

Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the BioPreferred Program. This summary reflects data available as of June 11, 2009.

Title: Shaving Products

Description: Products designed for every step of the shaving process, including shaving creams, gels, soaps, lotions, and aftershave balms.

Companies Supplying Item: 55 companies supplying Shaving Products have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies supplying Shaving Products:

- United Soybean Board Association
- National Corn Growers Association
- Organic Consumers Association

Commercially Available Products Identified: Of the companies identified, 561 Shaving Products are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 10 Shaving Products.

Industry Performance Standards: Product information submitted by biobased manufacturers and suppliers indicate that have typically been tested to the following industry standards:

- No Results

Samples Tested for Biobased Content: 5 samples of Shaving Products have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866.

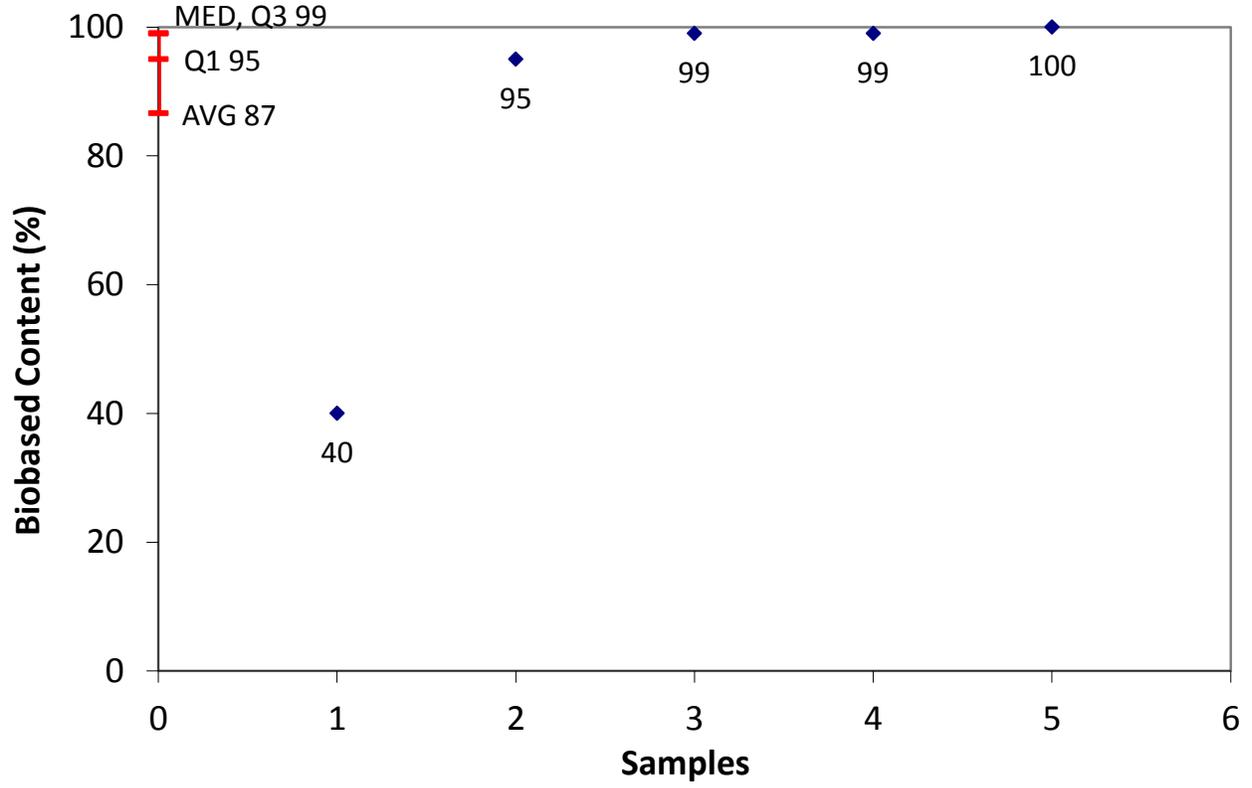
Biobased Content Data: Results from biobased content testing of Shaving Products indicate a range of content percentages from 40% minimum to 100% maximum biobased content as defined by ASTM D6866. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 1 Shaving Products have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle cost of the submitted shaving products is \$66.66 per usage unit. The environmental score is 0.0220. A detailed summary of the BEES results is included as Appendix B.

Appendix A - Biobased Content Data

Shaving Products

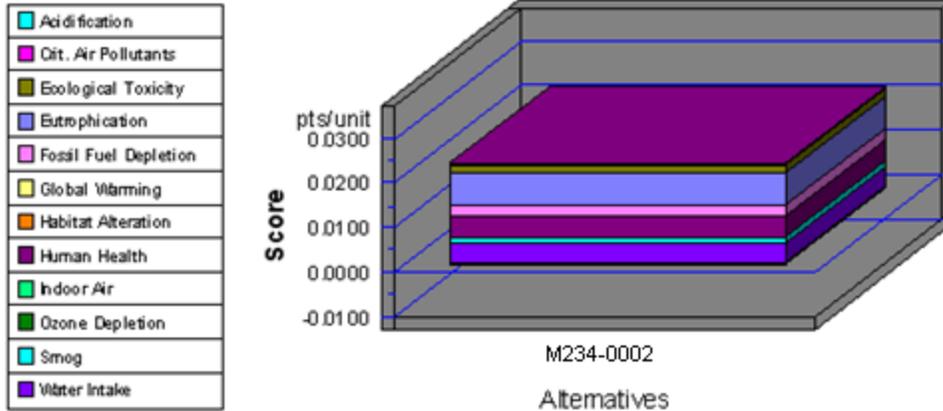


	Company	Product	C14	BEES
1	R1WZ	R1WZ-0005	40	
2	RPJV	RPJV-0009	95	
3	M234	M234-0002	99	Yes
4	B6I5	B6I5-0002	99	
5	E9E0	E9E0-0001	100	

Appendix B - BEES Analysis Results

Functional Unit: 1 square ft. of coverage

Environmental Performance

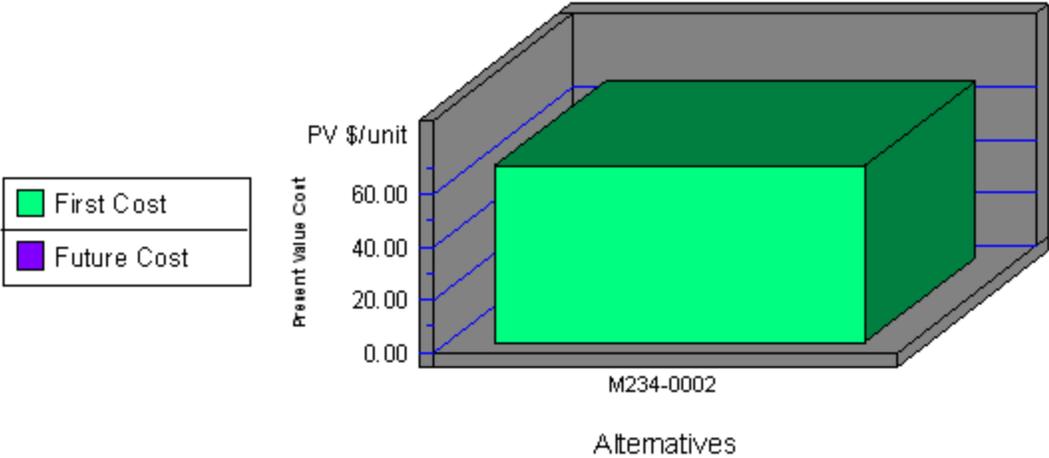


Note: Lower values are better

Category	M234-0002
Acidification--3%	0.0000
Crit. Air Pollutants--9%	0.0002
Ecolog. Toxicity--7%	0.0019
Eutrophication--6%	0.0071
Fossil Fuel Depl.--10%	0.0025
Global Warming--29%	-0.0003
Habitat Alteration--6%	0.0000
Human Health--13%	0.0046
Indoor Air--3%	0.0000
Ozone Depletion--2%	0.0000
Smog--4%	0.0016
Water Intake--8%	0.0044
Sum	0.0220

Shaving Products		
Impacts	Units	M234-0002
Acidification	millimoles H ⁺ equivalents	2.26E+03
Criteria Air Polutants	microDALYs	4.58E-01
Ecotoxicity	g 2,4-D equivalents	2.19E+01
Eutrophication	g N equivalents	2.28E+01
Fossil Fuel Depletion	MJ surplus energy	8.77E+00
Global Warming	g CO ₂ equivalents	-2.43E+02
Habitat Alteration	T&E count	0.00E+00
Human Health--Cancer	g C ₆ H ₆ equivalents	2.93E+00
Human Health--NonCancer	g C ₇ H ₈ equivalents	2.85E+03
Indoor Air Quality	g TVOCs	0.00E+00
Ozone Depletion	g CFC-11 equivalents	1.47E-05
Smog	g NO _x equivalents	6.19E+01
Water Intake	liters of water	2.89E+02
Functional Unit	-----	1 kg of product
<p>1 Following are more complete descriptions of units: Acidification: millimoles of hydrogen ion equivalents; Criteria Air Pollutants: micro Disability-Adjusted Life Years; Ecological Toxicity: grams of 2,4-dichlorophenoxy-acetic acid equivalents; Eutrophication: grams of nitrogen equivalents; Fossil Fuel Depletion: megajoules of surplus energy; Global Warming: grams of carbon dioxide equivalents; Habitat Alteration: threatened and endangered species count; Human Health-Cancer: grams of benzene equivalents; Human Health-NonCancer: grams of toluene equivalents; Indoor Air Quality: grams of Total Volatile Organic Compounds; Ozone Depletion: grams of chloroflourocarbon-11 equivalents; Smog: grams of nitrogen oxide equivalents; and Water Intake: liters of water.</p>		

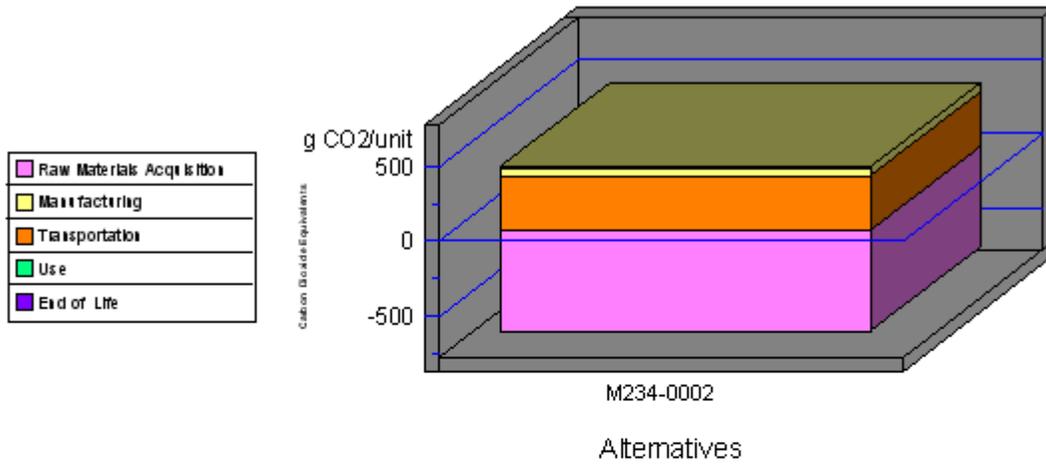
Economic Performance



Category	M234-0002
First Cost	66.66
Future Cost- 3.0%	0.00
Sum	66.66

*This is a consumable product. Therefore, future costs are not calculated

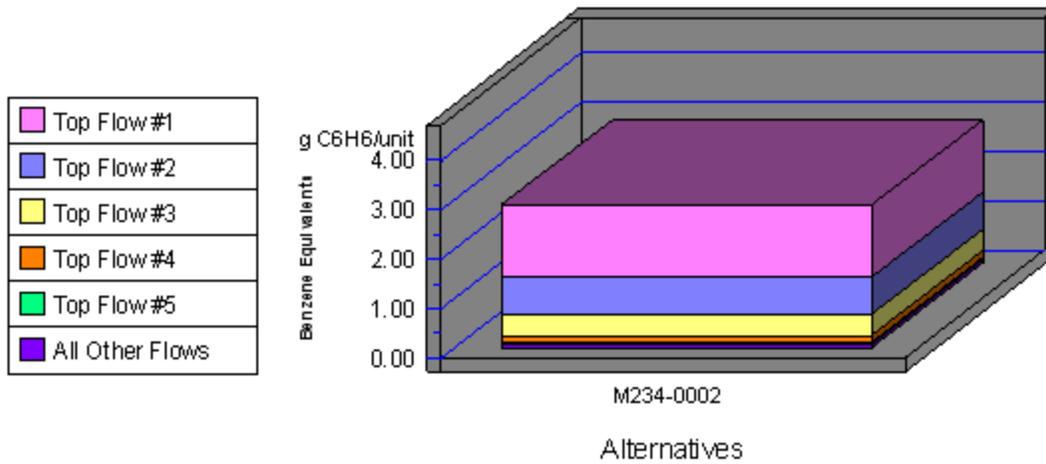
Global Warming by Life-Cycle Stage



Note: Lower values are better

Category	M234-0002
1. Raw Materials	-672
2. Manufacturing	64
3. Transportation	365
4. Use	0
5. End of Life	0
Sum	-243

Human Health Cancer by Sorted Flows*

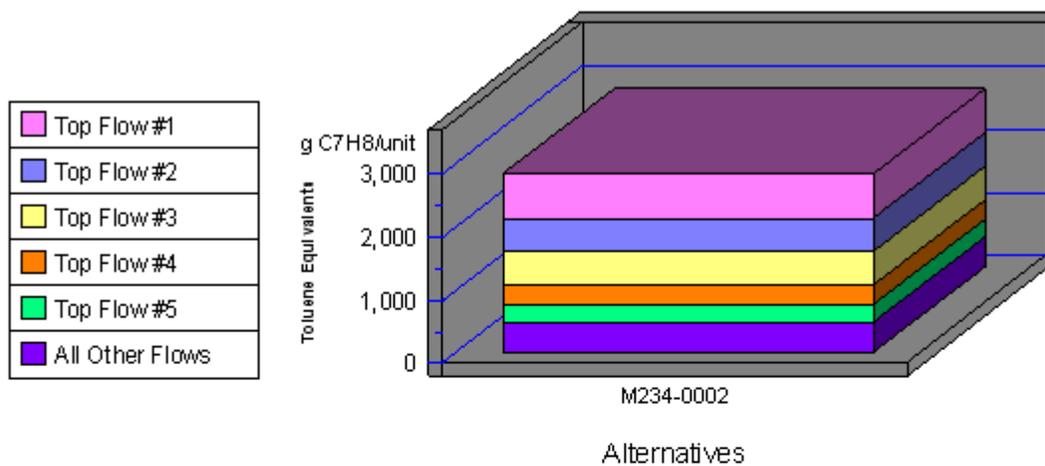


Note: Lower values are better

Category	M234-0002
Cancer-(w) Arsenic (As ³⁺)	1.49
Cancer-(w) Phenol (C ₆ H ₅ OH)	0.75
Cancer-(a) Dioxins (unspecific)	0.43
Cancer-(a) Arsenic (As)	0.13
Cancer-(a) Triallate (C ₁₀ H ₁₆ Cl)	0.05
All Others	0.07
Sum	2.93

*Sorted by five topmost flows for worst-scoring product

Human Health Noncancer by Sorted Flows*



Note: Lower values are better

Category	M234-0002
Noncancer-(a) Mercury (Hg)	706.24
Noncancer-(a) Dioxins (unspeci)	541.52
Noncancer-(w) Barium (Ba++)	523.23
Noncancer-(w) Mercury (Hg+)	318.47
Noncancer-(w) Lead (Pb++)	278.19
All Others	482.65
Sum	2,850.29

*Sorted by five topmost flows for worst-scoring product