1:1	500	50
Spray directly on all surfaces to neutralise odours. Do not rinse. Safe on all water washable surfaces.				

VERT-2-GO^{Bio} Odour Control Performance

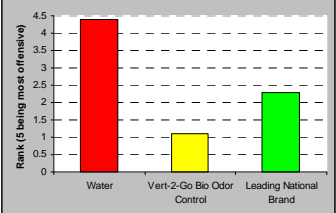
Test performed by a dozen subjects utilized to compare blind samples

Perspiration, garbage odour

Test performed with butyric acid.



Comparable to odours such as perspiration, garbage, and odours associated with anaerobic environments.

Vert-2-Go Bio Odour Control performed better than the leading brand.



Sample	Rank (5 being most offensive)
Water	4.5
Vert-2-Go Bio Odor Control	1.0
Leading National Brand	2.5

Source: Novozymes Technical Data

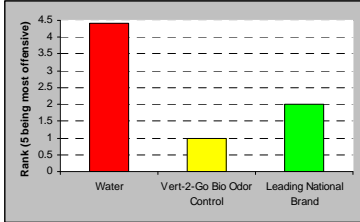



VERT-2-GO^{Bio} Odour Control Performance

Ranking of remaining smoke on material


Test performed on absorbent material covered in petri dish. Product was sprayed onto material.

Vert-2-Go Bio Odour Control performed better than the leading brand.



Sample	Rank (5 being most offensive)
Water	4.5
Vert-2-Go Bio Odor Control	1.0
Leading National Brand	2.0

Source: Novozymes Technical Data



VERT-2-GO^{Bio} Odour Control Performance

Cat urine aged for 6 days

10 ml of cat urine and 2 ml of product aged for 6 days in test tube.

Vert-2-Go Bio Odour Control is largely more successful on cat urine.

Product	Rank (5 being most offensive)
Water	4.5
Vert-2-Go Bio Odor Control	1.2
Leading National Brand	4.2

Source: Novozymes Technical Data

VERT-2-GO^{Bio} Odour Control Performance

Long-term ability to control odours

Absorbent material sprayed with fresh cat urine. Product sprayed on surface and stored for 1 week.

Headspace gas measured days 1-3-7.

V2G Bio prevented the development of ammonia odour.

Time, days	Vert-2-Go Odor Control (ppm)	Control (ppm)
1	~1	~1
3	~2	~35
7	~2	~18

Source: Novozymes Technical Data

Live Demo

VERT-2-GO^{Bio}

Prespray Carpet and Fabric Cleaner and Deodorizer

15-12305 -11 -04

VERT-2-GO^{Bio} Prespray Carpet and Fabric Cleaner and Deodorizer Description


- The surfactant system pre-releases the stain before digestion.
- Cleans a wide range of stains and soils such as food, urine, vomit, milk, blood, wine, coffee as well as other organic matter.
- 2 in 1 action: removes odours

VERT-2-GO^{Bio} Prespray Carpet and Fabric Cleaner and Deodorizer Description

- 1 application usually removes the stain
= \$\$ Labor Savings \$\$
- Keeps working after application
- Fragrance free
- Dye free



VERT-2-GO^{Bio} Prespray Carpet and Fabric Cleaner and Deodorizer Certification

EcoLogo^M certified
Meets standard CCD-110.



VERT-2-GO^{Bio} Prespray Carpet and Fabric Cleaner and Deodorizer Application & Dilution

Apply according to recommended method and dilution:

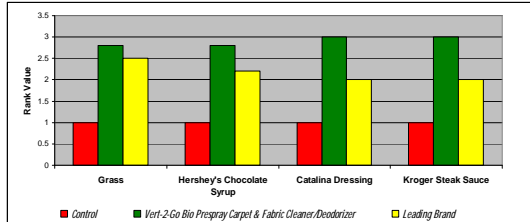



METHOD	WATER	NUMBER OF PARTS	mL/L	%
Prespray for carpets spotting	-	pure	-	-
Spray around stain, leave for 3-5 minutes. Clean soil using your carpet cleaning extractor or tamp dry with a cloth.				
Fabric and upholstery treatment	-	pure	-	-
Apply directly on to your stain or soil and leave for 3-5 minutes. Remove stain or soil using a cloth.				

Always test color fastness of fabric in a non visible area. Safe on all water washable surfaces.

VERT-2-GO^{Bio} Prespray Carpet and Fabric Cleaner and Deodorizer Testing

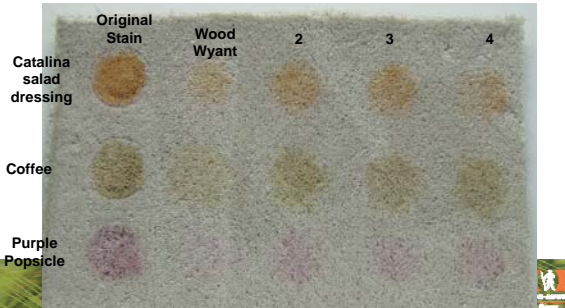
Carpet Stain removal by Vert-2-Go Bio Prespray Carpet and Fabric Cleaner/Deodorizer was rated better than the leading brand in these applications.



Stain Type	Control	Vert-2-Go Bio Prespray Carpet & Fabric Cleaner/Deodorizer	Leading Brand
Grass	0.8	2.8	2.5
Hershey's Chocolate Syrup	0.8	2.8	2.2
Catalina Dressing	0.8	2.8	2.0
Kroger Steak Sauce	0.8	2.8	2.0

VERT-2-GO^{Bio} Prespray Carpet and Fabric Cleaner and Deodorizer Testing

Best performance



Stain	Original Stain	Wood Wyant	2	3	4
Catalina salad dressing	Visible stain	Reduced stain	Reduced stain	Reduced stain	Reduced stain
Coffee	Visible stain	Reduced stain	Reduced stain	Reduced stain	Reduced stain
Purple Popsicle	Visible stain	Reduced stain	Reduced stain	Reduced stain	Reduced stain

CD Demo

Pet urine





VERT-2-GO^{BiO} Prespray Carpet and Fabric Cleaner and Deodorizer

After stain removal...

Once the majority of the organics have been physically removed and odours trapped...

...the remaining organics and trapped odours are broken down by specialized microbes.

VERT-2-GO^{BiO} products are naturally sourced, do not cause illness and are a normal part of the environment. They use the power of nature to produce extraordinary results and customer satisfaction.

